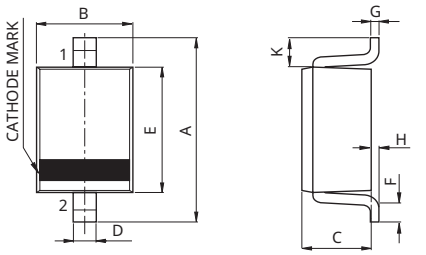
Bi-directional ESD / Transient Voltage Suppressor Diode

PG1524DBUSC

PACKAGE DIMENSION(USC)



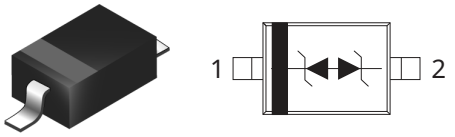
Unit : mm

DIM	MILLIMETERS
A	2.50 ± 0.20
B	1.25 ± 0.05
C	0.90 ± 0.05
D	0.30 ± 0.06
E	1.70 ± 0.05
F	0.27 ± 0.10
G	0.126 ± 0.03
H	0 ~ 0.1
K	0.40 ± 0.10

FEATURES

- Transient Protection for Data Lines to
  - IEC61000-4-2(ESD) : Air Mode ±30kV / Contact Mode ±30kV
  - IEC61000-4-5(Surge)
    : 5A [V_{RWM}=15V(tp=8/20μs)] , 4A [V_{RWM}=24V(tp=8/20μs)]
- Bi-directional Working Voltage Up to : V_{RWM} = 15/24V
- Qualified to AEC-Q101

PIN CONFIGURATION



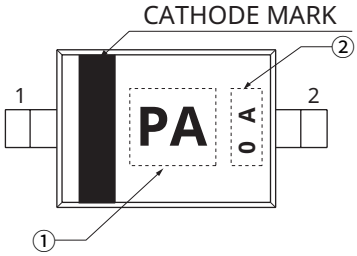
MECHANICAL DATA

- Package : USC
- Molding Compound Flammability Rating : UL94V-0
- Pb-Free, Halogen-Free, RoHS Compliant

APPLICATIONS

- LIN Bus Protection
- Automotive Application

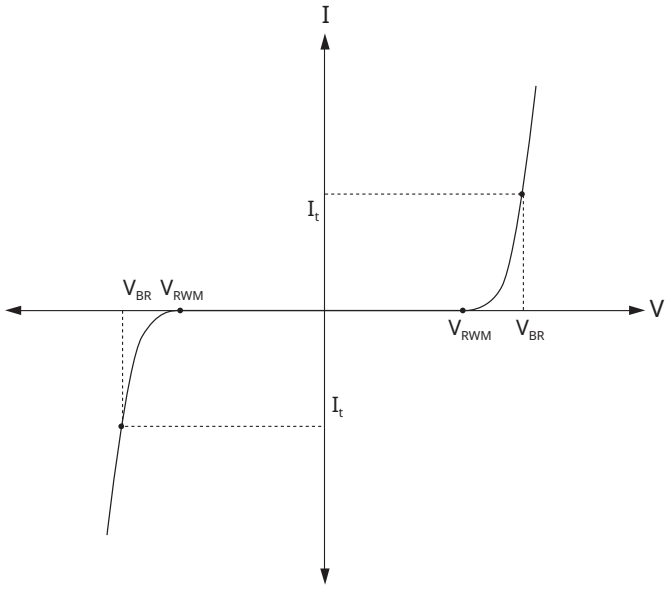
MARKING CODE



MAXIMUM RATING (T_A=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Peak Pulse Power with a 8/20μs waveform	V_{RWM}=15V	P_{PK}	160	W
	V_{RWM}=24V		200	
Peak Pulse Current with a 8/20μs waveform	V_{RWM}=15V	I_{PP}	5	A
	V_{RWM}=24V		4	
Junction Temperature		T_J	150	℃
Operating Temperature		T_{opr}	-55~150	℃
Storage Temperature		T_{stg}	-55~150	℃

