



# PJSD05CW SERIES

## Single Line TVS Diode for ESD Protection in Portable Electronics

**VOLTAGE** 5 to 36 Volts **POWER** 350 Watts

**SOD-323** Unit: inch (mm)

### FEATURES

- Transient protection for data lines to IEC 61000-4-2 (ESD) + 15kV (air), + 8kV (contact) IEC 61000-4-5 (Lightning) 24A (8/20 $\mu$ s)
- Small package for use in portable electronics
- Suitable replacement for MLV's in ESD protection applications
- Protects one I/O or power line
- Low clamping voltage
- Solid-state silicon avalanche technology
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

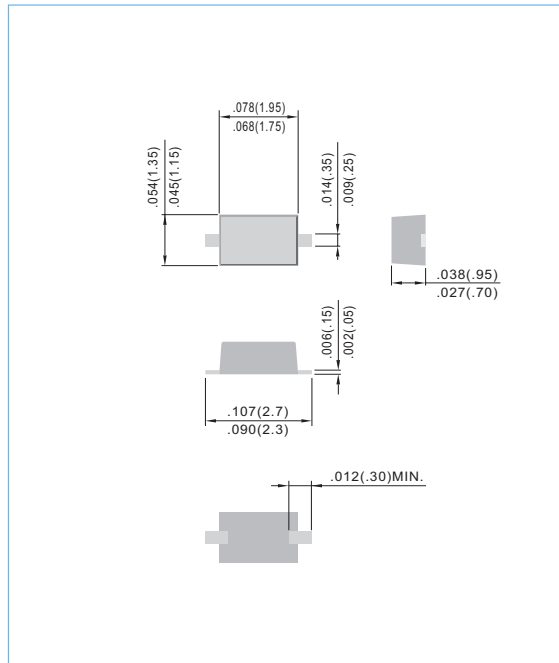
Case : SOD-323, Plastic

Terminals : Solderable per MIL-STD-750, Method 2026

Approx. Weight: 0.0041 grams

Marking Code :

PJSD05CW=EZB	PJSD08CW=EZC	PJSD12CW=EZD
PJSD15CW=EZE	PJSD24CW=EZF	PJSD36CW=EZG



### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p=8/20 \mu s$ )	$P_{PK}$	350	Watts
Lead Soldering Temperature	$T_L$	260(10 sec.)	$^{\circ}C$
Operating Temperature	$T_J$	-55 to +125	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}C$

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Fig.130



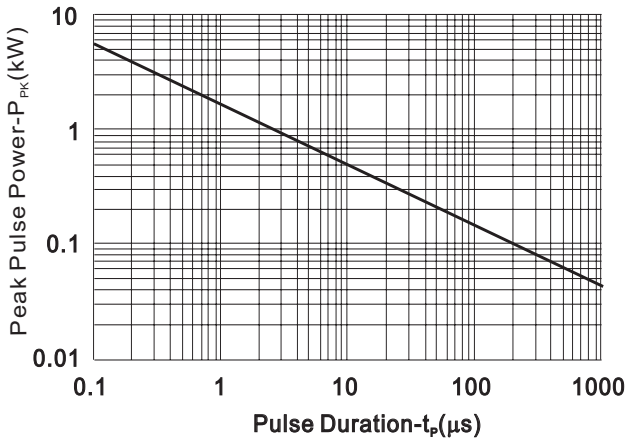
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### ELECTRICAL CHARACTERISTICS

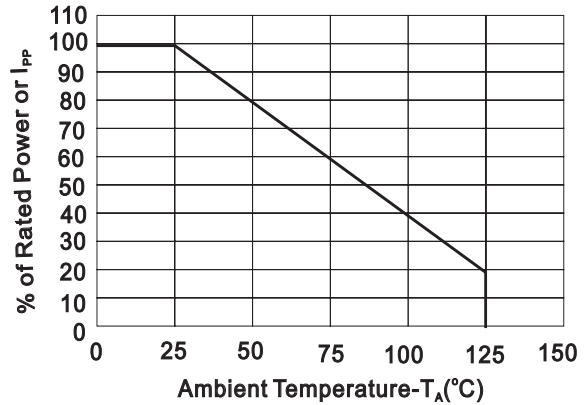
PJSD05CW						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6.37	-	7.04	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^{\circ}C$	-	-	5	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$	-	-	9.8	V
Clamping Voltage	$V_C$	$I_{PP}=24A, t_p=8/20\mu s$	-	-	14.5	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$	-	-	200	pF
PJSD12CW						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	13.3	-	14.7	V
Reverse Leakage Current	$I_R$	$V_{RWM}=12V, T=25^{\circ}C$	-	-	1	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$	-	-	19	V
Clamping Voltage	$V_C$	$I_{PP}=15A, t_p=8/20\mu s$	-	-	24	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$	-	-	100	pF
PJSD15CW						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	15	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	16.72	-	18.48	V
Reverse Leakage Current	$I_R$	$V_{RWM}=15V, T=25^{\circ}C$	-	-	1	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$	-	-	24	V
Clamping Voltage	$V_C$	$I_{PP}=10A, t_p=8/20\mu s$	-	-	29	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$	-	-	75	pF
PJSD24CW						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	24	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	26.6	-	29.4	V
Reverse Leakage Current	$I_R$	$V_{RWM}=24V, T=25^{\circ}C$	-	-	1	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$	-	-	36	V
Clamping Voltage	$V_C$	$I_{PP}=4A, t_p=8/20\mu s$	-	-	42	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$	-	-	50	pF
PJSD36CW						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	36	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	40.57	-	44.84	V
Reverse Leakage Current	$I_R$	$V_{RWM}=36V, T=25^{\circ}C$	-	-	1	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$	-	-	58	V
Clamping Voltage	$V_C$	$I_{PP}=3A, t_p=8/20\mu s$	-	-	71	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$	-	-	45	pF



