

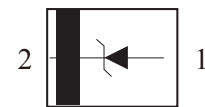
## Low Clamping Voltage Transient Protection Diodes.

### FEATURES

- Transient protection for Power lines to
  - IEC61000-4-2(ESD) : Air mode  $\pm 30\text{kV}$  / Contact mode  $\pm 30\text{kV}$
  - IEC61000-4-5(Surge) : 25A
- Total capacitance  $C_T = 300\text{pF}(\text{Max.})$
- Uni-directional type.
- Reverse stand-off voltage :  $V_{\text{RWM}} = 5.5\text{V}$
- Ultra small Size  $1.0 \times 0.6 \times 0.5\text{mm}$
- Low reverse current :  $< \text{Max } 1\text{uA}(V_{\text{R}}=5.5\text{V})$
- Non Suffix : ULP-2 Package    ex) PG05HSUL2-RTL/H
- Suffix U : ULP-2 Package&    Qualified to AEC-Q101    ex) PG05HSUL2-RTL/HU
- Suffix R : ULP-2(4) Package    ex) PG05HSUL2-RTL/HR
- Suffix UR : ULP-2(4) Package&Qualified to AEC-Q101    ex) PG05HSUL2-RTL/HUR
- Suffix P : ULP-2(5) Package    ex) PG05HSUL2-RTL/HP
- Suffix UP : ULP-2(5) Package&Qualified to AEC-Q101    ex) PG05HSUL2-RTL/HUP
- Suffix J : ULP-2(6) Package    ex) PG05HSUL2-RTL/HJ
- Suffix UJ : ULP-2(6) Package&Qualified to AEC-Q101    ex) PG05HSUL2-RTL/HUJ



ULP-2 (leadless-type)



1. ANODE    2. CATHODE

Pin configurations (Uni-directional)

### PRODUCT DESCRIPTION

- Molding compound flammability rating : UL 94V-0
- Pb-Free, Halogen-Free, RoHs Compliant