DEFINITIONS OF ELECTRICAL CHARACTERISTICS SYMBOL



ELECTRICAL CHARACTERISTICS (T_A=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage	V_{RWM}	-	Pin 1 to 2	-	-	15	V
			Pin 2 to 1	-	-	24	
Reverse Leakage Current	I_R	V_{RWM}=15V	Pin 1 to 2	-	-	100	nA
		V_{RWM}=24V	Pin 2 to 1	-	-	100	
Reverse Breakdown Voltage	V_{BR}	I_t=5mA	Pin 1 to 2	17	19	21	V
			Pin 2 to 1	25	27	33	
Total Capacitance	C_T	V_R=0V, f=1MHz		-	-	17	pF
Clamping Voltage	V_C	I_{pp}=1A, tp=8/20μs	Pin 1 to 2	-	-	25	V
		I_{pp}=5A, tp=8/20μs		-	-	32	
		I_{pp}=1A, tp=8/20μs	Pin 2 to 1	-	-	36	V
		I_{pp}=4A, tp=8/20μs		-	-	50	
Electrostatic Discharge	V_{ESD}	IEC61000-4-2	Air	±30	-	-	kV
			Contact	±30	-	-	

Fig 1. Non-Repetitive Peak Pulse Power VS. Pulse Time

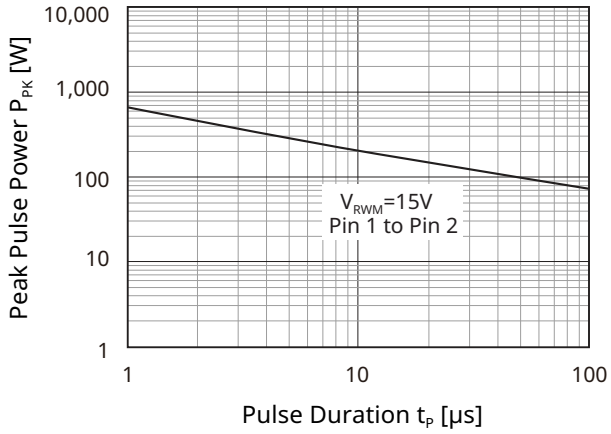


Fig 2. Non-Repetitive Peak Pulse Power VS. Pulse Time

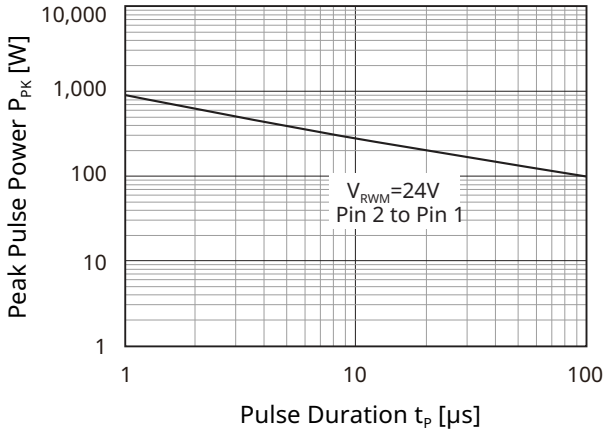


Fig 3. Power Deration Curve

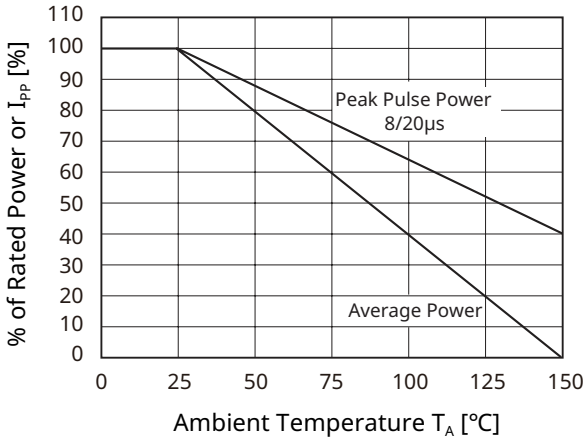


Fig 4. I_R - V_{BR}

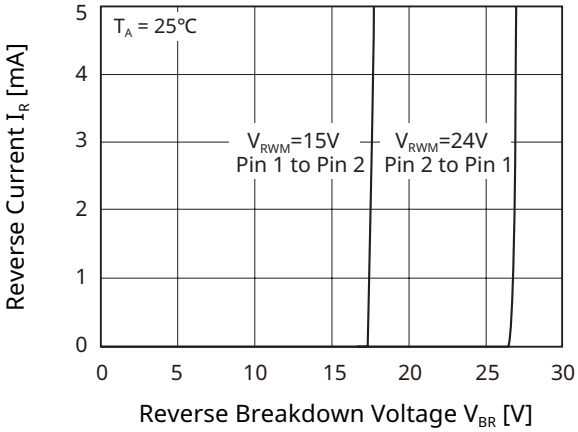


Fig 5. I_R - V_R

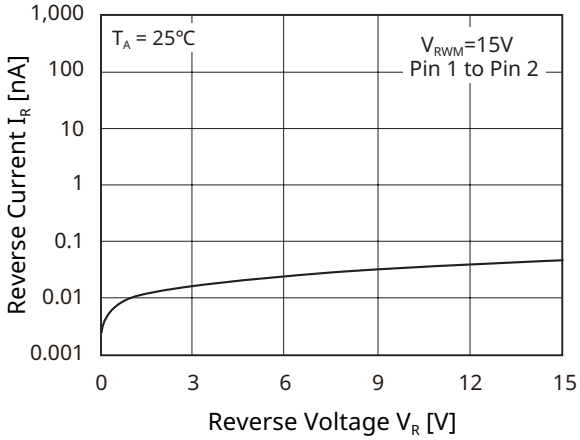


Fig 6. I_R - V_R

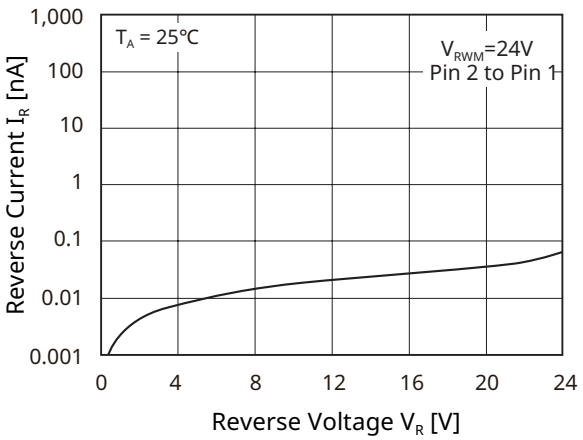


Fig 7. C_T - V_R

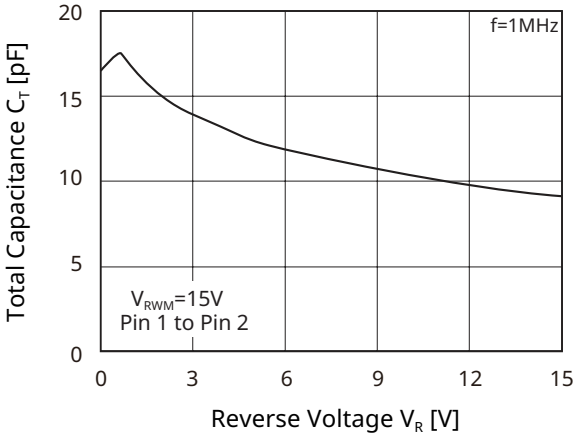


Fig 8. C_T - V_R

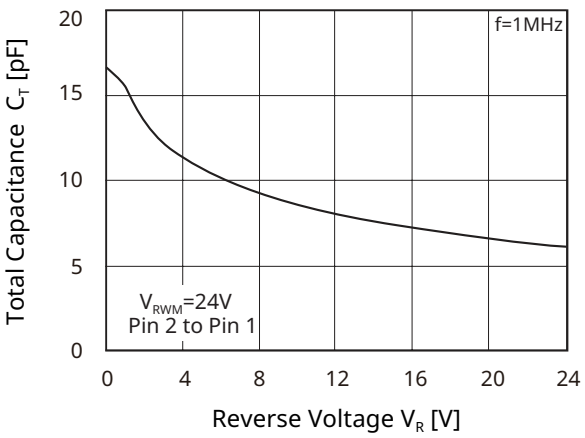


