

PD05TCBEL2D is designed to protect signal lines from electrical over stress(EOS). It has excellent clamping voltage & surge capability.

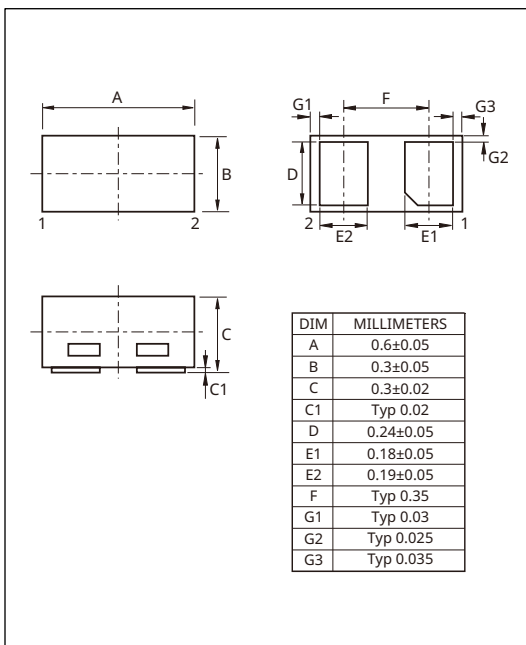
FEATURES

- Transient protection for signal lines to
 - IEC61000-4-2(ESD): Air mode $\pm 18\text{kV}$ /Contact mode $\pm 16\text{kV}$
 - IEC61000-4-5(Surge) 8.5A ($t_p=8/20\mu\text{s}$)
- Low capacitance $C_T=0.35\text{pF}$ (Max)
- Bi-directional, symmetrical working voltage up to: $V_{RWM}=\pm 5\text{V}$
- Extremely small size $0.6\times 0.3\times 0.3\text{mm}$
- Qualified to AEC-Q101

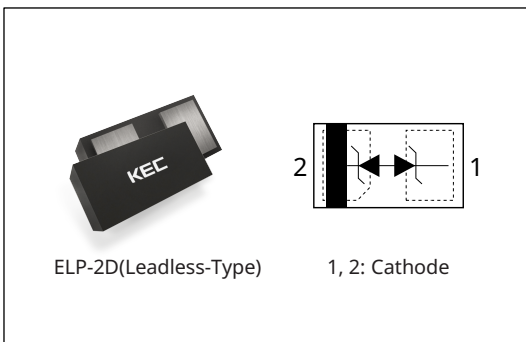
APPLICATIONS

- USB2.0, USB3.0, 10/100/1000 Ethernet, DVI, S-ATA
- MDDI Port
- LCD-Display, Camera
- GPS/FM Antennas
- LVDS
- High speed data lines
- HDMI 2.0

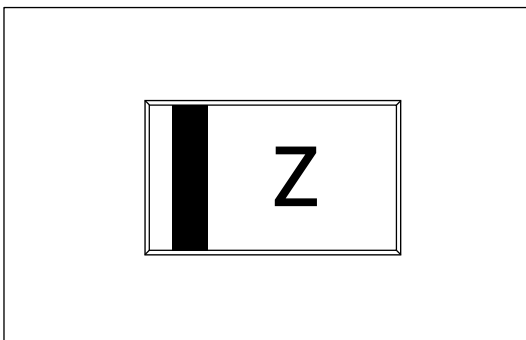
PACKAGE DIMENSION(ELP-2D)



PIN CONFIGURATION



MARKING CODE



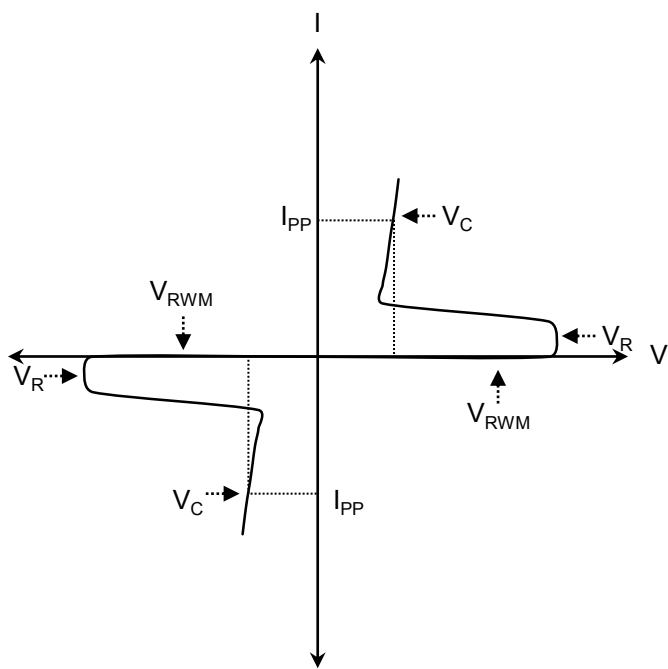
PRODUCT DATASHEET

Single Line TVS Diode - PD05TCBEL2D

MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Peak Pulse Power(tp=8/20μs)	P _{PK}	65	W
Peak Pulse Current(tp=8/20μs)	I _{PP}	8.5	A
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~150	°C

