



## PJSD05CW-AU SERIES

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

**VOLTAGE**

**5 to 36 Volt**

**POWER**

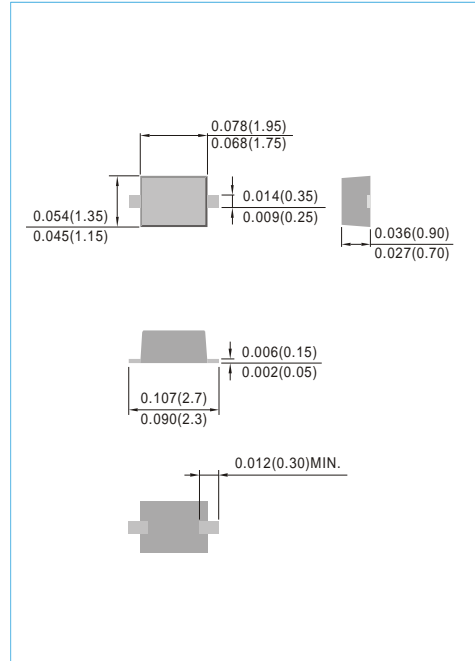
**350 Watt**

**SOD-323**

Unit : inch(mm)

#### FEATURES

- Transient protection for data lines to  
IEC 61000-4-2 (ESD)  $\pm 15$ kV (air),  $\pm 8$ kV (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
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)



#### MECHANICAL DATA

- Case : SOD-323, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.00014 ounces, 0.0041 grams
- Marking Code :

PJSD05CW-AU=EZB	PJSD12CW-AU=EZD	PJSD15CW-AU=EZE
PJSD24CW-AU=EZF	PJSD36CW-AU=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	$^{\circ}C$



Fig.130



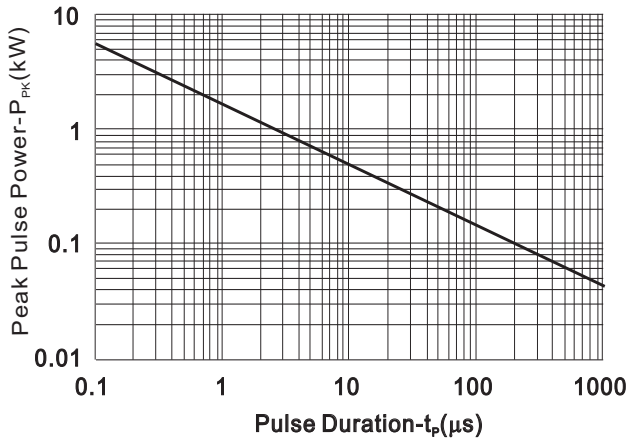
## PJSD05CW-AU SERIES

### ELECTRICAL CHARACTERISTICS

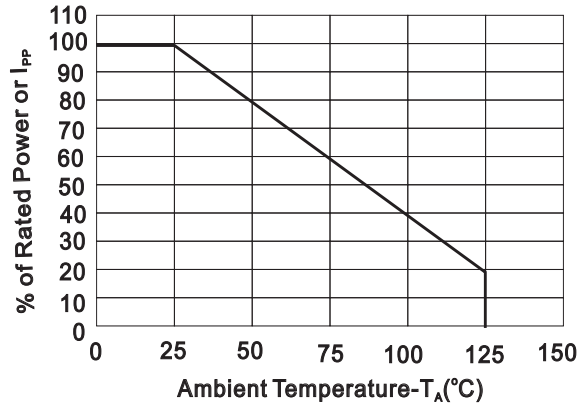
PJSD05CW-AU						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6.37	-	7.04	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^{\circ}C$	-	-	5	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$	-	-	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-AU						
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-AU						
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-AU						
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-AU						
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



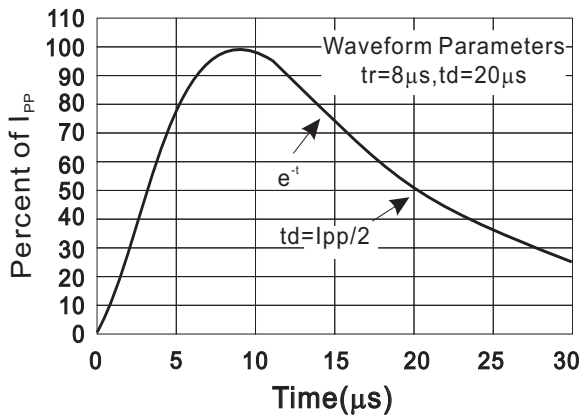
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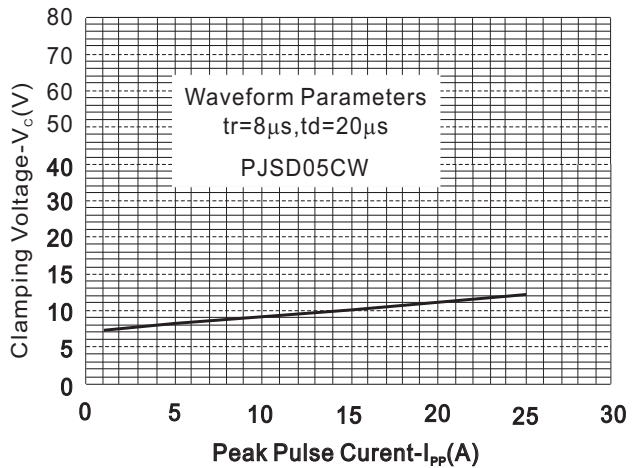
**FIG.1 Non-Repetitive Peak Pulse Power vs. Pulse Time**



