



**THE DATASHEET OF  
PJMBZ15V\_R1\_00001**





# PJMBZ15V / PJMBZ27V

## DUAL TVS ZENER FOR ESD / TRANSIENT PROTECTION

This Dual Zener ESD/Transient Protector with a Common Cathode, Configuration has been designed to protect Sensitive Equipment against,ESD and prevent Latch-Up events.The combination of a dual device protects up to two data lines in a single package giving the advantage of board space savings where this is a premium.

**VOLTAGE** 12 / 22 Volts    **POWER** 150 Watts

**SOT-23**    Unit: inch ( mm )

### FEATURES

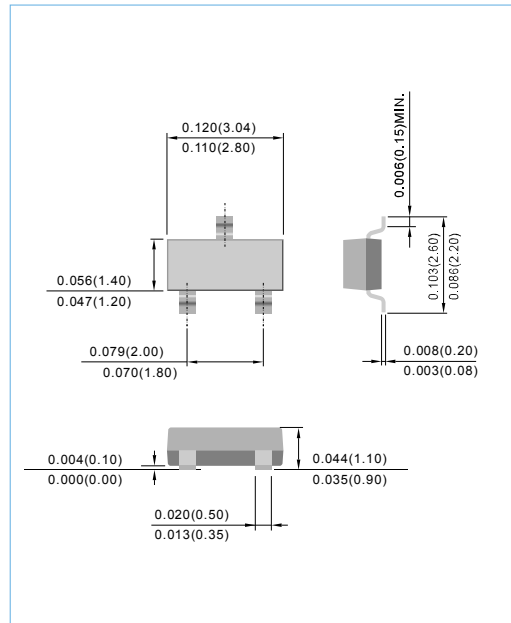
- Working Peak Reverse Voltage of 12V and 22V
- Maximum Leakage Current of 100nA and 50nA @  $V_{RWM}$
- IEC61000-4-2 Compliance 15kV Air, 8kV Contact Discharge
- Industry Standard SOT-23 Package
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### APPLICATIONS

- Data Transmission Line Ports
- Computer Monitor Interface Port Protection
- Portable Consumer Electronics
- Instrumentation Equipment

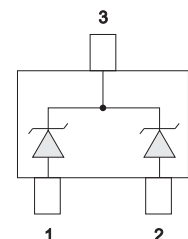
### MECHANICAL DATA

- Case : SOT-23, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Apporx. Weight : 0.0084 gram



### MAXIMUM RATINGS

PARAMETER	Symbol	Value	Units
Peak Pulse Power 8x20 $\mu$ sec Waveform	P <sub>PP</sub>	150	W
Peak Pulse Power 10x1000 $\mu$ sec		40	
ESD IEC61000-4-2 (Air)	V <sub>ESD</sub>	$\pm$ 30	kV
ESD IEC61000-4-2 (Contact)		$\pm$ 30	
Operating Temperature Range	T <sub>J</sub>	-55 to +150	$^{\circ}$ C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	$^{\circ}$ C
Lead Soldering Temperature (max 10 secs)	T <sub>L</sub>	260	$^{\circ}$ C



**Fig.38**



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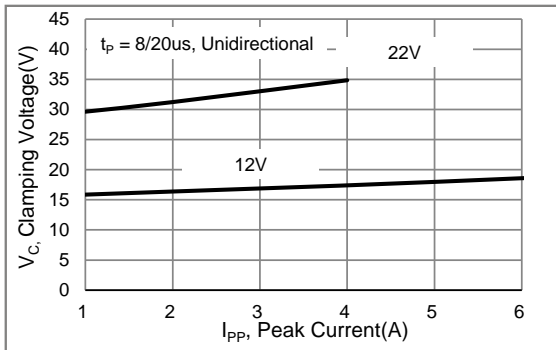
## ELECTRICAL CHARACTERISTICS T<sub>j</sub> = 25°C

PJMBZ15V Marking UL						
PARAMETER	Symbol	Condition	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V <sub>RWM</sub>		-	-	12	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>BR</sub> =1mA	14.3	-	15.8	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =12V	-	-	100	nA
Clamping Voltage (8x20 μsec)	V <sub>CL</sub>	I <sub>PP</sub> =6Amps	-	-	24	V
Clamping Voltage (10x1000 μsec)	V <sub>CL</sub>	I <sub>PP</sub> =1.9Amps	-	-	21.2	V
Off State Junction Capacitance	C <sub>J</sub>	0 Vdc Bias f=1MHz Between I/O pins and pin 3	-	-	80	pF

