



# PJSD05CW SERIES

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

**VOLTAGE** 5 to 36 Volt **POWER** 350 Watt

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

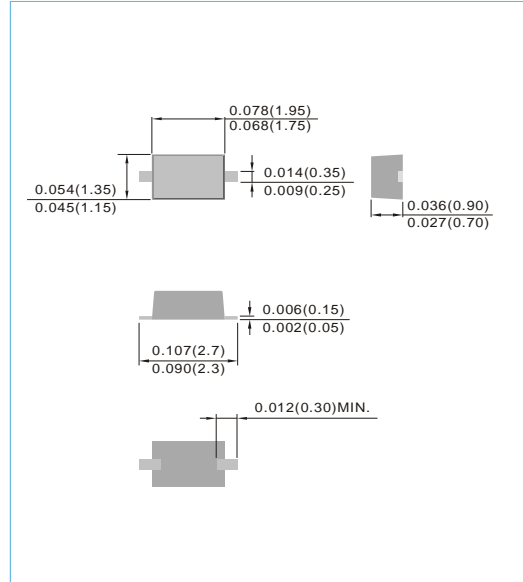
### FEATURES

- Transient protection for data lines to IEC 61000-4-2 (ESD)<sub>L</sub>+ 15kV (air)<sub>L</sub>+ 8kV (contact) IEC 61000-4-5 (Lightning) 24A (8/20μs)
- 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
- 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=EZB	PJSD12CW=EZD	PJSD15CW=EZE
PJSD24CW=EZF	PJSD36CW=EZG	



### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (t <sub>P</sub> =8/20 μs)	P <sub>PK</sub>	350	Watts
Lead Soldering Temperature	T <sub>L</sub>	260(10 sec.)	°C
Operating Temperature	T <sub>J</sub>	-55 to +125	°C
Storage Temperature	T <sub>STG</sub>	-55 to +150	°C

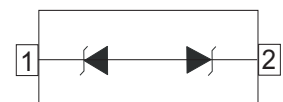


Fig.130



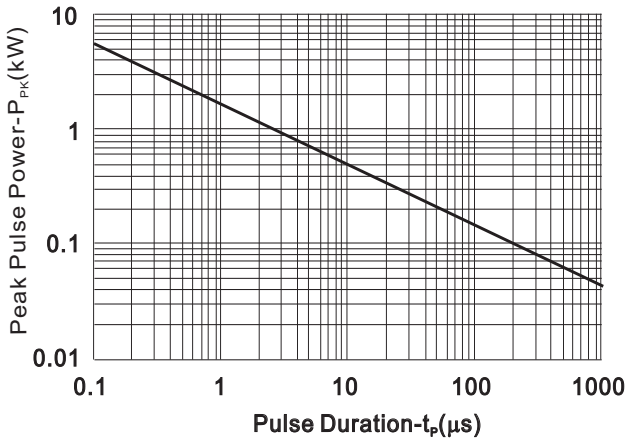
## PJSD05CW SERIES

### ELECTRICAL CHARACTERISTICS

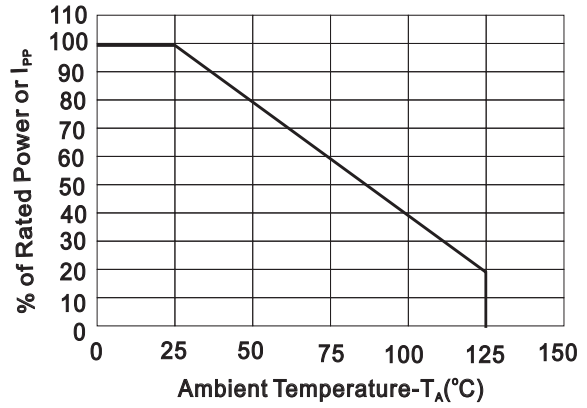
PJSD05CW						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_C=1mA$	6.37	-	7.04	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^\circ C$	-	-	5	$\mu A$
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$	-	-	9.8	V
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=24A, t_p=8/20\mu s$	-	-	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	$V_{BR}$	$I_C=1mA$	13.3	-	14.7	V
Reverse Leakage Current	$I_R$	$V_{RWM}=12V, T=25^\circ C$	-	-	1	$\mu A$
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$	-	-	19	V
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=15A, t_p=8/20\mu s$	-	-	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	$V_{BR}$	$I_C=1mA$	16.72	-	18.48	V
Reverse Leakage Current	$I_R$	$V_{RWM}=15V, T=25^\circ C$	-	-	1	$\mu A$
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=5A, t_p=8/20\mu s$	-	-	24	V
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=10A, t_p=8/20\mu s$	-	-	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	$V_{BR}$	$I_C=1mA$	26.6	-	29.4	V
Reverse Leakage Current	$I_R$	$V_{RWM}=24V, T=25^\circ C$	-	-	1	$\mu A$
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$	-	-	36	V
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=4A, t_p=8/20\mu s$	-	-	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	$V_{BR}$	$I_C=1mA$	40.57	-	44.84	V
Reverse Leakage Current	$I_R$	$V_{RWM}=36V, T=25^\circ C$	-	-	1	$\mu A$
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$	-	-	58	V
C l a m p i n g V o l t a g e	$V_C$	$I_{PP}=3A, t_p=8/20\mu s$	-	-	71	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$	-	-	45	pF



