

ULTRA LOW CAPACITANCE SINGLE TVS FOR HIGH SPEED DATA LINES

This Transient Voltage Suppressor is intended to Protect Sensitive Equipment against Electrostatic Discharge and Transient Events as well to offer a Minimum insertion loss in high speed data communication transmission line ports used in Portable Consumer, Computing and Networking Applications.

SPECIFICATION FEATURES

- Working Peak Reverse Voltage Range - 5, 12, 15 and 24V
- Maximum Leakage Current of 5μA
- IEC61000-4-2 Compliance 15kV Air, 8kV Contact Discharge
- IEC61000-4-5 17 Amps peak, 8/20 μs Waveform
- 100% Tin Matte Finish (RoHS Compliant)

APPLICATIONS

- Mobile Phones and accessories
- Universal Serial Bus (USB1.1 and 2.0) Applications
- Portable Consumer Electronics
- Instrumentation Equipment
- Ethernet 10, 100 and 1000 Base Port Protection

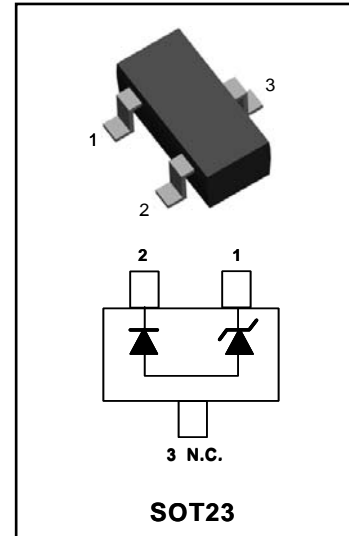
MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Pulse Power 8/20μs Waveform	P_{pp}	400	W
Peak Pulse Current 8/20μs Waveform	I_{pp}	17	A
ESD Voltage (HBM)	V_{ESD}	>25	kV
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C
Lead Soldering Temperature (max 10 secs)	T_L	260	°C

ELECTRICAL CHARACTERISTICS $T_j = 25^\circ\text{C}$

PJSLC05

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{WRM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_R = 5\text{V}$			5	μA
Clamping Voltage (8/20μs)	V_C	$I_{pp} = 1\text{Amps}$			9.5	V
Clamping Voltage (8/20μs)	V_C	$I_{pp} = 5\text{Amps}$			12	V
Maximum Peak Pulse Current	I_{pp}	8/20 μs Waveform			17	A
Off State Junction Capacitance	C_j	0 Vdc Bias f = 1MHz Between pins 1 and 2			1.2	pF



Device	Marking Code
PJSLC05	T1S
PJSLC12	S12
PJSLC15	S15
PJSLC24	S24

ELECTRICAL CHARACTERISTICS $T_j = 25^\circ\text{C}$
PJSLC12

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{WRM}				12	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1 \text{ mA}$	13.3			V
Reverse Leakage Current	I_R	$V_R = 12\text{V}$			1	μA
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 1 \text{ Amps}$			19	V
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 5 \text{ Amps}$			24	V
Maximum Peak Pulse Current	I_{pp}	8/20 μs Waveform			12	A
Off State Junction Capacitance	C_j	0 Vdc Bias f = 1MHz Between pins 1 and 2			1.2	pF