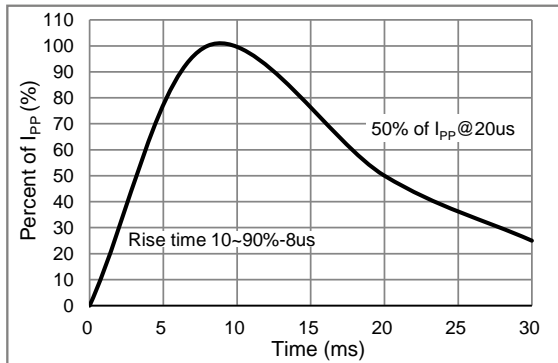
PJMBZ27V Marking US						
PARAMETER	Symbol	Condition	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V <sub>RWM</sub>		-	-	22	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>BR</sub> =1mA	25.65	-	28.35	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =22V	-	-	50	nA
Clamping Voltage (8x20 μsec)	V <sub>CL</sub>	I <sub>PP</sub> =4Amps	-	-	36	V
Clamping Voltage (10x1000 μsec)	V <sub>CL</sub>	I <sub>PP</sub> =1Amps	-	-	38	V
Off State Junction Capacitance	C <sub>J</sub>	0 Vdc Bias f=1MHz Between I/O pins and pin 3	-	-	50	pF