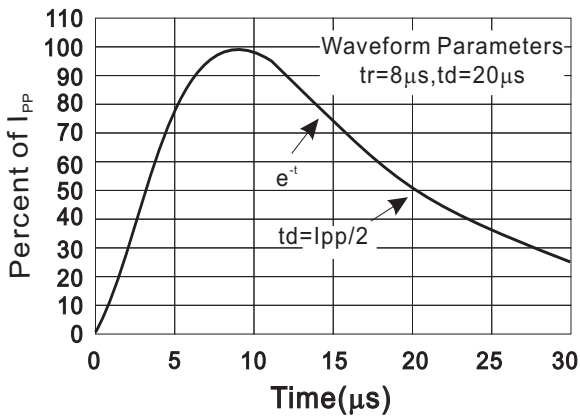
**PJSD05CW SERIES**



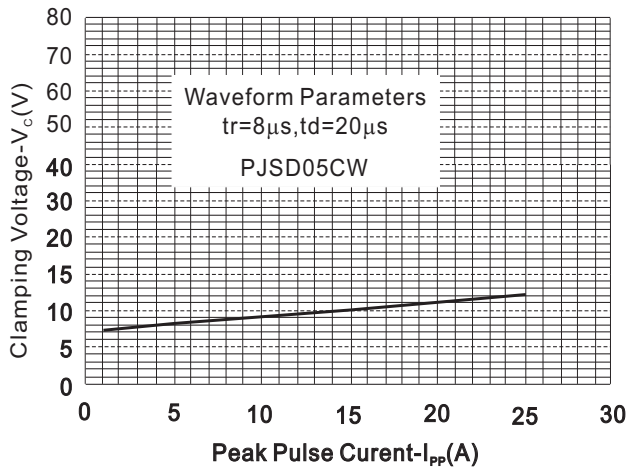
**FIG.1 Non-Repetitive Peak Pulse Power vs. Pulse Time**



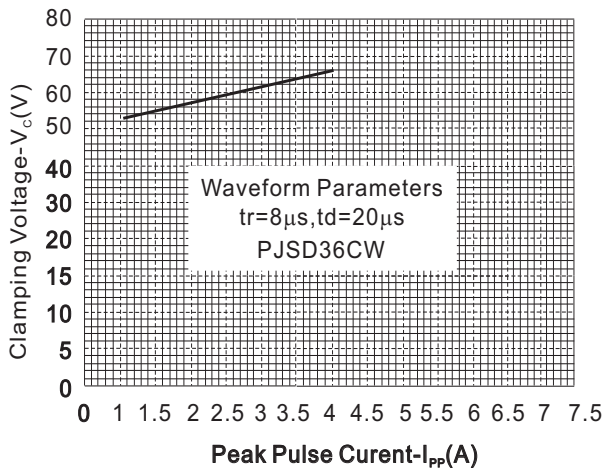
**FIG.2 Power Derating Curve**



**FIG.3 Pulse Waveform**



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

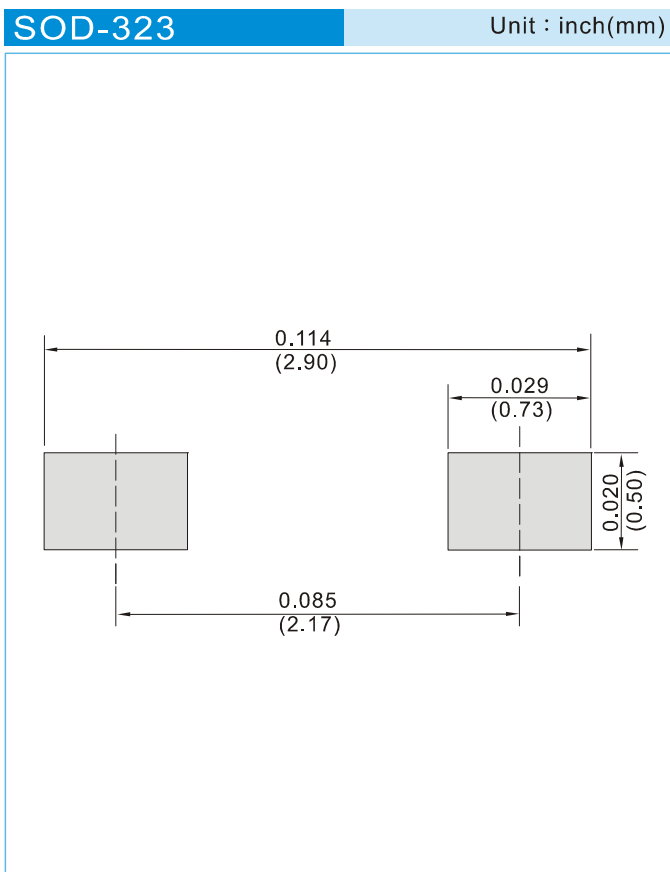


**FIG.5 Clamping Voltage vs. Peak Pulse Current**



## PJSD05CW SERIES

### MOUNTING PAD LAYOUT



### ORDER INFORMATION

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



## PJSD05CW SERIES

### Part No\_packing code\_Version

PJSD05CW\_R1\_00001

PJSD05CW\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXXX</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>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<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>			