| Package dimensions<br>(ULP-2)                                                                                                                                                                                                                                                                                                                                                                                           | Package dimensions<br>(ULP-2(3))       | Package dimensions<br>(ULP-2(4)) | Package dimensions<br>(ULP-2(5)) | Package dimensions<br>(ULP-2(6)) |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------------------------------|----------------------------------|----------------------------------|---|----------|---|----------|----|----------------------------------------|---|----------|---|-----------|---|-----------|---|------|---|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------|---|----------|---|----------|---|----------|---|-----------|---|-----------|---|-----------|---|-----------|---|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------|---|-----------|---|-----------|---|-----------|---|-----------|---|-----------|---|-----------|---|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------|---|-----------|---|-----------|---|-----------|---|-----------|---|-----------|---|----------|---|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------|---|-----------|---|-----------|---|-----------|---|----------------|---|------------|---|---------|---|----------|
| <table><tr><th>DIM</th><th>MILLIMETERS</th></tr><tr><td>A</td><td>1.0±0.05</td></tr><tr><td>B</td><td>0.6±0.05</td></tr><tr><td>C</td><td>0.4±0.05</td></tr><tr><td>C1</td><td>0.38<sup>+0.05</sup><sub>-0.03</sub></td></tr><tr><td>D</td><td>0.5±0.03</td></tr><tr><td>E</td><td>0.21±0.03</td></tr><tr><td>G</td><td>0.65±0.03</td></tr><tr><td>H</td><td>0.05</td></tr><tr><td>I</td><td>Max 0.05</td></tr></table> | DIM                                    | MILLIMETERS                      | A                                | 1.0±0.05                         | B | 0.6±0.05 | C | 0.4±0.05 | C1 | 0.38 <sup>+0.05</sup> <sub>-0.03</sub> | D | 0.5±0.03 | E | 0.21±0.03 | G | 0.65±0.03 | H | 0.05 | I | Max 0.05 | <table><tr><th>DIM</th><th>MILLIMETERS</th></tr><tr><td>A</td><td>1.0±0.05</td></tr><tr><td>B</td><td>0.6±0.05</td></tr><tr><td>C</td><td>0.4±0.05</td></tr><tr><td>D</td><td>0.48±0.05</td></tr><tr><td>E</td><td>0.23±0.05</td></tr><tr><td>e</td><td>Min 0.125</td></tr><tr><td>G</td><td>0.65±0.03</td></tr><tr><td>H</td><td>Typ 0.06</td></tr></table> | DIM | MILLIMETERS | A | 1.0±0.05 | B | 0.6±0.05 | C | 0.4±0.05 | D | 0.48±0.05 | E | 0.23±0.05 | e | Min 0.125 | G | 0.65±0.03 | H | Typ 0.06 | <table><tr><th>DIM</th><th>MILLIMETERS</th></tr><tr><td>A</td><td>1.00±0.10</td></tr><tr><td>B</td><td>0.60±0.10</td></tr><tr><td>C</td><td>0.40±0.05</td></tr><tr><td>D</td><td>0.50±0.05</td></tr><tr><td>E</td><td>0.25±0.05</td></tr><tr><td>G</td><td>Typ. 0.65</td></tr><tr><td>H</td><td>0.05±0.05</td></tr></table> | DIM | MILLIMETERS | A | 1.00±0.10 | B | 0.60±0.10 | C | 0.40±0.05 | D | 0.50±0.05 | E | 0.25±0.05 | G | Typ. 0.65 | H | 0.05±0.05 | <table><tr><th>DIM</th><th>MILLIMETERS</th></tr><tr><td>A</td><td>1.00±0.05</td></tr><tr><td>B</td><td>0.60±0.05</td></tr><tr><td>C</td><td>0.50±0.05</td></tr><tr><td>D</td><td>0.50±0.03</td></tr><tr><td>E</td><td>0.25±0.03</td></tr><tr><td>G</td><td>0.65 BSC</td></tr><tr><td>I</td><td>Max 0.03</td></tr></table> | DIM | MILLIMETERS | A | 1.00±0.05 | B | 0.60±0.05 | C | 0.50±0.05 | D | 0.50±0.03 | E | 0.25±0.03 | G | 0.65 BSC | I | Max 0.03 | <table><tr><th>DIM</th><th>MILLIMETER</th></tr><tr><td>A</td><td>1.00±0.05</td></tr><tr><td>B</td><td>0.60±0.05</td></tr><tr><td>C</td><td>0.40±0.05</td></tr><tr><td>D</td><td>0.50±0.02/0.04</td></tr><tr><td>E</td><td>0.25±0.025</td></tr><tr><td>G</td><td>0.65BSC</td></tr><tr><td>I</td><td>Max 0.03</td></tr></table> | DIM | MILLIMETER | A | 1.00±0.05 | B | 0.60±0.05 | C | 0.40±0.05 | D | 0.50±0.02/0.04 | E | 0.25±0.025 | G | 0.65BSC | I | Max 0.03 |
| DIM                                                                                                                                                                                                                                                                                                                                                                                                                     | MILLIMETERS                            |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| A                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.0±0.05                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| B                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.6±0.05                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| C                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.4±0.05                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| C1                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.38 <sup>+0.05</sup> <sub>-0.03</sub> |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| D                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.5±0.03                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| E                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.21±0.03                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| G                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.65±0.03                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| H                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.05                                   |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| I                                                                                                                                                                                                                                                                                                                                                                                                                       | Max 0.05                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| DIM                                                                                                                                                                                                                                                                                                                                                                                                                     | MILLIMETERS                            |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| A                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.0±0.05                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| B                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.6±0.05                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| C                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.4±0.05                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| D                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.48±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| E                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.23±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| e                                                                                                                                                                                                                                                                                                                                                                                                                       | Min 0.125                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| G                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.65±0.03                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| H                                                                                                                                                                                                                                                                                                                                                                                                                       | Typ 0.06                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| DIM                                                                                                                                                                                                                                                                                                                                                                                                                     | MILLIMETERS                            |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| A                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.00±0.10                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| B                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.60±0.10                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| C                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.40±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| D                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.50±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| E                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.25±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| G                                                                                                                                                                                                                                                                                                                                                                                                                       | Typ. 0.65                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| H                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.05±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| DIM                                                                                                                                                                                                                                                                                                                                                                                                                     | MILLIMETERS                            |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| A                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.00±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| B                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.60±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| C                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.50±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| D                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.50±0.03                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| E                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.25±0.03                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| G                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.65 BSC                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| I                                                                                                                                                                                                                                                                                                                                                                                                                       | Max 0.03                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| DIM                                                                                                                                                                                                                                                                                                                                                                                                                     | MILLIMETER                             |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| A                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.00±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| B                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.60±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| C                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.40±0.05                              |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| D                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.50±0.02/0.04                         |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| E                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.25±0.025                             |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| G                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.65BSC                                |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |
| I                                                                                                                                                                                                                                                                                                                                                                                                                       | Max 0.03                               |                                  |                                  |                                  |   |          |   |          |    |                                        |   |          |   |           |   |           |   |      |   |          |                                                                                                                                                                                                                                                                                                                                                              |     |             |   |          |   |          |   |          |   |           |   |           |   |           |   |           |   |          |                                                                                                                                                                                                                                                                                                                             |     |             |   |           |   |           |   |           |   |           |   |           |   |           |   |           |                                                                                                                                                                                                                                                                                                                           |     |             |   |           |   |           |   |           |   |           |   |           |   |          |   |          |                                                                                                                                                                                                                                                                                                                               |     |            |   |           |   |           |   |           |   |                |   |            |   |         |   |          |