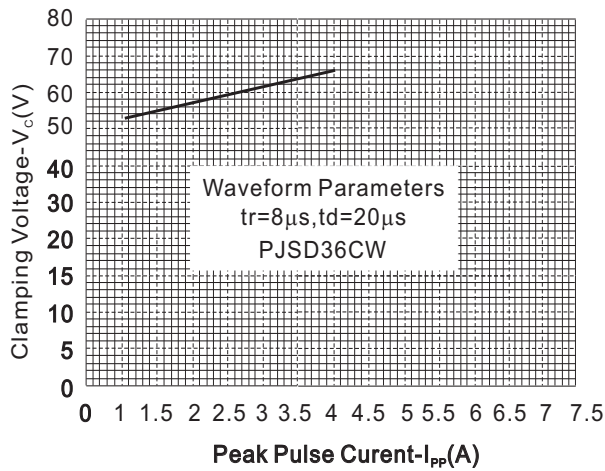
**FIG.2 Power Derating Curve**



**FIG.3 Pulse Waveform**



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

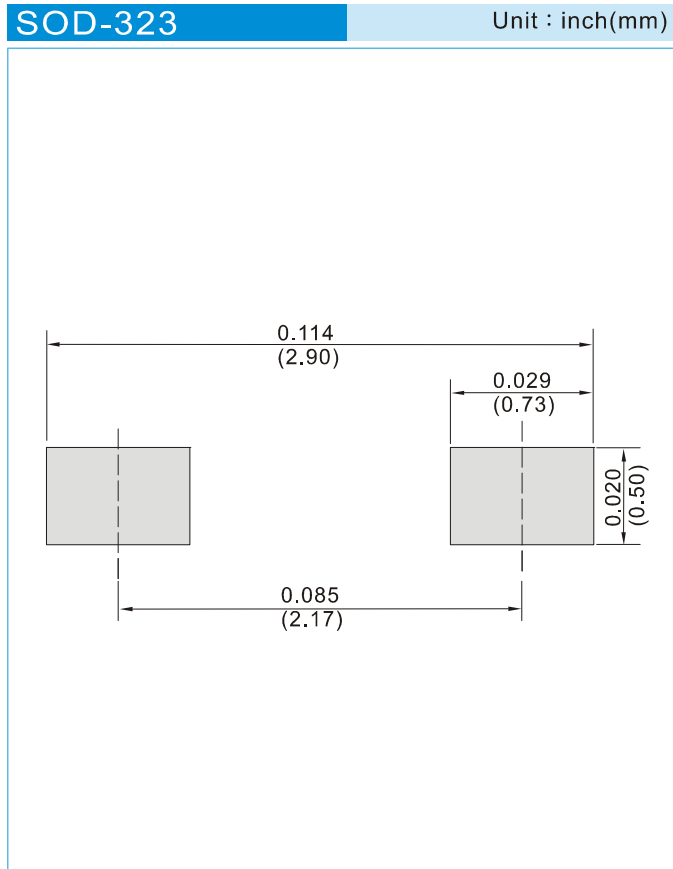


**FIG.5 Clamping Voltage vs. Peak Pulse Current**



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### MOUNTING PAD LAYOUT



### ORDER INFORMATION

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



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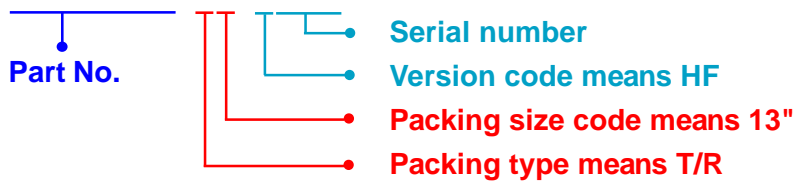
### Part No\_packing code\_Version

PJSD05CW-AU\_R1\_000A1

PJSD05CW-AU\_R2\_000A1

For example :

**RB500V-40** **R2** **00001**



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)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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