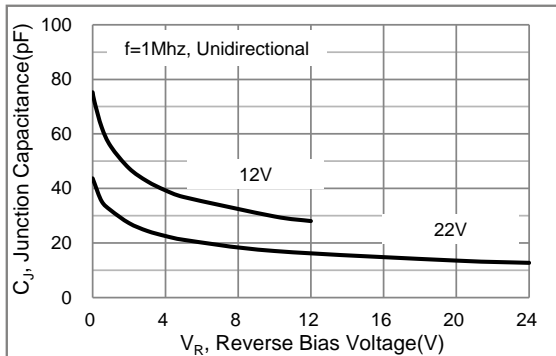
# PJMBZ15V / PJMBZ27V



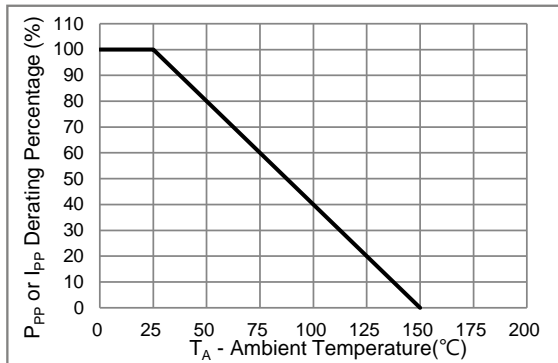
**Fig.1 Typical Peak Clamping Voltage**



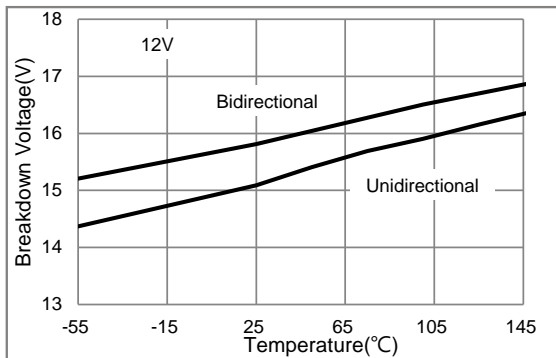
**Fig.2 Pulse Waveform**



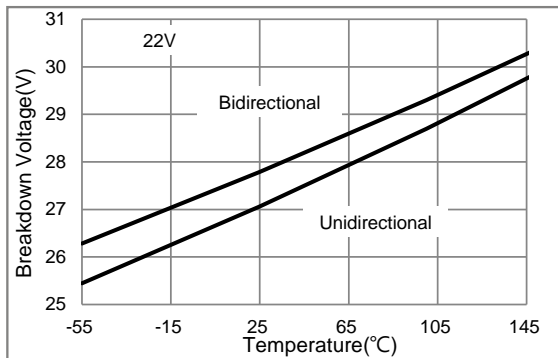
**Fig.3 Typical Junction Capacitance**



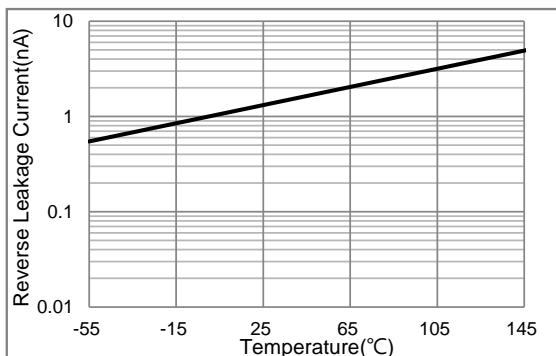
**Fig.4 Derating Curve**



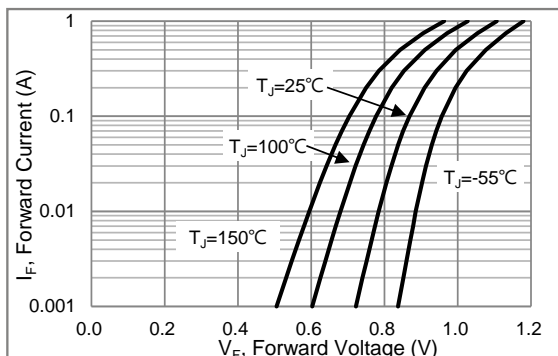
**Fig.5 Typical  $V_{BR}$  versus Temperature**



**Fig.6 Typical  $V_{BR}$  versus Temperature**



**Fig.7 Typical  $I_R$  versus Temperature**

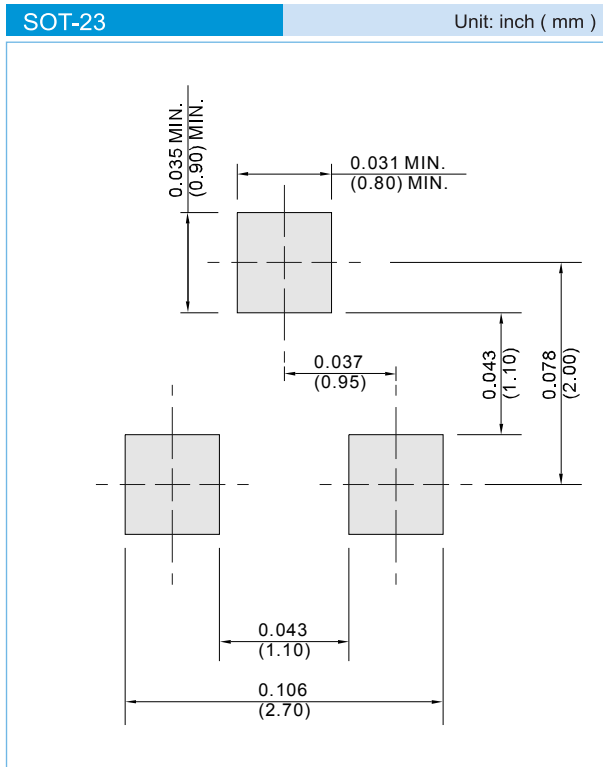


**Fig.8 Typical Forward Characteristics**



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel



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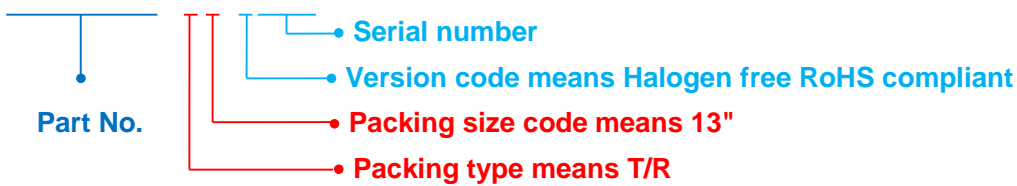
**Part No.\_packing code\_Version**

PJMBZ15V\_R1\_00001

PJMBZ27V\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>X</b>		Serial number <b>XXXX</b>
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HSF Level	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>	Halogen free RoHS compliant	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	RoHS compliant	<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>			



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