Fig 9. I_{PP} - V_C

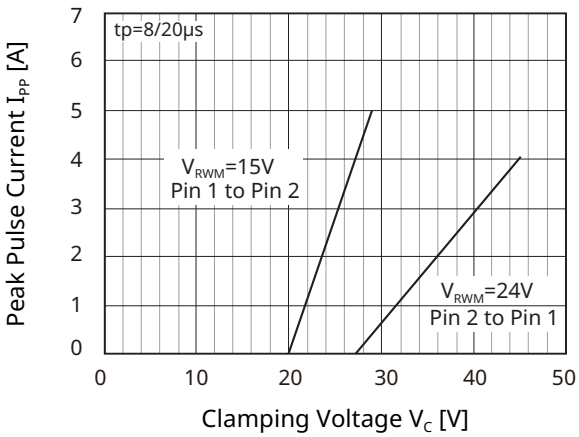
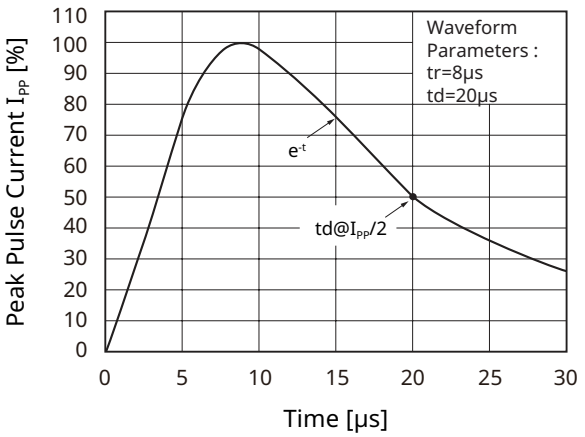
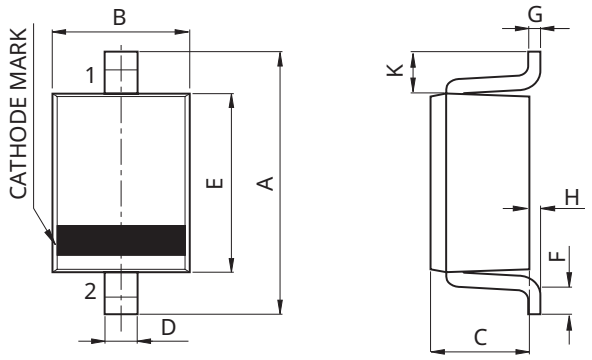


Fig 10. Pulse Waveform



PACKAGE DIMENSION(USC)



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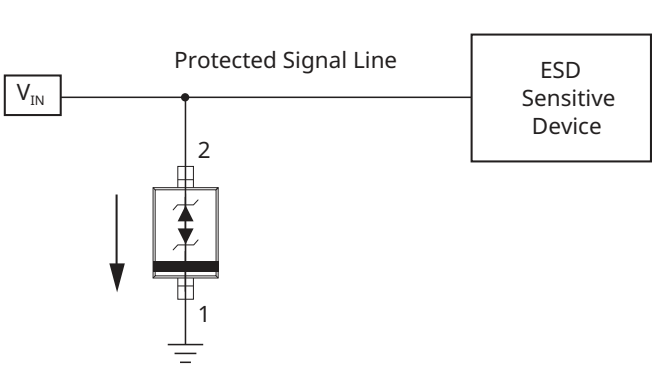
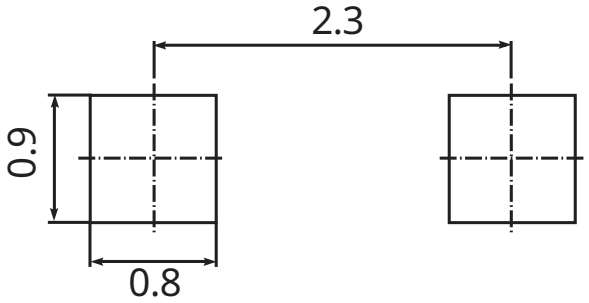
RECOMMENDED PAD DIMENSION

Unit: mm





ORDERING INFORMATION

Part Number	Status	Compliance		Packing Type	Reel Size	Packing Qty
		AEC-Q	Halogen Free			
PG1524DBUSC-RTK/HU	Active	Y	Y	Reel	7″	3,000

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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