



# SINGLE AND DUAL TVS FOR ESD / TRANSIENT PROTECTION

This Single and Dual Transient Protector has been designed to protect Sensitive Equipment against ESD and prevent Latch-Up events. The single unidirectional and the dual used as bi-directional devices protect up to two data lines in a single package giving the advantage of board space savings where this is a premium.

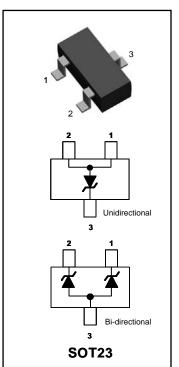
#### SPECIFICATION FEATURES

- Working Peak Reverse Voltage Range 5V to 36V
- Maximum Leakage Current of 5µA
- IEC61000-4-2 Compliance 15kV Air, 8kV Contact Discharge
- Industry Standard SOT23 Package
- 100% Tin Matte Finish (RoHS Compliant)

#### **APPLICATIONS**

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





#### MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Pulse Power 8/20µs Waveform	P <sub>pp</sub>	500	W
ESD Voltage (HBM)	V <sub>ESD</sub>	>25	kV
Operating Temperature Range	TJ	-55 to +150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C
Lead Soldering Temperature (max. 10 s)	TL	260	°C

#### **ELECTRICAL CHARACTERISTICS** Tj = 25°C

#### PJSOT05, PJSOT05C (Bi-directional)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V <sub>WRM</sub>				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1mA$	6			V
Reverse Leakage Current	I <sub>R</sub>	$V_R = 5V$			5	μΑ
Clamping Voltage (8/20µs)	Vc	$I_{pp} = 20A$			10	V
Maximum Peak Pulse Current	I <sub>pp</sub>	8/20 µs Waveform			30	А
Off State Capacitance (Unidirectional)	Cj	0 Vdc Bias f = 1MHz			550	pF
Off State Capacitance (Bi-directional)	Cj	0 Vdc Bias f = 1MHz between pin 1 and 2			220	pF





# ELECTRICAL CHARACTERISTICS Tj = 25°C

### PJSOT12, PJSOT12C (Bi-directional)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V <sub>WRM</sub>				12	V
Reverse Breakdown Voltage	$V_{BR}$	I <sub>BR</sub> = 1mA	13.3			V
Reverse Leakage Current	I <sub>R</sub>	$V_R = 12V$			5	μΑ
Clamping Voltage (8/20µs)	Vc	$I_{pp} = 20A$			25	V
Maximum Peak Pulse Current	I <sub>pp</sub>	8/20 µs Waveform			24	Α
Off State Capacitance (Unidirectional)	Cj	0 Vdc Bias f = 1MHz			200	pF
Off State Capacitance (Bi-directional)	Cj	0 Vdc Bias f = 1MHz between pin 1 and 2			100	pF

### PJSOT15, PJSOT15C (Bi-directional)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{WRM}$				15	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1mA$	16.7			V
Reverse Leakage Current	I <sub>R</sub>	$V_R = 15V$			5	μΑ
Clamping Voltage (8/20µs)	Vc	$I_{pp} = 20A$			30	V
Maximum Peak Pulse Current	I <sub>pp</sub>	8/20 µs Waveform			20	Α
Off State Capacitance (Unidirectional)	Cj	0 Vdc Bias f = 1MHz			170	pF
Off State Capacitance (Bi-directional)	Cj	0 Vdc Bias f = 1MHz between pin 1 and 2			90	pF

# PJSOT24, PJSOT24C (Bi-directional)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V <sub>WRM</sub>				24	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1mA$	26.7			V
Reverse Leakage Current	I <sub>R</sub>	$V_R = 24V$			5	μΑ
Clamping Voltage (8/20µs)	Vc	$I_{pp} = 15A$			45	V
Maximum Peak Pulse Current	I <sub>pp</sub>	8/20 µs Waveform			18	Α
Off State Capacitance (Unidirectional)	Cj	0 Vdc Bias f = 1MHz			150	pF
Off State Capacitance (Bi-directional)	Cj	0 Vdc Bias f = 1MHz between pin 1 and 2			80	pF

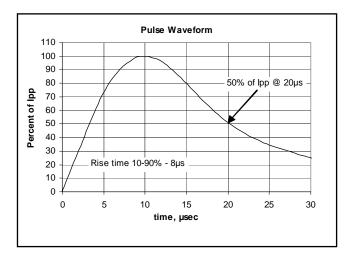


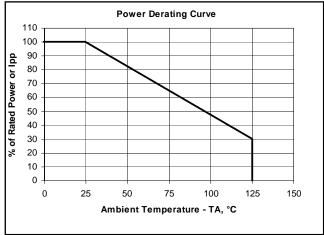


# **ELECTRICAL CHARACTERISTICS** Tj = 25°C

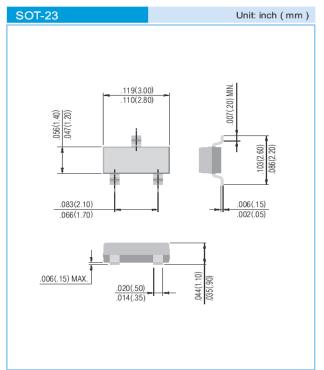
# PJSOT36, PJSOT36C (Bi-directional)

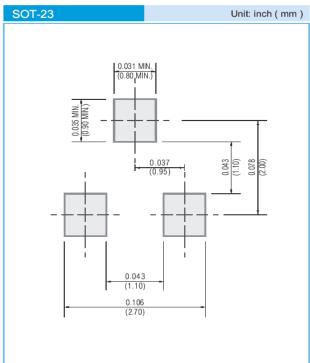
Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V <sub>WRM</sub>				36	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>BR</sub> = 1mA	40			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 36V				
Clamping Voltage (8/20µs)	V <sub>c</sub>	$I_{pp} = 7A$			72	V
Maximum Peak Pulse Current	I <sub>pp</sub>	8/20 µs Waveform			9	А
Off State Capacitance (Unidirectional)	Cj	0 Vdc Bias f = 1MHz			80	
Off State Capacitance (Bi-directional)	Cj	0 Vdc Bias f = 1MHz between pin 1 and 2			45	pF





#### PACKAGE AND SUGGESTED PAD LAYOUT





TVS	Marking Code
PJSOT05	2A
PJSOT12	4A
PJSOT15	5A
PJSOT24	6A
PJSOT36	SA
PJSOT05C	2AC
PJSOT12C	4AC
PJSOT15C	5AC
PJSOT24C	6AC
PJSOT36C	SAC

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