



# PJSD03TS~PJSD36TS

## SINGLE LINE TVS DIODE FOR ESD PROTECTION PORTABLE ELECTRONICS

**VOLTAGE** 3~36 Volt **POWER** 120 Watt

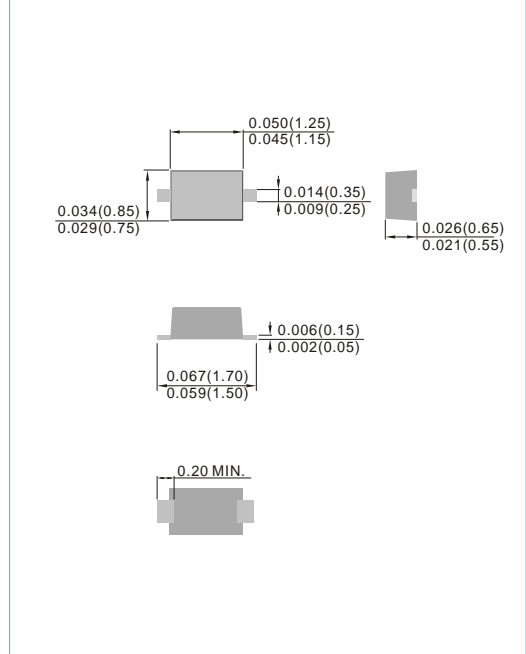
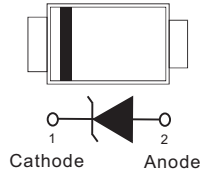
**SOD-523** Unit : inch(mm)

### FEATURES

- 120 Watts peak pules power(  $t_p=8/20\mu s$ )
- Small package for use in portable electronics
- Suitable replacement for MLV'S in ESD protection applications
- Low clamping voltage and leakage current
- Lead free in compliance with EU RoHS 2011/65/EU directive

### APPLICATIONS

- Case: SOD-523 plastic
- Terminals : Solderable per MIL-STD-750,Method 2026
- Approx Weight: 0.00005 ounces, 0.0014 grams
- Marking : PJSD03TS : KD  
PJSD05TS : KE  
PJSD07TS : KF  
PJSD08TS : KR  
PJSD12TS : LE  
PJSD15TS : LM  
PJSD24TS : LZ  
PJSD36TS : MP



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

#### ABSOLUTE MAXIMUM RATING

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation ( $t_p=8/20 \mu s$ )	$P_{PP}$	120	W
ESD Voltage	$V_{ESD}$	25	KV
Operating Temperature	$T_J$	-50 to +150	°C
Storage Temperature	$T_{STG}$	-50 to +150	°C

### ELECTRICAL CHARACTERISTICS

PJSD03TS						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR}=1mA$	4	-	-	V
Reverse Leakage Current	$I_R$	$V_R=3.3V$	-	-	200	$\mu A$
Clamping Voltage(8/20 $\mu s$ )	$V_C$	$I_{PP}=5A$	-	-	6.5	V
Off State Junction Capacitance	$C_J$	0Vdc Bias=f=1MHz	-	-	200	pF
Off State Junction Capacitance	$C_J$	3.3Vdc Bias=f=1MHz	-	-	100	pF



# PJSD03TS~PJSD36TS

PJSD05TS						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR}=1mA$	6.0	-	-	V
Reverse Leakage Current	$I_R$	$V_R=5V$	-	-	5	$\mu A$
Clamping Voltage(8/20 $\mu s$ )	$V_C$	$I_{PP}=5A$	-	-	9	V
Off State Junction Capacitance	$C_J$	0Vdc Bias=f=1MHz	-	-	110	pF
Off State Junction Capacitance	$C_J$	5Vdc Bias=f=1MHz	-	-	60	pF

PJSD07TS						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	7.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR}=1mA$	7.5	-	-	V
Reverse Leakage Current	$I_R$	$V_R=7V$	-	-	150	nA
Clamping Voltage(8/20 $\mu s$ )	$V_C$	$I_{PP}=8.8A$	-	-	22.7	V
Off State Junction Capacitance	$C_J$	0Vdc Bias=f=1MHz	-	-	85	pF

PJSD08TS						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	8	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR}=1mA$	8.5	-	-	V
Reverse Leakage Current	$I_R$	$V_R=8V$	-	-	5	$\mu A$
Clamping Voltage(8/20 $\mu s$ )	$V_C$	$I_{PP}=5A$	-	-	13	V
Off State Junction Capacitance	$C_J$	0Vdc Bias=f=1MHz	-	-	70	pF

