

ULTRA LOW CAPACITANCE QUAD TVS ARRAY FOR HIGH SPEED TRANSMISSION DATA LINES

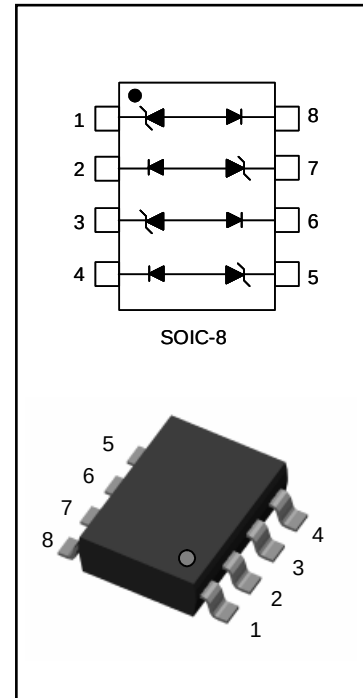
This Transient Voltage Suppressor Array is intended to Protect Sensitive Equipment against Electrostatic Discharge and Transient Events as well to offer a minimum insertion loss in high speed data communication transmission line ports used in Portable Consumer, Computing and Networking Applications.

SPECIFICATION FEATURES

- Working Peak Reverse Voltage Range of 5, 12, 15 and 24V
- Maximum Leakage Current of 5μA
- IEC61000-4-2 Compliance 15kV Air, 8kV Contact Discharge
- Maximum Off-State Capacitance of 1.2pF at 1MHz 0Vdc

APPLICATIONS

- Handheld Computers (PDA)
- Universal Serial Bus (1.1 and 2.0) and Fire Wire Ports
- Portable Instrumentation
- Laptop or Desktop Computer Network cards
- Ethernet 10, 100, and 1000 Base Port Protection



MAXIMUM RATINGS

Rating	Symbol	Value	Units
Peak Pulse Power 8/20μs Waveform	P_{pp}	400	W
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 s)	T_L	260	°C

ELECTRICAL CHARACTERISTICS (Per Device Pair) $T_J = 25^{\circ}\text{C}$

PJLCDA05

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 (820μs)	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 $f = 1\text{MHz}$ Between pins 1-8, 2-7, 3-6 and 4-5			1.2	pF

ELECTRICAL CHARACTERISTICS (Per Device Pair) $T_j = 25^\circ\text{C}$

PJLCDA12

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	$I_{pp} = 1\text{A}$			19	V
Clamping Voltage (8/20 μs)	V_c	$I_{pp} = 5\text{A}$			24	V
Maximum Peak Pulse Current	I_{pp}	8/20 μs Waveform			12	A
Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$ Between pins 1-8, 2-7, 3-6 and 4-5			1.2	pF

