2-Line Ultra Low Capacitance TVS Diode Array

Features

- IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20μs)
- Ultra low Capacitance
- Low leakage current
- Low clamping voltage
- Operating voltage: 5V
- Protects one bidirectional line or two unidirectional lines

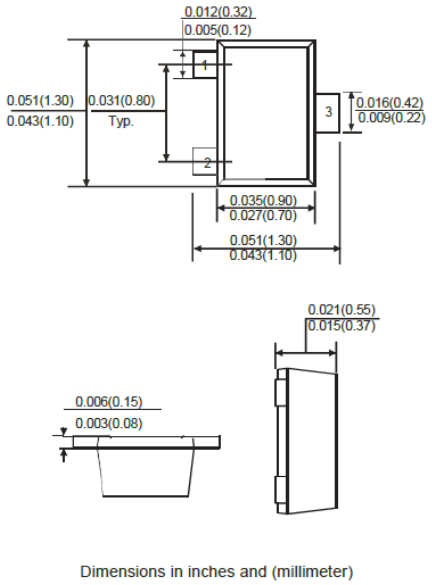
Applications

- Mobile Display Digital Interface (MDDI)
- InfiniBand Transceiver Protection
- Photodetector Protection
- Industrial Controls
- Server and Desktop PC

Mechanical Characteristics

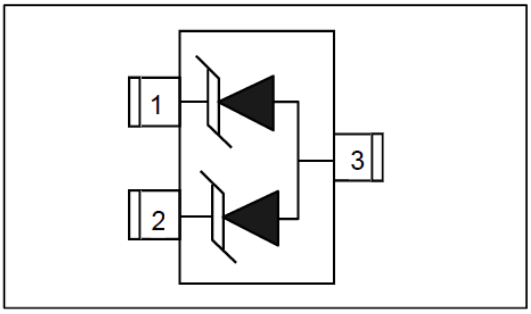
- Package: SOT-723
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Material: RoHS compliant

SOT-723



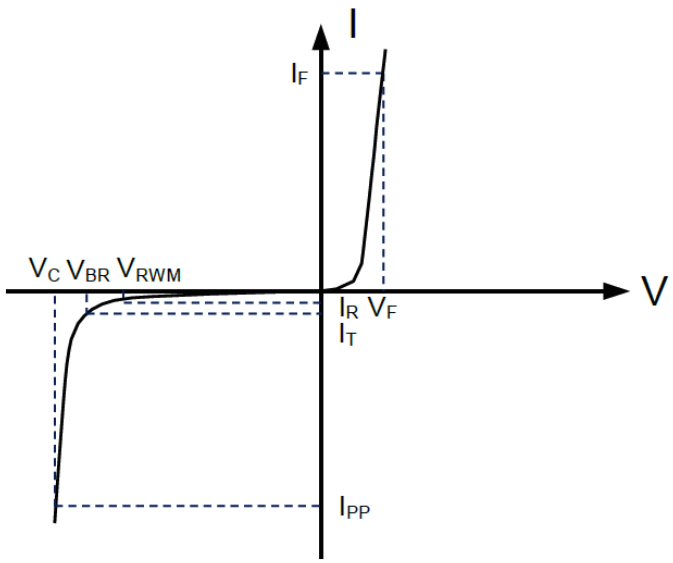
Dimensions in inches and (millimeter)

Circuit and Pin Schematic



Absolute Maximum Ratings (T_A = 25℃ Unless otherwise noted)			
Parameter	**Symbol**	**Value**	**Unit**
Peak Pulse Power (tp = 8/20μs)	P_{PP}	55	W
Peak Pulse Current (tp = 8/20μs)	I_{PP}	5	A
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±30	KV
ESD per IEC 61000−4−2 (Contact)		±30	KV
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature Range	T_J	-55 to + 125	℃
Storage Temperature Range	T_{STG}	-55 to + 150	℃