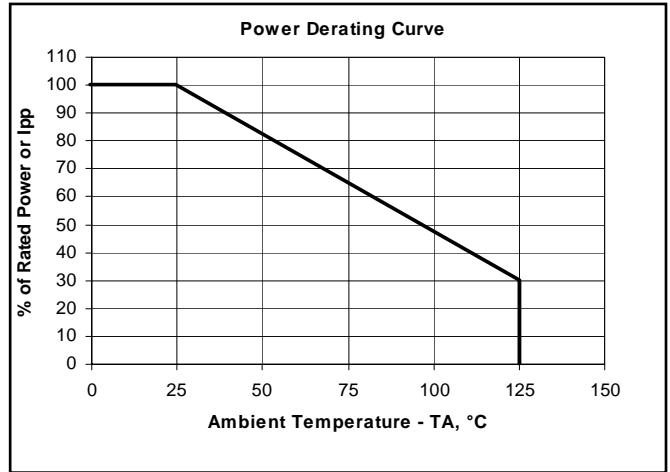
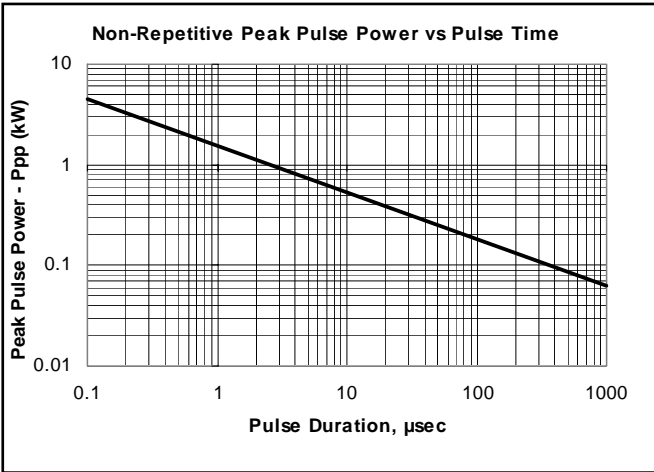
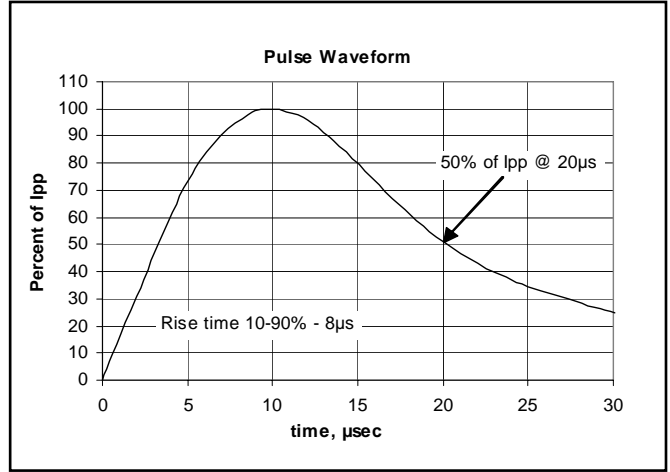
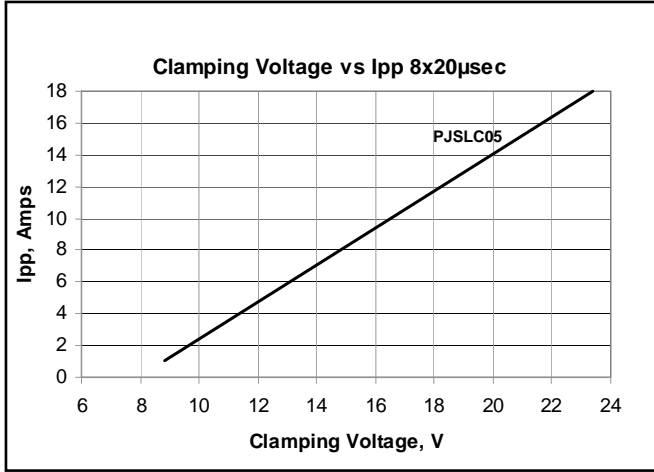
PJSLC15

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{WRM}				15	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1 \text{ mA}$	16.7			V
Reverse Leakage Current	I_R	$V_R = 15\text{V}$			1	μA
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 1 \text{ Amps}$			24	V
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 5 \text{ Amps}$			30	V
Maximum Peak Pulse Current	I_{pp}	8/20 μs Waveform			10	A
Off State Junction Capacitance	C_j	0 Vdc Bias f = 1MHz Between pins 1 and 2			1.2	pF