DEFINITIONS OF ELECTRICAL CHARACTERISTICS SYMBOL



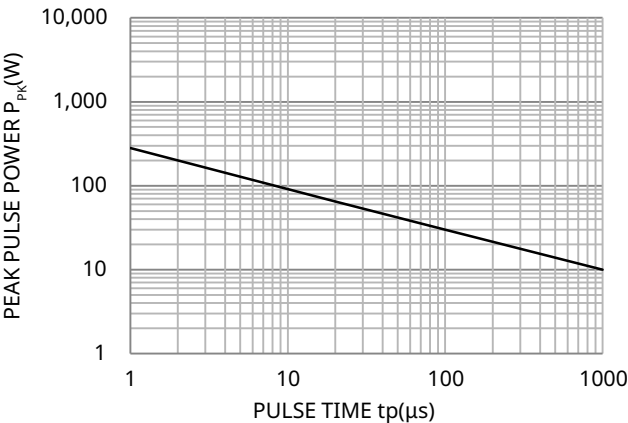
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage	V _{RWM}	-	-	-	5	V
Reverse Leakage Current	I _R	V _{RWM} =5V	-	-	100	nA
Breakdown Voltage	V _{BR}	I _t =1mA	11.5	-	15.5	V
Total Capacitance	C _T	V _R =0V, f=1MHz	-	0.28	0.35	pF
Clamping Voltage	V _C	I _{PP} =4A, tp=8/20μs	-	-	6	V
		I _{PP} =8.5A, tp=8/20μs	-	-	7.7	V
Dynamic Resistance	R _{DYN}	I _{TLp} =4A to 16A, tp=100ns	-	0.43	-	Ω
Electrostatic Discharge	V _{ESD}	IEC61000-4-2	Air	±18	-	kV
			Contact	±16	-	

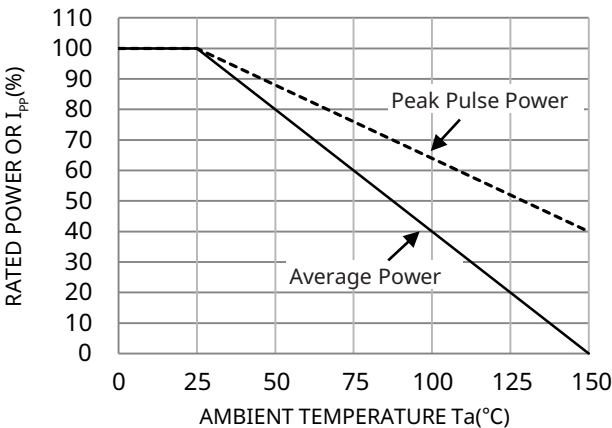
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Single Line TVS Diode - PD05TCBEL2D

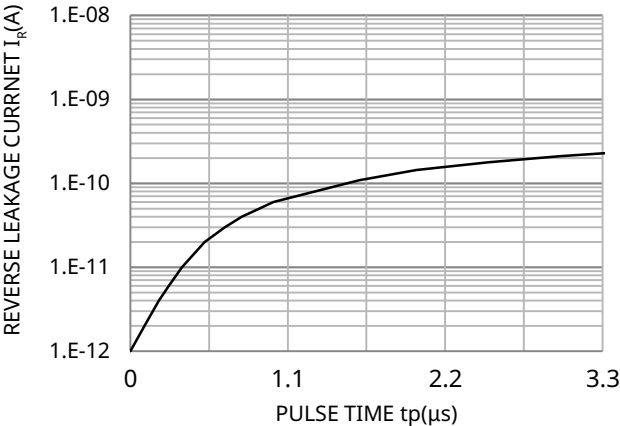
NON-REPETITIVE PEAK PULSE POWER
VS. PULSE TIME



