PG24DBUL2

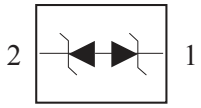
Single Line TVS Diode for ESD Protection in Portable Electronics

Low Clamping Voltage
Bi-directional ESD / Transient Protection Diodes

ULP-2 (leadless-type)

FEATURES

- Transient protection for data lines to
  - IEC61000-4-2(ESD) : Air mode ±25kV / Contact mode ±20kV
  - IEC61000-4-5(Surge) : 3A(tp=8/20us)
- Total capacitance C_T=15pF(Max)
- Bi-directional, symmertrical working voltage up to : V_{RWM} = ±24V
- Ultra small size 1.0×0.6×0.4mm
- Non Suffix : ULP-2 Package ex) PG24DBUL2-RTL/H
- Suffix **U** : ULP-2 Package& Qualified to AEC-Q101 ex) PG24DBUL2-RTL/H**U**
- Suffix **R** : ULP-2(4) Package ex) PG24DBUL2-RTL/H**R**
- Suffix **UR** : ULP-2(4) Package&Qualified to AEC-Q101 ex) PG24DBUL2-RTL/H**UR**
- Suffix **P** : ULP-2(5) Package ex) PG24DBUL2-RTL/H**P**
- Suffix **UP** : ULP-2(5) Package&Qualified to AEC-Q101 ex) PG24DBUL2-RTL/H**UP**



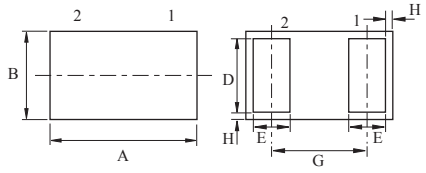
1. CATHODE 2. CATHODE

Pin configurations (Bi-directional)

PRODUCT DESCRIPTION

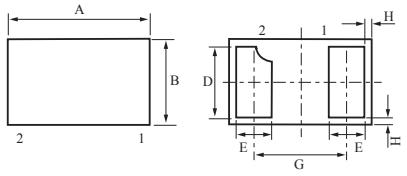
- Molding compound flammability rating : UL 94V-0
- Pb-Free, Halogen-Free, RoHs Compliant

Package dimensions (ULP-2)



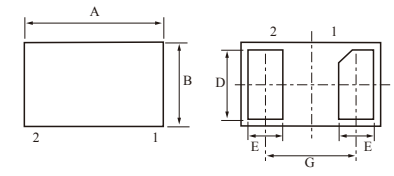
DIM	MILLIMETERS
A	1.0±0.05
B	0.6±0.05
C	0.4±0.05
C1	$0.38^{+0.02}_{-0.03}$
D	0.5±0.03
E	0.25±0.03
G	0.65±0.03
H	0.05
I	Max 0.05

Package dimensions (ULP-2(4))



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

Package dimensions (ULP-2(5))