### ORDERING INFORMATION

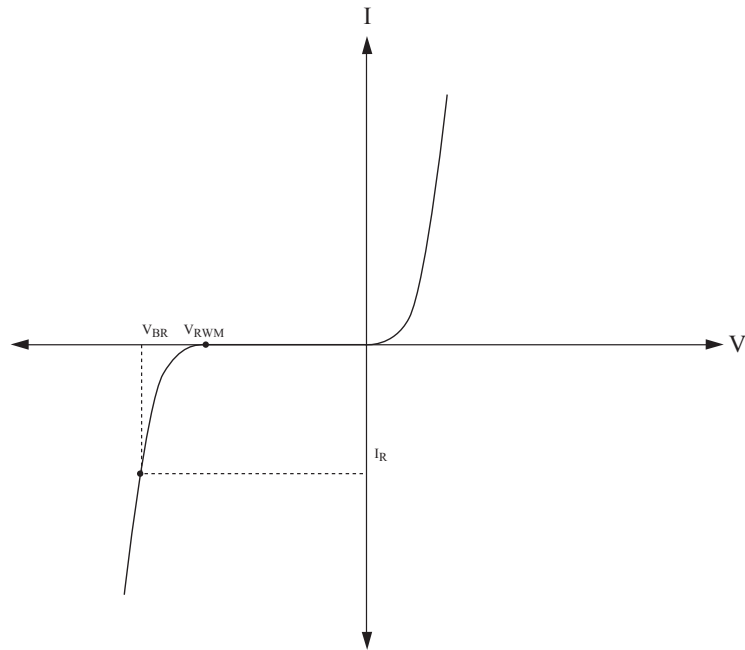
| Part Number   | Qty per Reel | Reel Size | Marking code |
|---------------|--------------|-----------|--------------|
| PG05HSUL2-RTL | 10,000       | 7 inch    | 5D           |

# PG05HSUL2

## MAXIMUM RATING (Ta=25℃)

| CHARACTERISTIC                  | SYMBOL           | RATING    | UNIT |
|---------------------------------|------------------|-----------|------|
| Peak Pulse Power (tp=8/20 μs)   | P <sub>PK</sub>  | 280       | W    |
| Peak Pulse Current (tp=8/20 μs) | I <sub>PP</sub>  | 25        | A    |
| Junction Temperature            | T <sub>J</sub>   | 150       | ℃    |
| Storage Temperature             | T <sub>STG</sub> | -55 ~ 150 | ℃    |

