



## 400W LOW CLAMPING VOLTAGE SINGLE TVS FOR PROTECTION

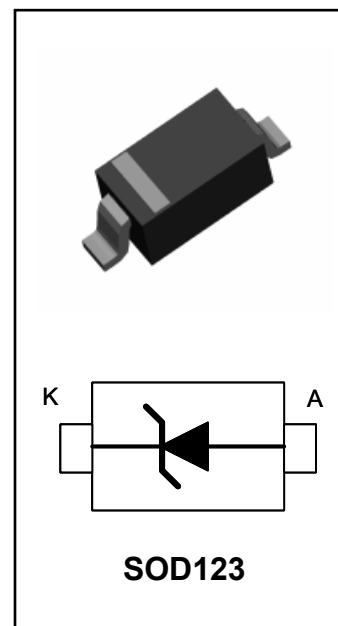
This TVS/Zener Series has been designed to Protect Sensitive Equipment against ESD and to prevent Latch-Up events in very sensitive CMOS circuitry operating at 5V, 12V, 15V and 24Vdc. These devices come in an industry standard SOD123 package making them suitable for Portable/Computing Electronics, where the board space is a premium.

### SPECIFICATION FEATURES

- 400W Power Dissipation (8/20 $\mu$ s Waveform)
- Very Low Leakage Current
- IEC61000-4-2 ESD 15kV air, 8kV Contact Compliance
- SOD123 Package
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### APPLICATIONS

- Personal Digital Assistant (PDA)
- Digital Cameras
- Portable Instrumentation
- Mobile Phones and Accessories
- Desktops, Laptops



### MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Pulse Power (8/20 $\mu$ s Waveform)	$P_{pp}$	400	W
ESD Voltage (HBM)	$V_{ESD}$	25	kV
Operating Temperature Range	$T_J$	-55 to +125	°C
Storage Temperature Range	$T_{stg}$	-55 to +150	°C

### ELECTRICAL CHARACTERISTICS $T_J = 25^\circ\text{C}$

#### PJSD05 Marking T1S

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{WRM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1\text{ mA}$	6.0			V
Reverse Leakage Current	$I_R$	$V_R = 5\text{V}$			20	$\mu\text{A}$
Clamping Voltage (8/20 $\mu$ s)	$V_C$	$I_{pp} = 5\text{A}$			7.5	V
Clamping Voltage (820 $\mu$ s)	$V_C$	$I_{pp} = 24\text{A}$			16	V
Off State Junction Capacitance	$C_j$	0 Vdc Bias $f = 1\text{MHz}$			550	pF
Off State Junction Capacitance	$C_j$	5 Vdc Bias $f = 1\text{MHz}$			235	pF

**ELECTRICAL CHARACTERISTICS**  $T_j = 25^{\circ}\text{C}$ **PJSD12 Marking T4S**

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{WRM}$				12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1\text{mA}$	13.3			V
Reverse Leakage Current	$I_R$	$V_R = 12\text{V}$			1	$\mu\text{A}$
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_c$	$I_{pp} = 5\text{A}$			14.5	V
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_c$	$I_{pp} = 17\text{A}$			23	V
Off State Junction Capacitance	$C_j$	0 Vdc Bias $f = 1\text{MHz}$			180	pF