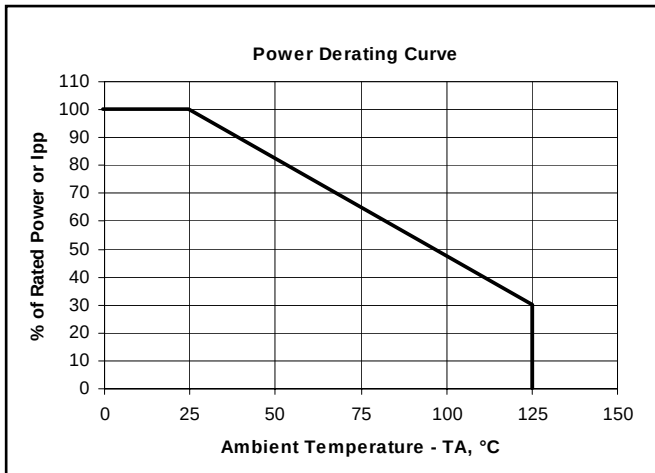
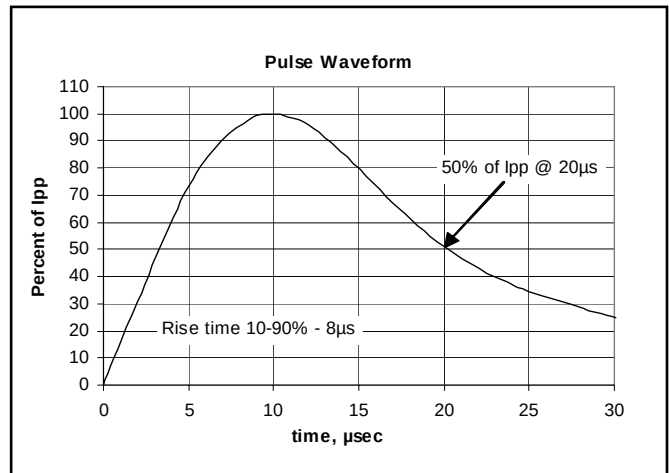
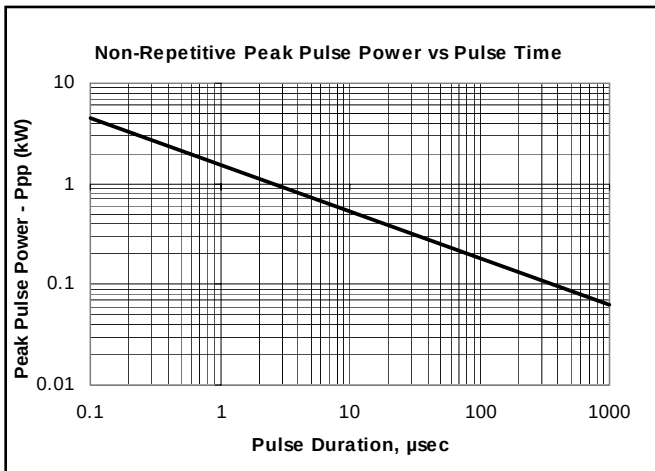
PJLCDA15

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	$I_{pp} = 1\text{A}$			24	V
Clamping Voltage (8/20 μs)	V_c	$I_{pp} = 5\text{A}$			30	V
Maximum Peak Pulse Current	I_{pp}	8/20 μs Waveform			10	A
Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$ Between pins 1-8, 2-7, 3-6 and 4-5			1.2	pF

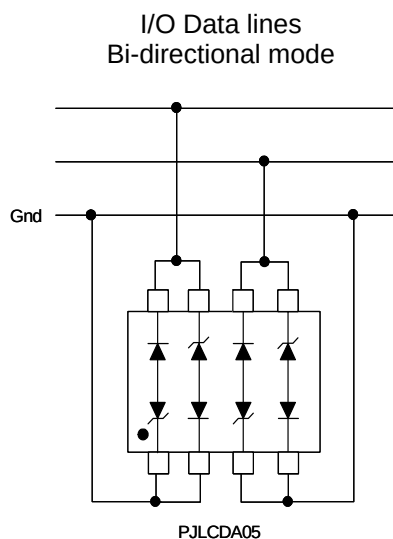
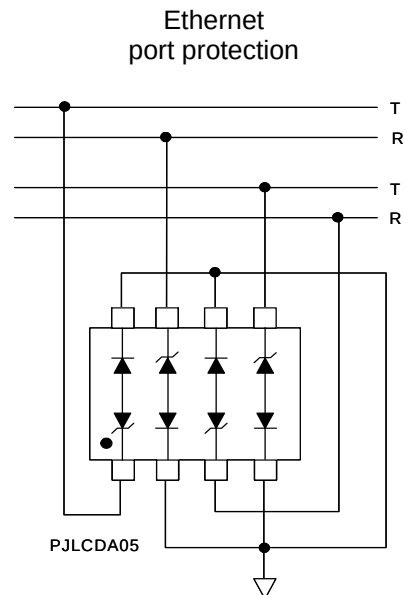
PJLCDA24