## DEFINITIONS OF ELECTRICAL CHARACTERISTIC SYMBOL

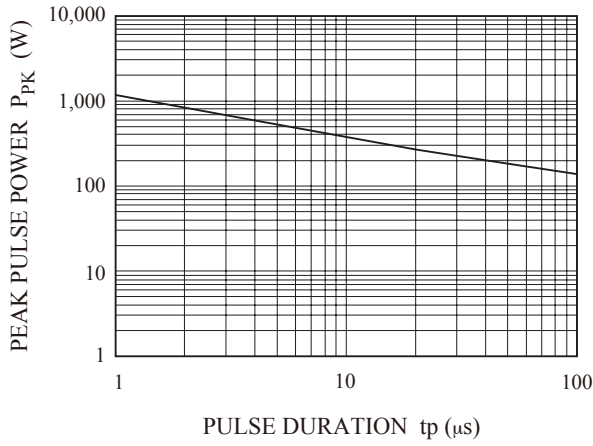


## ELECTRICAL CHARACTERISTICS (Ta=25℃)

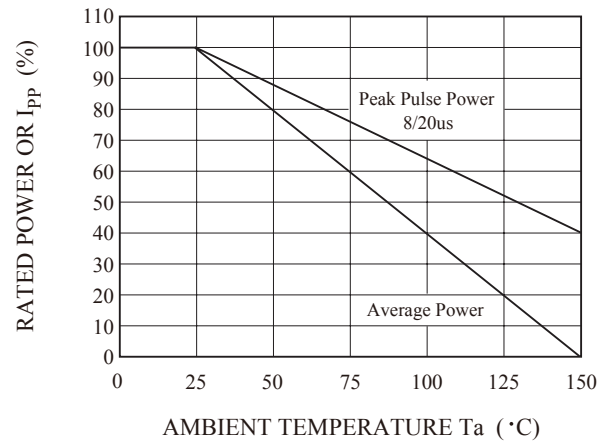
| CHARACTERISTIC            | SYMBOL           | TEST CONDITION                                  |         | MIN. | TYP. | MAX. | UNIT |
|---------------------------|------------------|-------------------------------------------------|---------|------|------|------|------|
| Reverse Stand-Off Voltage | V <sub>RWM</sub> | -                                               |         | -    | -    | 5.5  | V    |
| Reverse Leakage Current   | I <sub>R</sub>   | V <sub>R</sub> =5.5V                            |         | -    | -    | 1    | μA   |
| Reverse Breakdown Voltage | V <sub>BR</sub>  | I <sub>t</sub> =1mA                             |         | 6    | 7.5  | 9    | V    |
| Total Capacitance         | C <sub>T</sub>   | V <sub>R</sub> =0V, f=1MHz                      |         | -    | 240  | 300  | pF   |
| Clamping Voltage          | V <sub>C</sub>   | I <sub>PP</sub> =25A, tp=8/20 μs (IEC61000-4-5) |         | -    | 9.2  | 11   | V    |
|                           |                  | I <sub>TLP</sub> =16A, tp=100ns                 |         | -    | 8.5  | 10   | V    |
| Dynamic Resistance        | R <sub>DYN</sub> | -                                               |         | -    | 0.08 | -    | Ω    |
| Electrostatic Discharge   | V <sub>ESD</sub> | IEC61000-4-2                                    | Air     | ±30  | -    | -    | kV   |
|                           |                  |                                                 | Contact | ±30  |      |      |      |

# PG05HSUL2

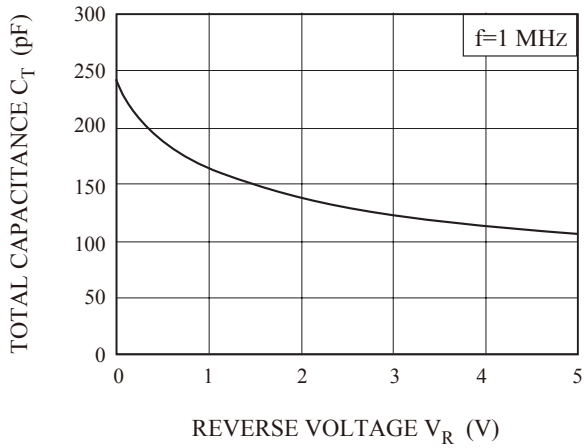
NON-REPETITIVE PEAK PULSE  
POWER VS. PULSE TIME