**PJSD15 Marking T5S**

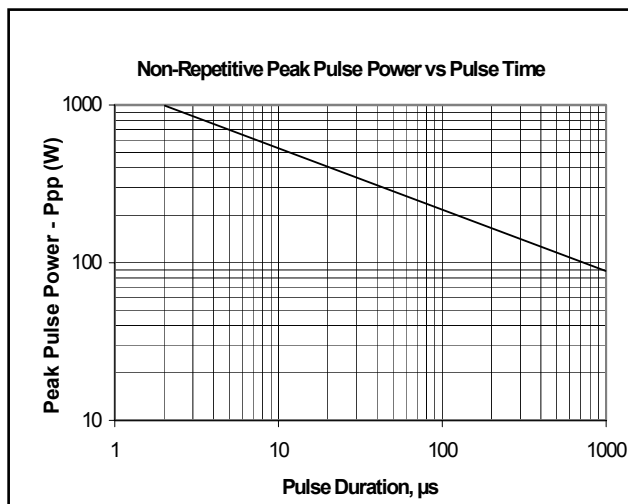
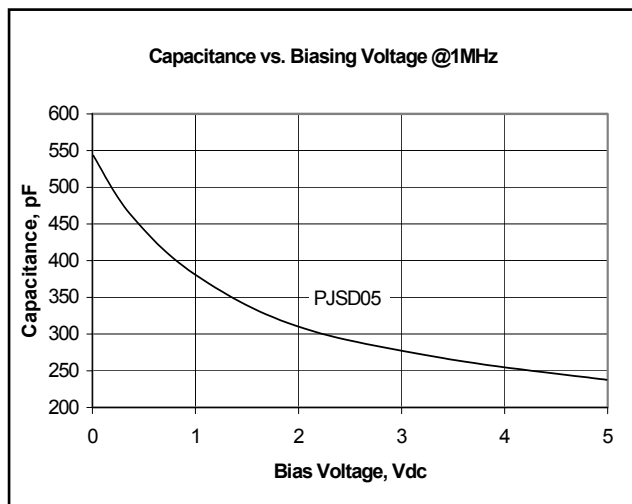
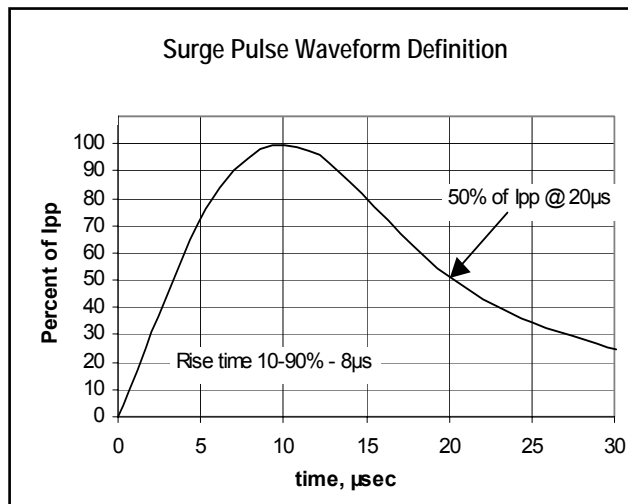
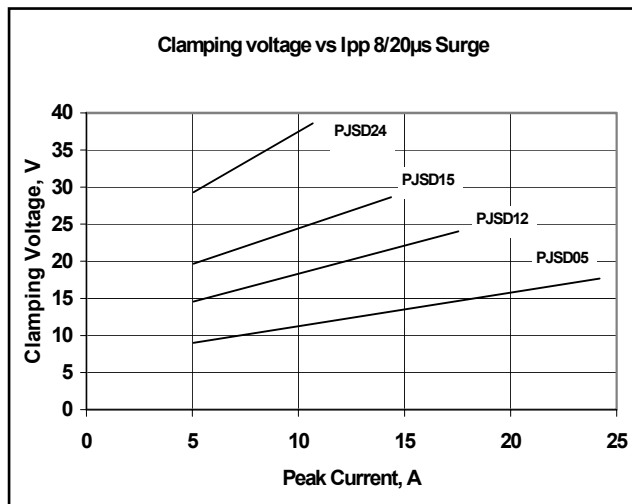
Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{WRM}$				15	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1\text{mA}$	16.7			V
Reverse Leakage Current	$I_R$	$V_R = 15\text{V}$			1	$\mu\text{A}$
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_c$	$I_{pp} = 5\text{A}$			19	V
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_c$	$I_{pp} = 14\text{A}$			28	V
Off State Junction Capacitance	$C_j$	0 Vdc Bias $f = 1\text{MHz}$			165	pF