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	$I_{pp} = 1\text{A}$			43	V
Clamping Voltage (8/20 μs)	V_c	$I_{pp} = 5\text{A}$			55	V
Maximum Peak Pulse Current	I_{pp}	8/20 μs Waveform			7	A
Off State Junction Capacitance	C_j	0 Vdc Bias $f = 1\text{MHz}$ Between pins 1-8, 2-7, 3-6 and 4-5			1.2	pF

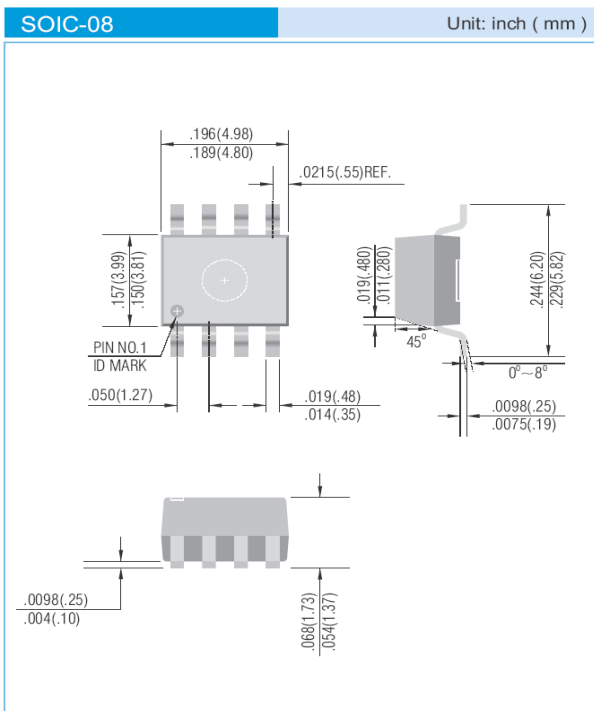
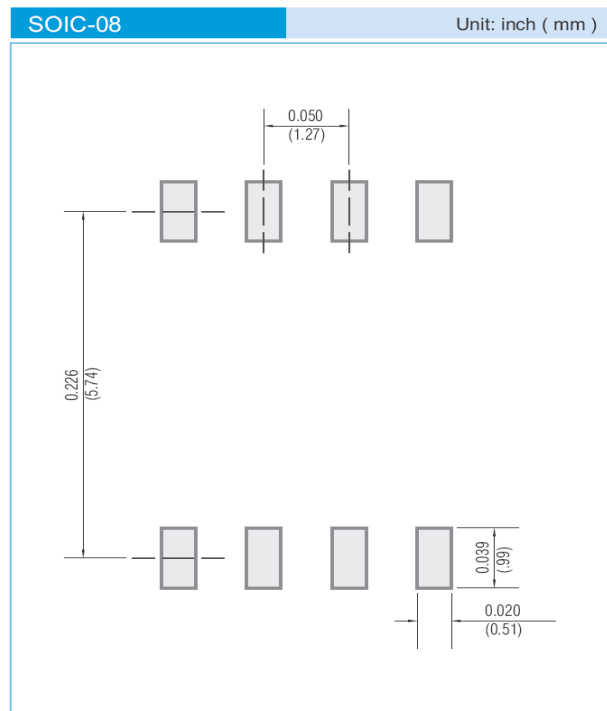
TYPICAL CHARACTERISTIC CURVES



TYPICAL APPLICATION CONFIGURATIONS



PACKAGE DIMENSIONS AND PAD LAYOUT



PRODUCT MARKING INFORMATION

TVS	Marking Code
PJLCDA05	L05
PJLCDA12	L12
PJLCDA15	L15
PJLCDA24	L24

© Copyright PanJit International, Inc 2006

The information presented in this document is believed to be accurate and reliable. The specifications and information herein are subject to change without notice. Pan Jit makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose. Pan Jit products are not authorized for use in life support devices or systems. Pan Jit does not convey any license under its patent rights or rights of others.