PJSD12TS						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR}=1mA$	13.3	-	-	V
Reverse Leakage Current	$I_R$	$V_R=12V$	-	-	5	$\mu A$
Clamping Voltage(8/20 $\mu s$ )	$V_C$	$I_{PP}=5A$	-	-	17	V
Off State Junction Capacitance	$C_J$	0Vdc Bias=f=1MHz	-	-	60	pF



## PJSD03TS~PJSD36TS

PJSD15TS						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	15	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR}=1mA$	16.6	-	-	V
Reverse Leakage Current	$I_R$	$V_R=15V$	-	-	5	$\mu A$
Clamping Voltage(8/20 $\mu s$ )	$V_C$	$I_{PP}=5A$	-	-	22	V
Off State Junction Capacitance	$C_J$	0Vdc Bias=f=1MHz	-	-	50	pF

PJSD24TS						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	24	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR}=1mA$	26.7	-	-	V
Reverse Leakage Current	$I_R$	$V_R=24V$	-	-	5	$\mu A$
Clamping Voltage(8/20 $\mu s$ )	$V_C$	$I_{PP}=3A$	-	-	32	V
Off State Junction Capacitance	$C_J$	0Vdc Bias=f=1MHz	-	-	25	pF

PJSD36TS						
Parameter	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	-	36	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR}=1mA$	40	-	-	V
Reverse Leakage Current	$I_R$	$V_R=36V$	-	-	5	$\mu A$
Clamping Voltage(8/20 $\mu s$ )	$V_C$	$I_{PP}=1A$	-	-	55	V
Off State Junction Capacitance	$C_J$	0Vdc Bias=f=1MHz	-	-	20	pF