**PJSD24 Marking T6S**

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{WRM}$				24	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1\text{mA}$	26.7			V
Reverse Leakage Current	$I_R$	$V_R = 24\text{V}$			1	$\mu\text{A}$
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_c$	$I_{pp} = 5\text{A}$			29	V
Clamping Voltage (8/20 $\mu\text{s}$ )	$V_c$	$I_{pp} = 11\text{A}$			37	V
Off State Junction Capacitance	$C_j$	0 Vdc Bias $f = 1\text{MHz}$			120	pF



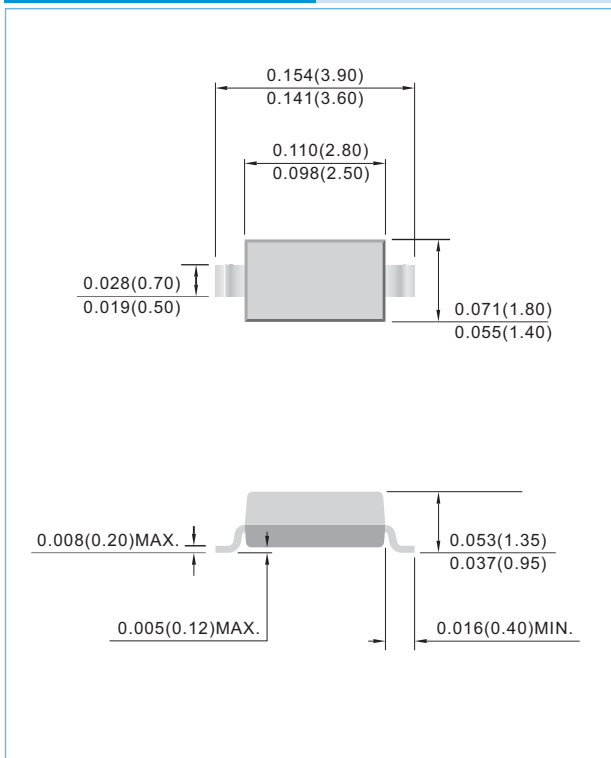
## TYPICAL CHARACTERISTICS



## PACKAGE DIMENSIONS AND BOND PAD LAYOUT

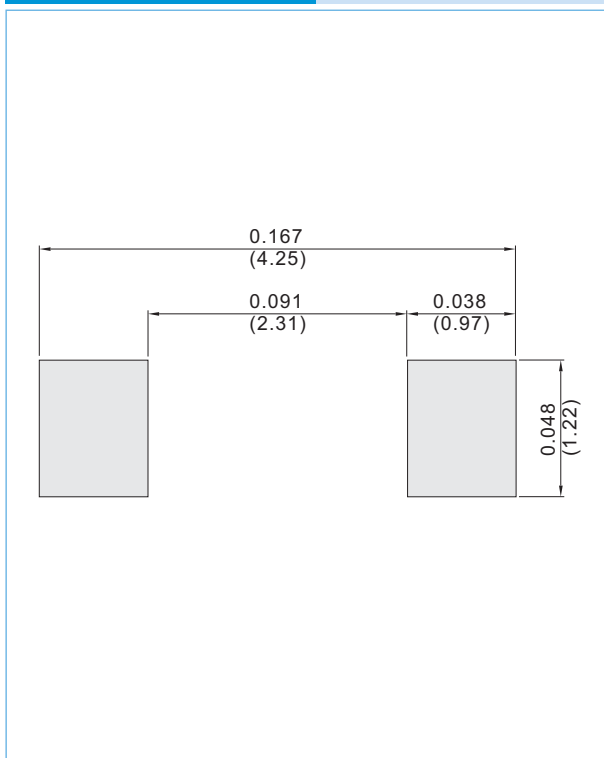
### SOD-123

Unit : inch(mm)



### SOD-123

Unit : inch(mm)



## PJSD05 SERIES

**Part No\_packing code\_Version**

PJSD05\_R1\_00001

PJSD05\_R2\_00001

**For example :**

**RB500V-40\_R2\_00001**

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	HF	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	RoHS	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



## PJSD05 SERIES

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