

## Uni-directional ESD / Transient Protection Diode PG03FSESC

### FEATURES

- 50 Watts peak pulse power (tp=8/20μs)
- Transient Protection for Data Lines to
  - IEC 61000-4-2(ESD) 15kV(Air), 8kV(Contact)
  - IEC 61000-4-4(EFT) 40A(tp=5/50ns)
  - IEC 61000-4-5(Lightning) 5A(tp=8/20μs)
- BSmall package for use in portable electronics.
- Suitable replacement for Multi-Layer Varistors in ESD protection applications.  
(\* Multi-Layer Varistors [0402 Size])
- Protects on I/O or power line.
- Low clamping voltage.
- Low leakage current.
- Qualified to AEC-Q101

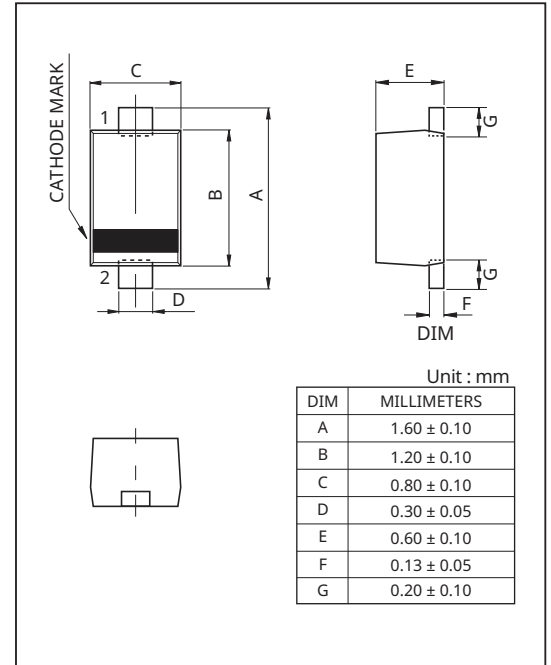
### MECHANICAL DATA

- Package : ESC
- Pb-Free, Halogen-Free, RoHs Compliant

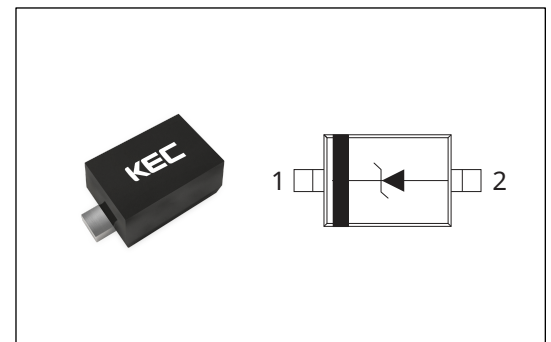
### APPLICATIONS

- Cell phone handsets and accessories.
- Microprocessor based equipment.
- Personal digital assistants (PDA's)
- Notebooks, desktops, & servers.
- Portable instrumentation.
- Pagers peripherals.

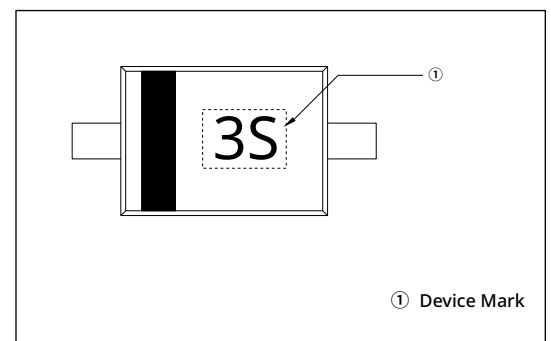
### PACKAGE DIMENSION(ESC)