Electrical Parameters (T_A = 25℃ Unless otherwise noted)	
Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics (T_A = 25℃ Unless otherwise noted)						
Parameter	**Symbol**	**Test Conditions**	**Min.**	**Typ.**	**Max.**	**Units**
Reverse Stand-Off Voltage	V_{RWM}	Pin 1 or Pin 2 to Pin 3			5	V
Reverse breakdown Voltage	V_{BR}	I_T = 1mA,Pin 1 or Pin 2 to Pin 3	6			V
Reverse leakage current	I_R	V_{RWM} = 5V,Pin 1 or Pin 2 to Pin 3			0.2	μA
Forward Voltage	V_F	I_F = 10mA, Pin 3 to Pin 1 or Pin 2	0.5		1	V
Clamping Voltage	V_C	I_{PP} = 1A (tp =8/20μs), Pin 1 or Pin 2 to Pin 3			9	V
Clamping Voltage	V_C	I_{PP} = 5A (tp =8/20μs), Pin 1 or Pin 2 to Pin 3			11	V
Junction capacitance	C_J	V_R = 0V, f = 1MHz, Pin 1 to Pin 2		0.25		pF
Junction capacitance	C_J	V_R = 0V, f = 1MHz, Pin 1 or Pin 2 to Pin 3		0.5	0.8	pF

Typical Performance Characteristics (T_A = 25℃ Unless otherwise noted)