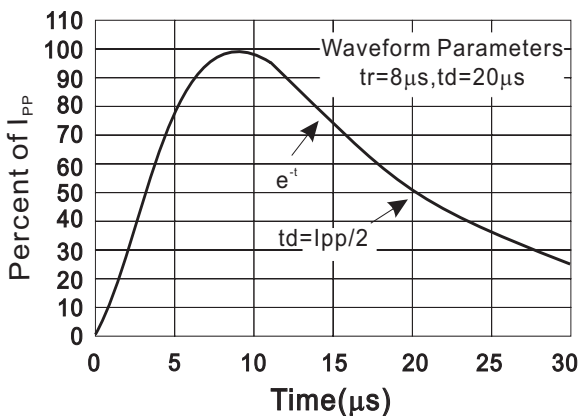
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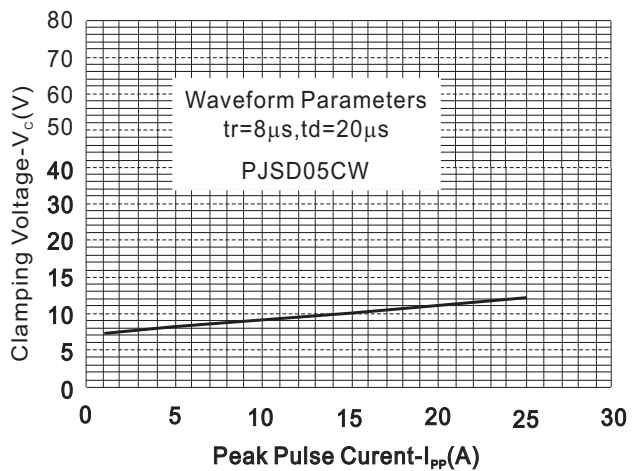
**FIG.1 Non-Repetitive Peak Pulse Power vs. Pulse Time**



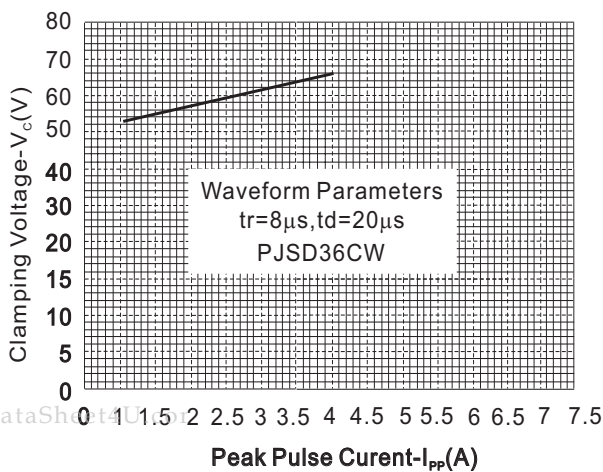
**FIG.2 Power Derating Curve**



**FIG.3 Pulse Waveform**



**FIG.4 Clamping Voltage vs. Peak Pulse Current**



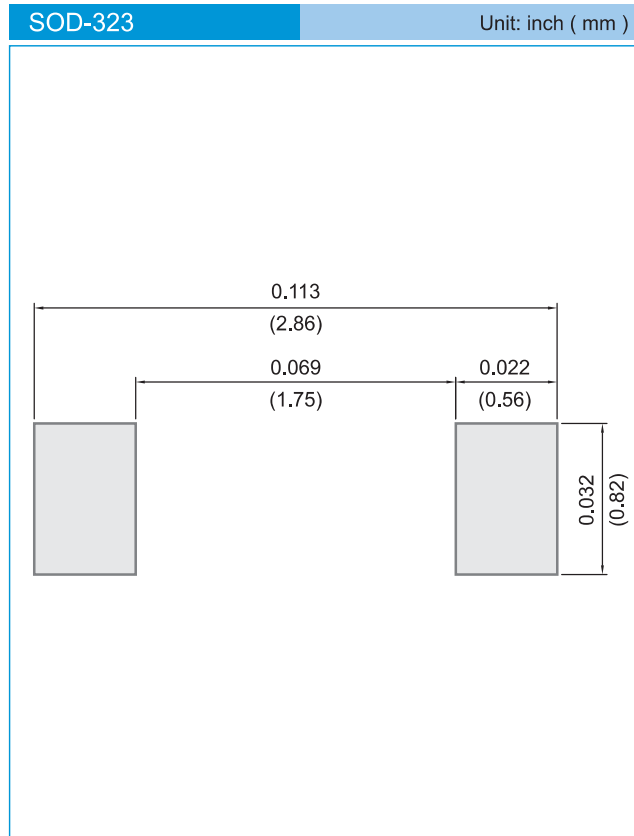
**FIG.5 Clamping Voltage vs. Peak Pulse Current**

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## PJSD05CW SERIES

### MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 5K per 7" plastic Reel

### LEGAL STATEMENT

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