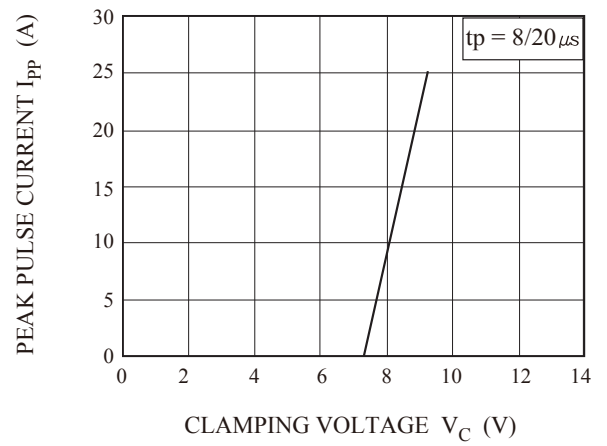
POWER DERATION CURVE



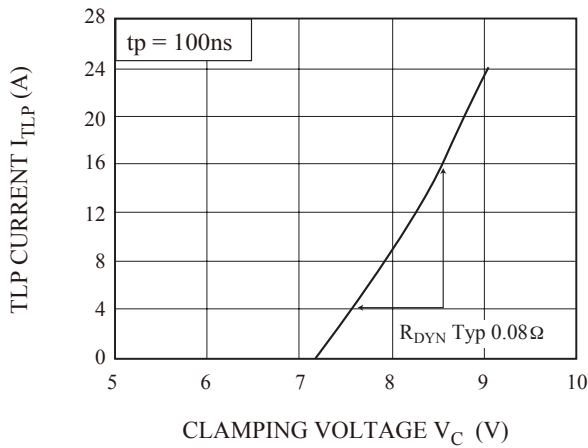
$C_T - V_R$



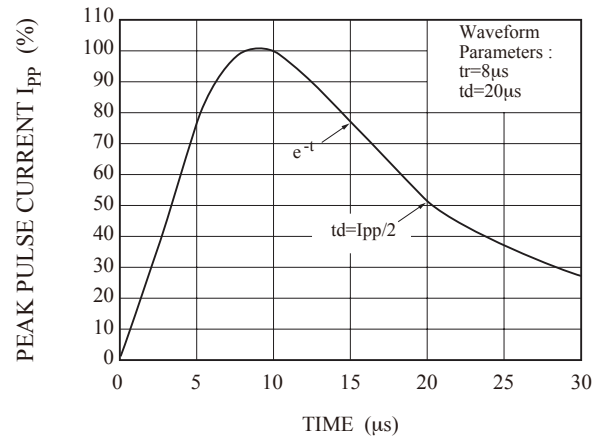
$I_{pp} - V_C$

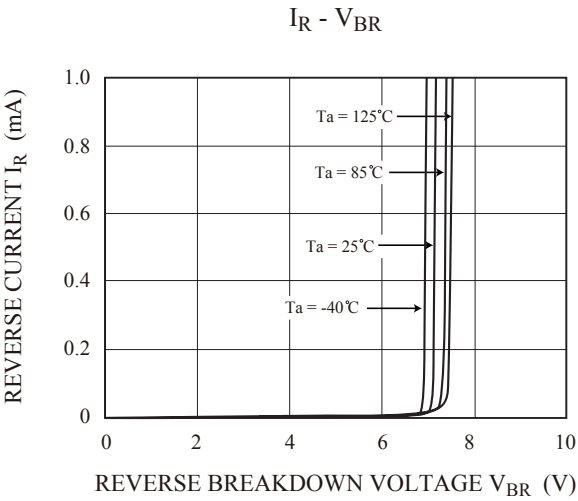


$I_{TLP} - V_C$



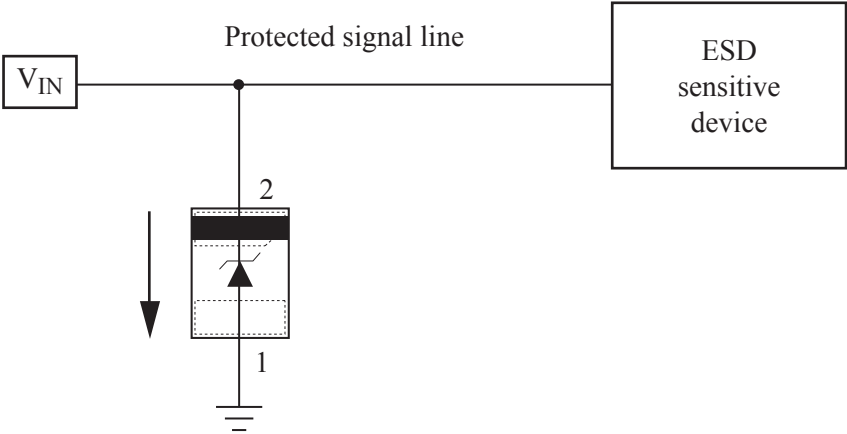
PULSE WAVEFORM





APPLICATIONS

· Power-Line



Recommended pad dimension & Marking Information

| Recommended pad dimension                                                                                                                                                                                                                                                                                           | Marking Code                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>The diagram shows the recommended pad dimensions for the component. It consists of two rectangular pads. The top pad has a width of 1.4 and a height of 0.6. The bottom pad has a width of 0.55 and a height of 0.3. The distance between the centers of the two pads is 0.85. The pads are labeled 1 and 2.</p> | <p>The diagram shows the marking code for the component. It consists of a rectangular pad with a width of 0.55 and a height of 0.3. The pad is labeled '5D' and has a 'CATHODE MARK' indicated by an arrow. The pads are labeled 1 and 2.</p> |