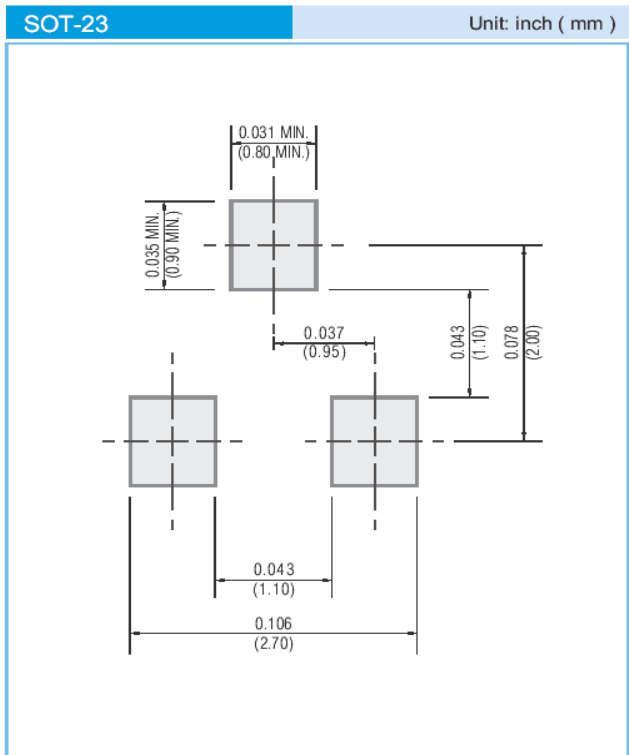
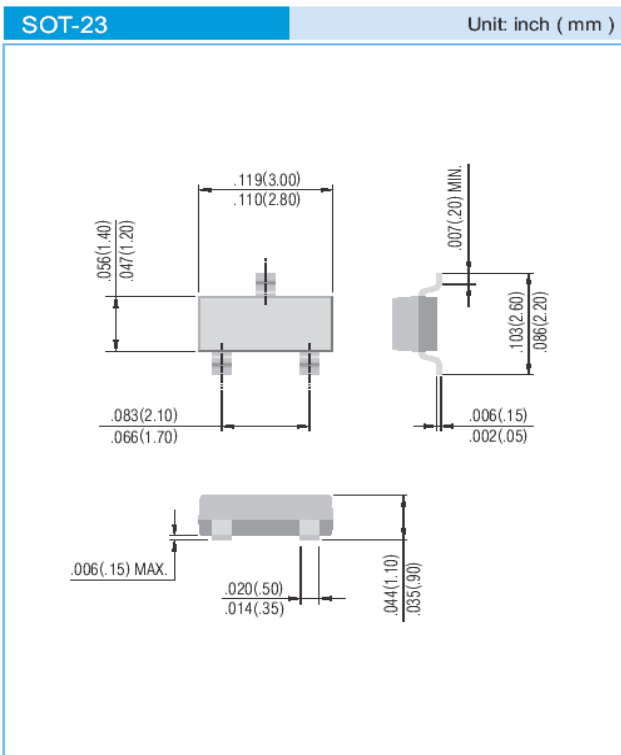
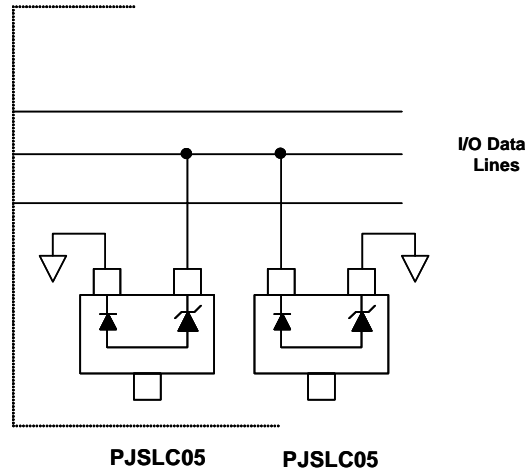
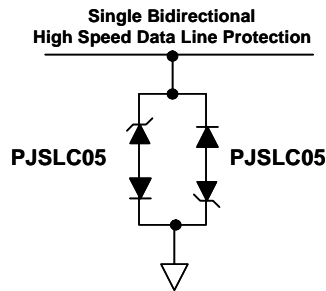
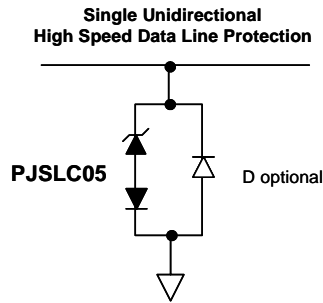
PJSLC24

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{WRM}				24	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1 \text{ mA}$	26.7			V
Reverse Leakage Current	I_R	$V_R = 24\text{V}$			1	μA
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 1 \text{ Amps}$			43	V
Clamping Voltage (8/20 μs)	V_C	$I_{pp} = 5 \text{ Amps}$			55	V
Maximum Peak Pulse Current	I_{pp}	8/20 μs Waveform			5	A
Off State Junction Capacitance	C_j	0 Vdc Bias f = 1MHz Between pins 1 and 2			1.2	pF

TYPICAL CHARACTERISTIC CURVES



TYPICAL APPLICATION CONFIGURATIONS



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