### PIN CONFIGURATION



### MARKING CODE



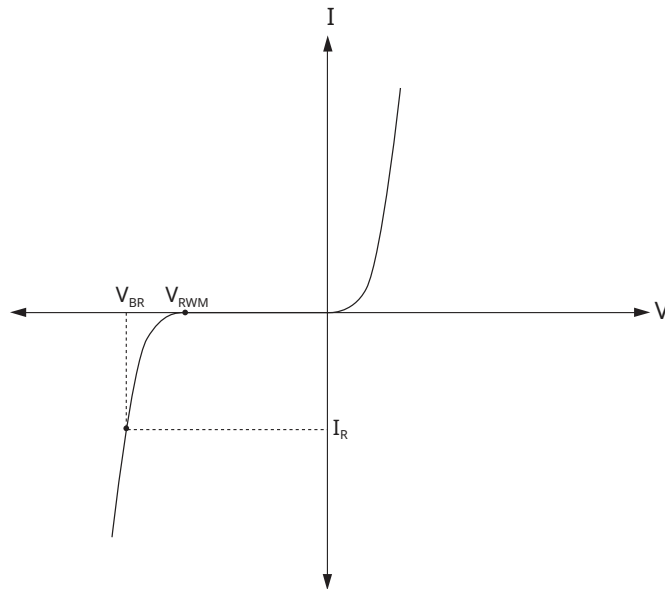
# PRODUCT DATASHEET

## ESD Protection Diode - PG03FSESC

### MAXIMUM RATING ( $T_A=25^{\circ}\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Peak Pulse Power With a 8/20 $\mu\text{s}$ Waveform	$P_{PK}$	50	W
Peak Pulse Current With a 8/20 $\mu\text{s}$ Waveform	$I_{PP}$	5	A
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Operating & Storage Temperature	$T_{opr}, T_{stg}$	-55~150	$^{\circ}\text{C}$

### DEFINITIONS OF ELECTRICAL CHARACTERISTICS SYMBOL



### ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	3.3	V
Reverse Leakage Current	$I_R$	$V_{RWM}=3.3\text{V}$	-	-	20	$\mu\text{A}$
Reverse Breakdown Voltage	$V_{BR}$	$I_t=1\text{mA}$	4.0	-	-	V
Total Capacitance	$C_T$	$V_R=0\text{V}, f=1\text{MHz}$	-	-	100	pF
Clamping Voltage	$V_C$	$I_{pp}=5\text{A}, t_p=8/20\mu\text{s}$	-	-	10.9	V