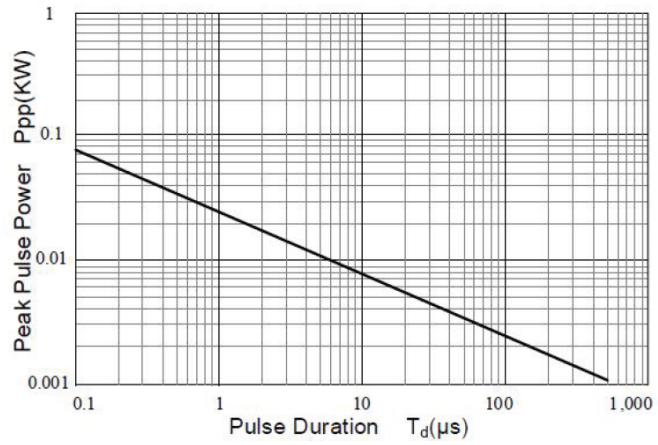


Fig 1. Peak Pulse Power vs. Pulse Time

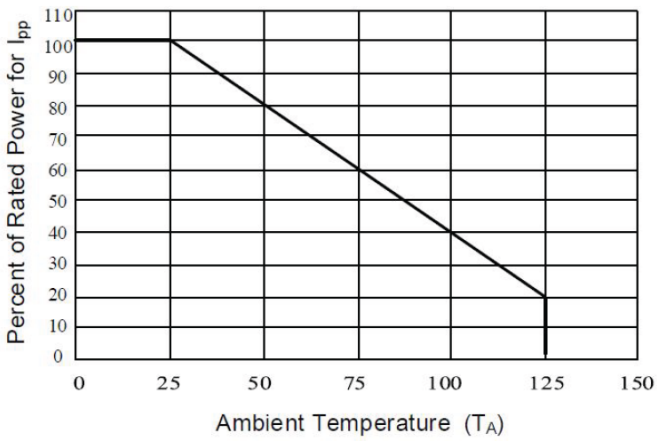


Fig 2. Power Derating Curve

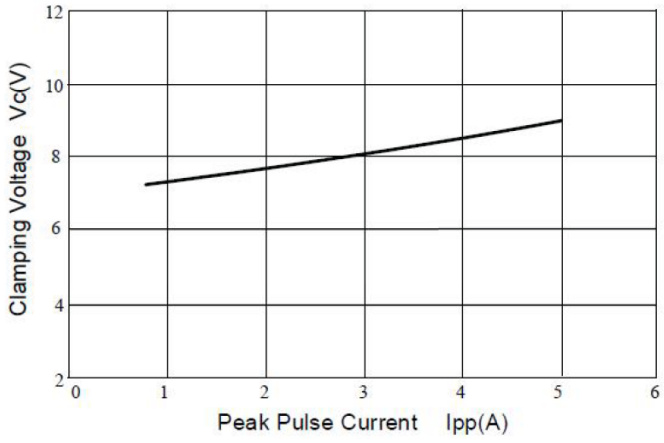


Fig 3. Clamping Voltage vs. Peak Pulse Current

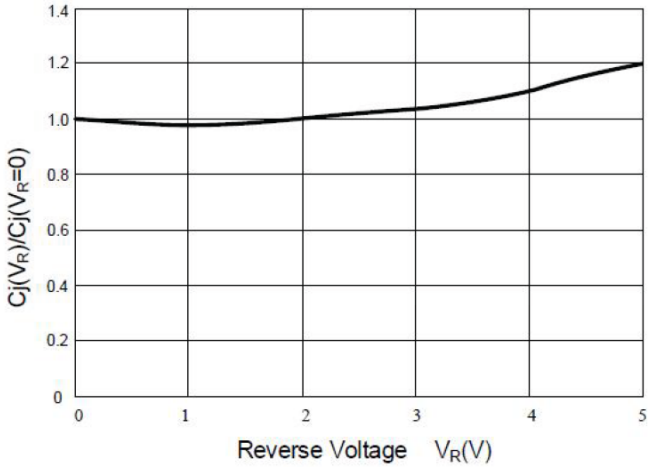


Fig 4. Junction Capacitance vs. Reverse Voltage

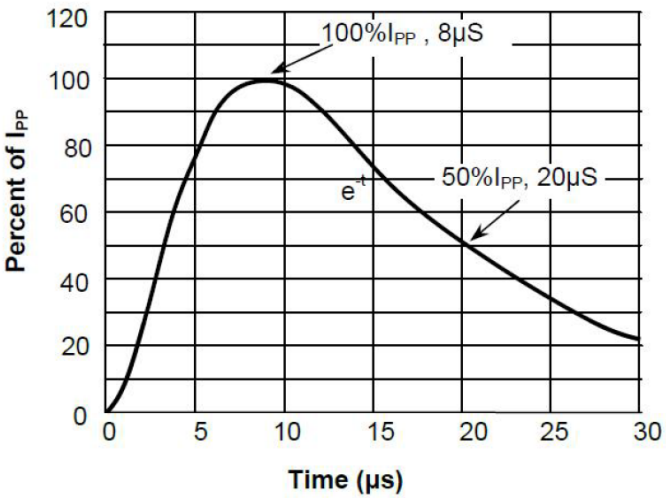


Fig 5. 8/20μs Pulse Waveform

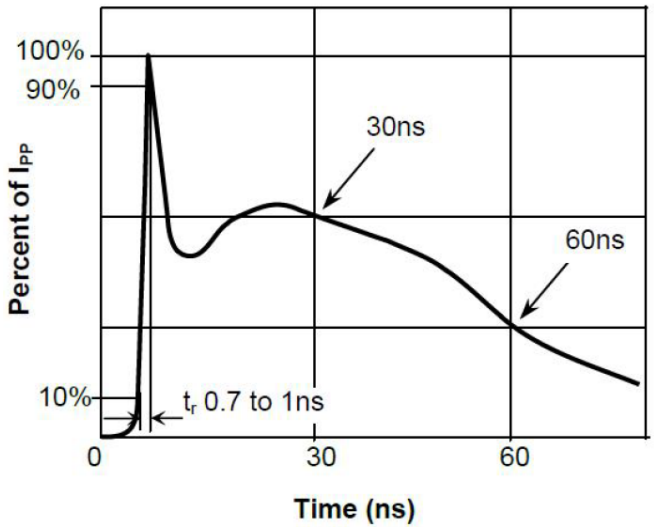
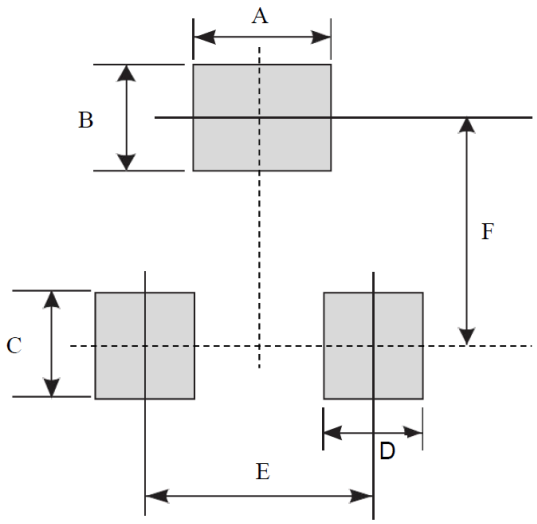


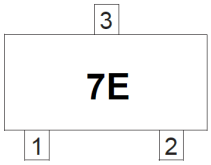
Fig 6. ESD(IEC 61000-4-2)Pulse Waveform

Suggested PAD Layout

Symbol	SOT-723	
	(mm)	(inch)
A	0.42	0.017
B	0.30	0.012
C	0.30	0.012
D	0.32	0.013
E	0.80	0.031
F	1.00	0.039



Marking Information



7E = Device Marking Code

Ordering information

Part Number	Package	Base qty	Reel Size	Delivery mode
		(pcs)	(inch)	
SC05L2UTM	SOT-723	3,000	7	Tape and reel