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

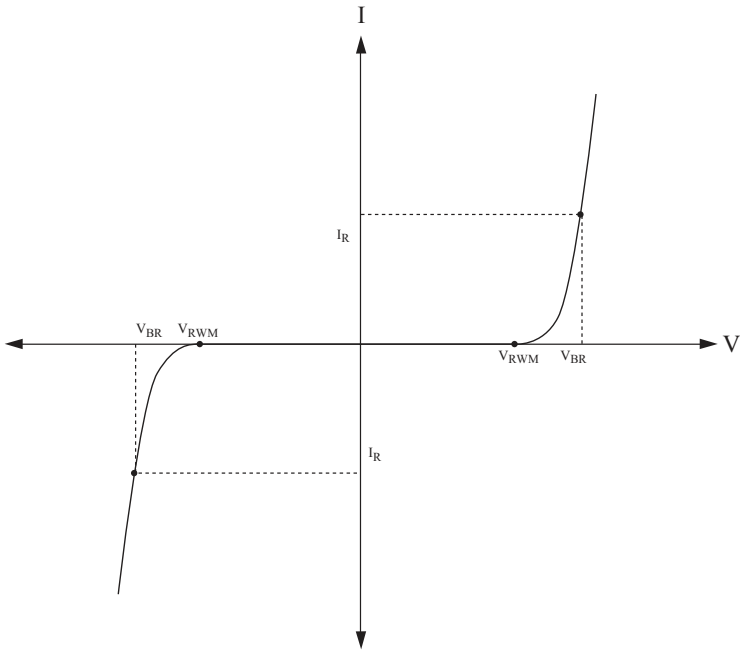
ORDERING INFORMATION

Part Number	Qty per Reel	Reel Size	Marking code
PG24DBUL2-RTL	10,000	7 inch	II

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Peak Pulse Power (tp=8/20 μs)	P_{PK}	150	W
Peak Pulse Current (tp=8/20 μs)	I_{PP}	3	A
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55～150	℃

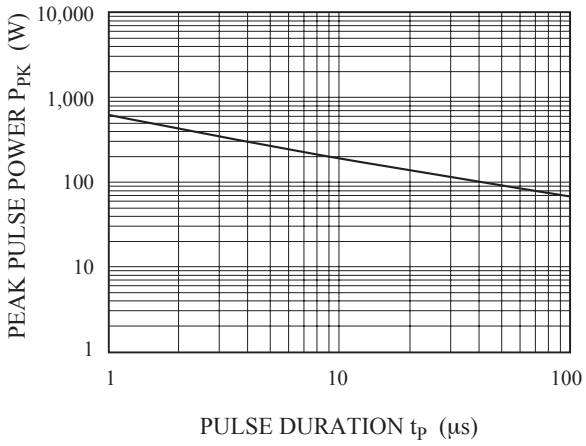
DEFINITIONS OF ELECTRICAL CHARACTERISTIC SYMBOL



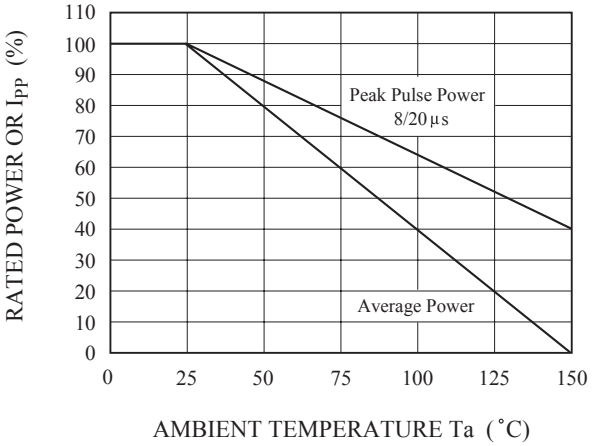
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage	V_{RWM}	-		-	-	24	V
Reverse Breakdown Voltage	V_{BR}	I_t=1mA		25.9	-	34	V
Reverse Leakage Current	I_R	V_{RWM}=24V		-	-	100	nA
Total Capacitance	C_T	V_R=0V, f=1MHz		-	10	15	pF
Clamping Voltage	V_C	I_{PP}=1A, tp=8/20 μs (IEC61000-4-5)		-	36	40	V
		I_{PP}=3A, tp=8/20 μs (IEC61000-4-5)		-	46	50	
Electrostatic Discharge	V_{ESD}	IEC61000-4-2	Air	±25	-	-	kV
			Contact	±20			

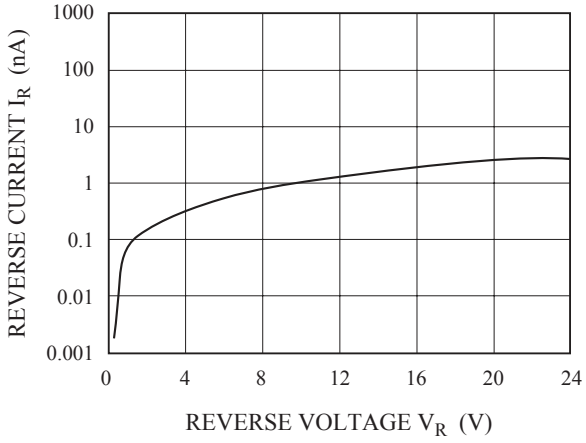
NON-REPETITIVE PEAK PULSE POWER VS. PULSE TIME