# PRODUCT DATASHEET

## ESD Protection Diode - PG03FSESC

Fig1. Non-Repetitive Peak Pulse Power VS. Pulse Time

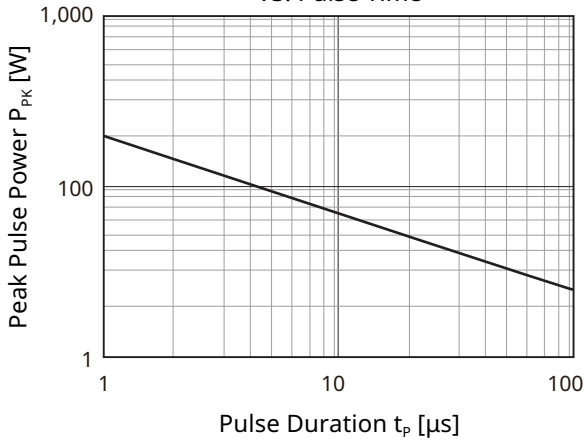


Fig2. Power Deration Curve

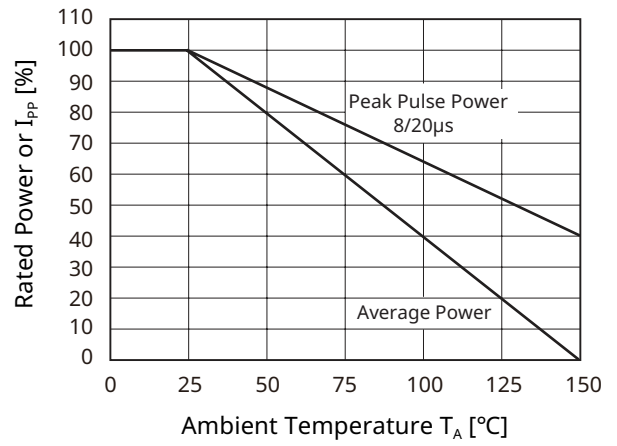


Fig7. Pulse Waveform

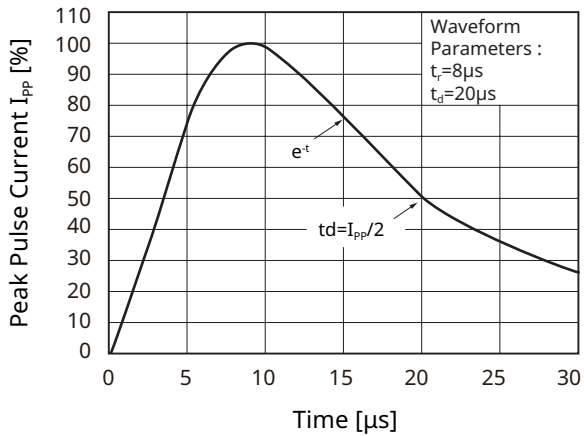
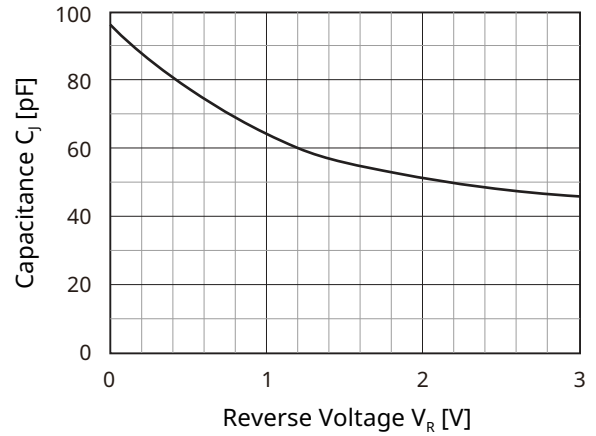
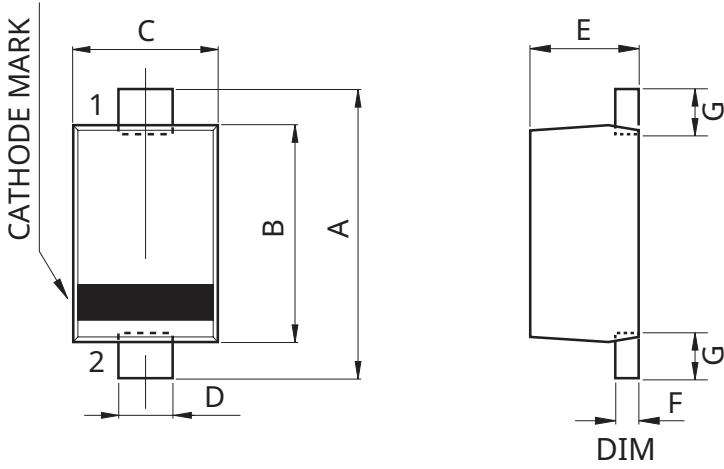


Fig5.  $C_j - V_R$



**PRODUCT DATASHEET**  
**ESD Protection Diode - PG03FSESC**

**PACKAGE DIMENSION(ESC)**

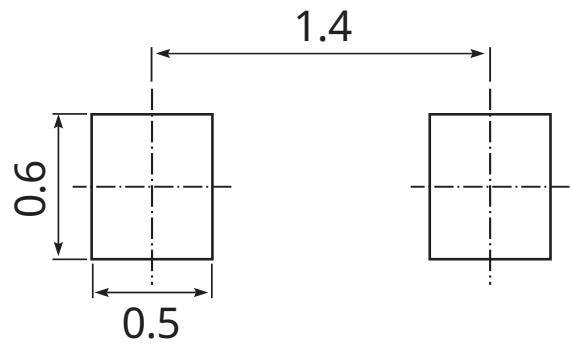


Unit : mm

DIM	MILLIMETERS
A	1.60 ± 0.10
B	1.20 ± 0.10
C	0.80 ± 0.10
D	0.30 ± 0.05
E	0.60 ± 0.10
F	0.13 ± 0.05
G	0.20 ± 0.10

**RECOMMENDED PAD DIMENSION**

Unit: mm



**PRODUCT DATASHEET**  
**ESD Protection Diode - PG03FSESC**

**ORDERING INFORMATION**

Part Number	Status	Compliance			Packing Type	Packing Qty
		AEC-Q	Pb-Free	Halogen Free		
PG03FSESC-RTL/P	Active	-	Y	-	Reel	3,000pcs
PG03FSESC-RTL/PU	Active	Y	Y	-	Reel	3,000pcs

# PRECAUTION ON USING KEC PRODUCTS

1. The products described in this data are intended to be used in general-purpose electronic equipment. (Office equipment, telecommunication equipment, measuring equipment, home appliances)
2. When you intend to use these products with equipment or device which require an extremely high of reliability and special applications (such as automobile, air travel aerospace, transportation equipment, life support, system and safety devices) in which special quality and reliability and the failure or malfunction of products may directly jeopardize or harm the human body or damage to property and any application other than the standard application intended, please be sure to consult with our sales representative in advance.
3. On designing your application, please use product within the ranges guaranteed by KEC for maximum rating, operating supply voltage range, heat radiation characteristics and other characteristics. User shall be responsible for failure or damage when used beyond the guaranteed ranges.
4. The technical information described in this data is limited to showing representative characteristics and applied circuit examples of the products and it does not constitute the warranting of industrial property, the granting of relative rights, or the granting of any license.
5. What are described in the data may be changed without any prior notice to reflect new technical development. Please confirm that you have received the latest product standards or specification before final design, purchase or use.
6. Although KEC is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors. Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. KEC shall have no responsibility for any damages arising out of the use of our Products beyond the rating specified by KEC.

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please contact your local Sales Representative.**

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