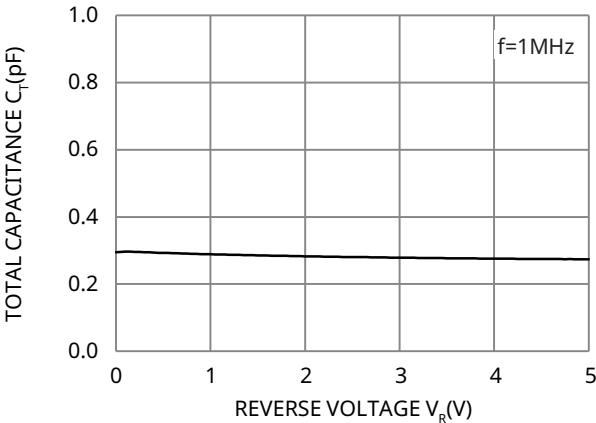
POWER DERATION CURVE



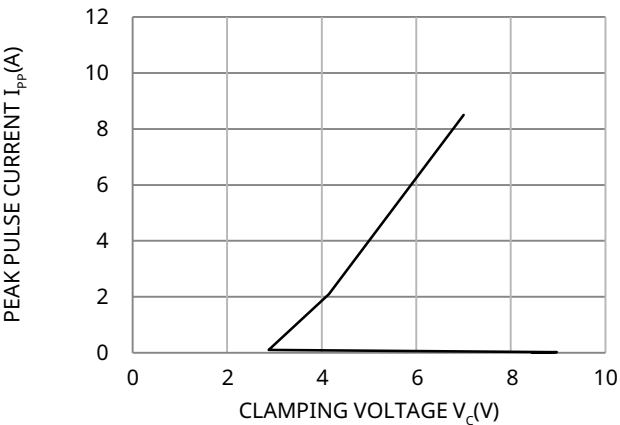
REVERSE LEAKAGE CURRENT
VS. REVERSE VOLTAGE



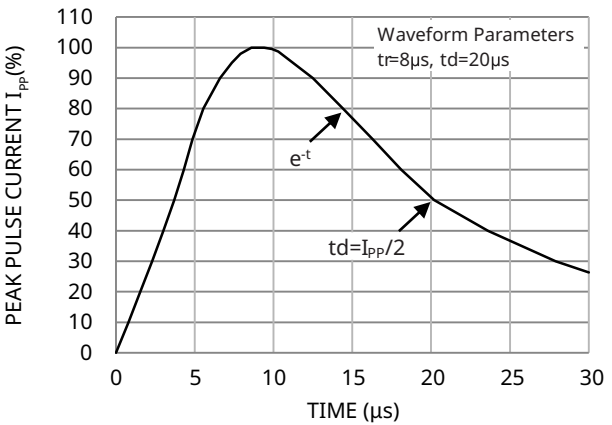
TOTAL CAPACITANCE
VS. REVERSE VOLTAGE



PEAK PULSE CURRENT
VS. CLAMPING VOLTAGE



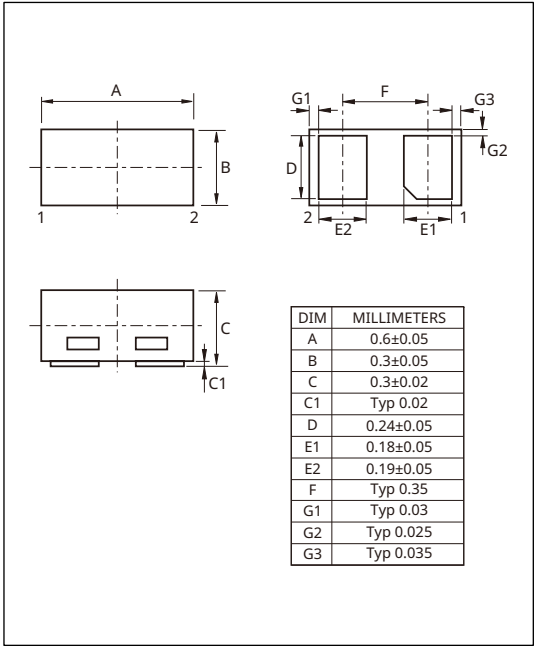
PULSE WAVEFORM



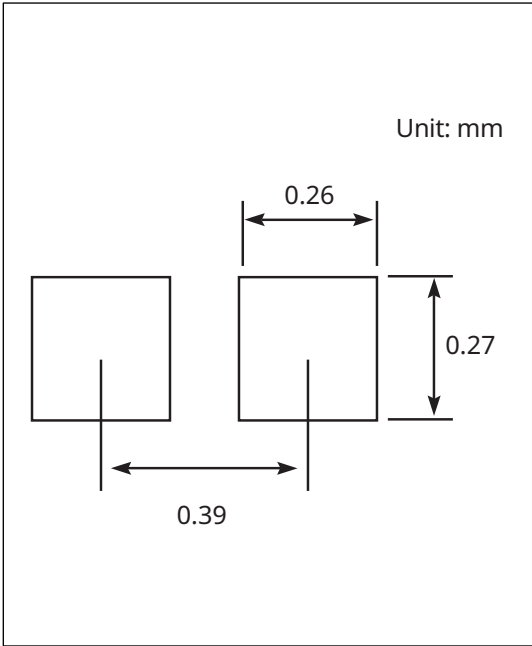
PRODUCT DATASHEET

Single Line TVS Diode - PD05TCBEL2D

PACKAGE INFORMATION(ELP-2D)



RECOMMENDED PAD DIMENSION



PRODUCT DATASHEET

Single Line TVS Diode - PD05TCBEL2D

ORDERING INFORMATION

Part Number	Status	Compliance			Packing Type	Packing Qty
		AEC-Q	Pb-Free	Halogen Free		
PD05TCBEL2D-RTL/H	Active	-	Y	Y	Reel	10,000pcs
PD05TCBEL2D-RTL/HU	Active	Y	Y	Y	Reel	10,000pcs

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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