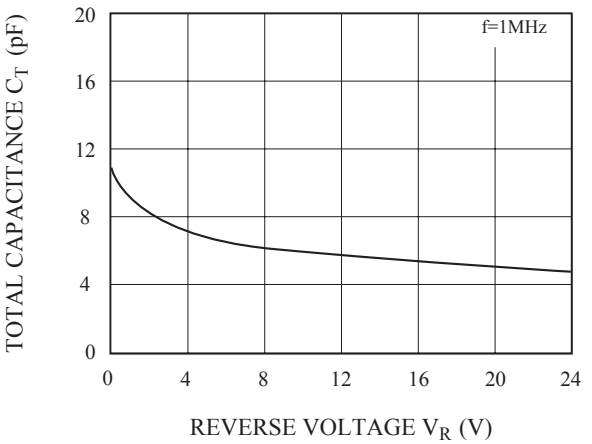
POWER DERATION CURVE



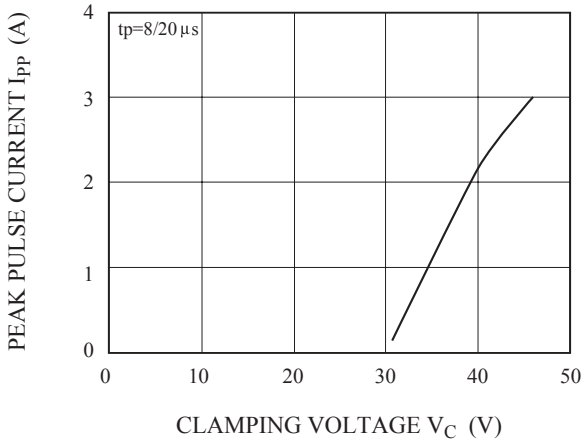
I_R - V_R



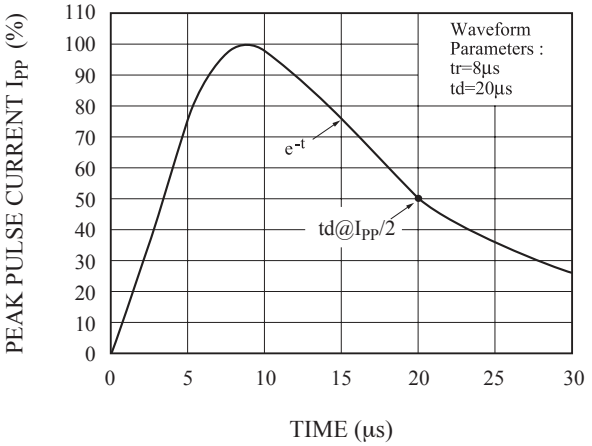
C_T - V_R



I_{PP} - V_C



PULSE WAVEFORM



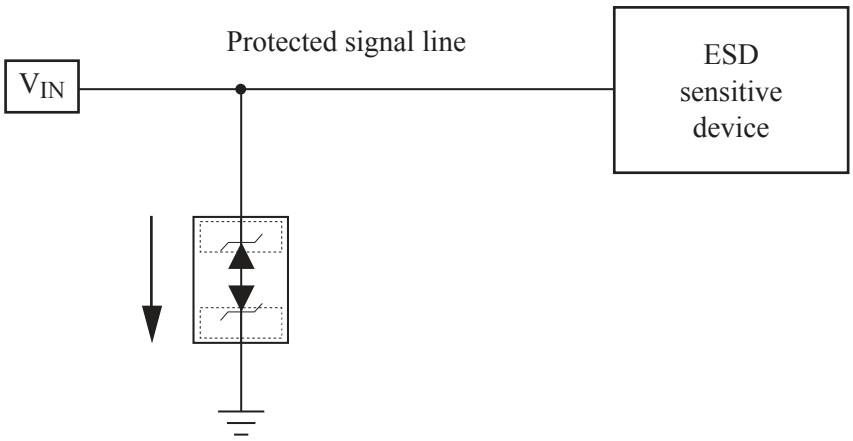
APPLICATIONS

· Audio and Video equipment

· Portable electronics

· Cellular handsets and accessories

· LCD-Display, Camera



Recommended pad dimension & Marking Information

Recommended pad dimension	Marking Code