# PJSD03TS~PJSD36TS

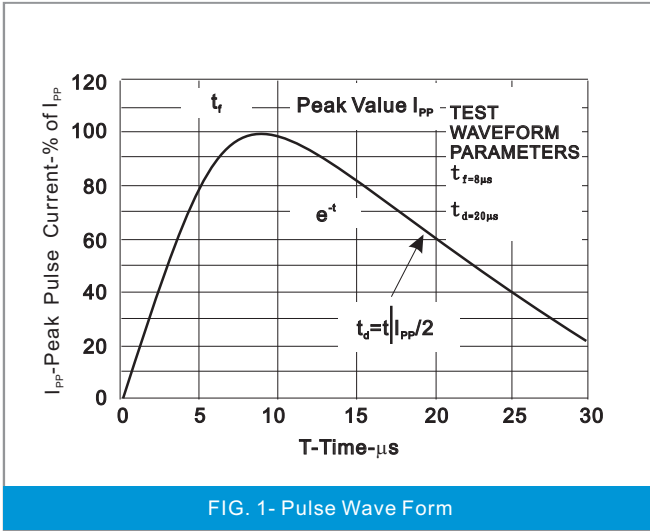


FIG. 1- Pulse Wave Form

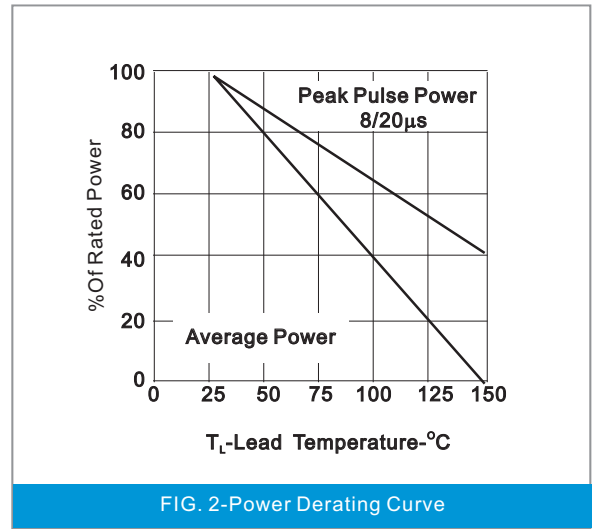


FIG. 2-Power Derating Curve

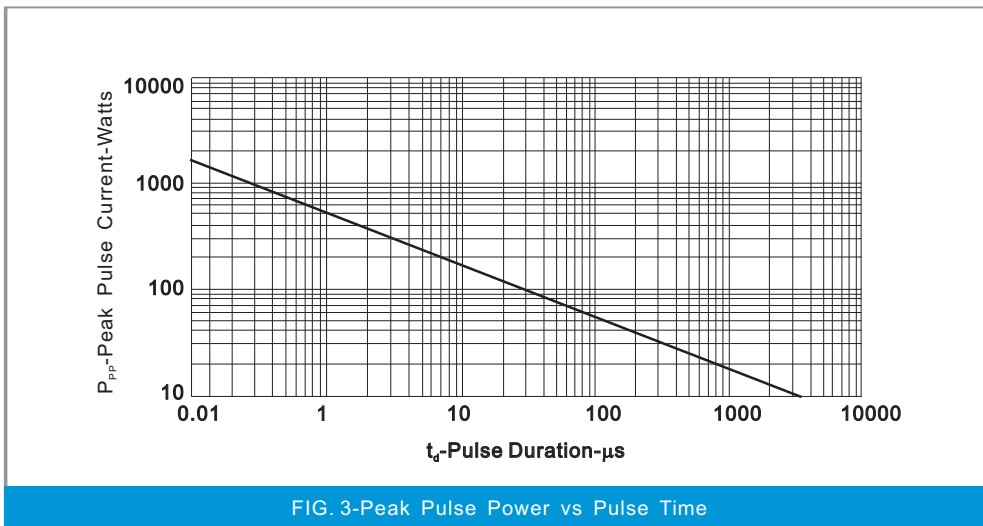
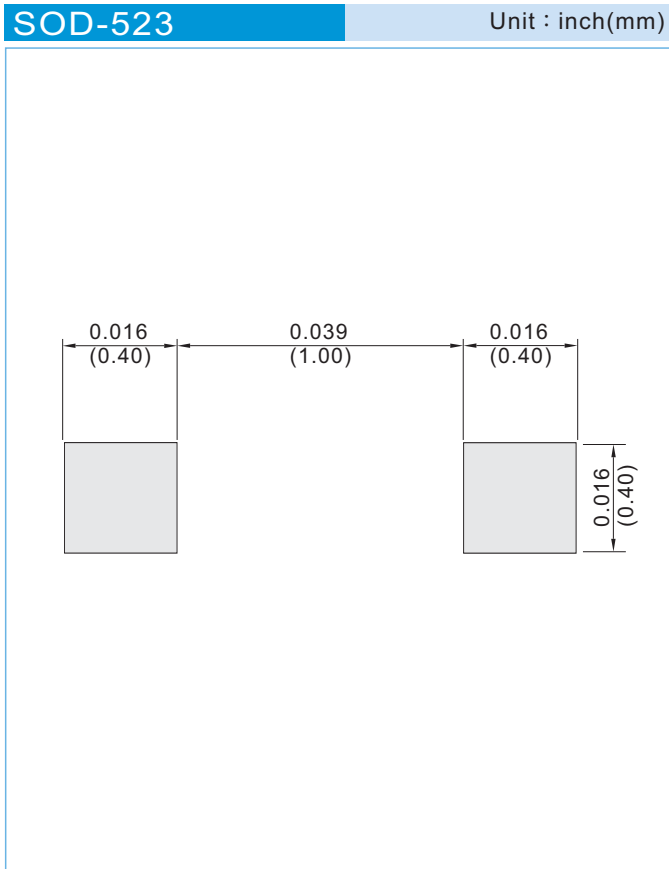


FIG. 3-Peak Pulse Power vs Pulse Time



# PJSD03TS~PJSD36TS

## MOUNTING PAD LAYOUT



## ORDER INFORMATION

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



# PJSD03TS~PJSD36TS

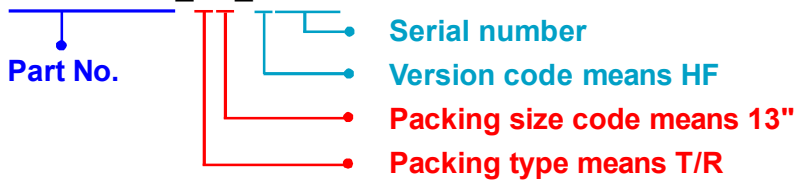
## Part No\_packing code\_Version

PJSD03TS\_R1\_00001

PJSD03TS\_R2\_00001

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)	<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>			



## PJSD03TS~PJSD36TS

---

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.