

Bidirectional Ultra Low Capacitance TVS Array

SE03D3M01HA

Features

- ◆ Transient protection for high-speed datalines

IEC 61000-4-2 (ESD)	±30kV (Air)
	±30kV (Contact)
IEC 61000-4-4 (EFT)	40A (5/50 ns)
- ◆ IEC 61000-4-5(Lightning) 10A (8/20us)
- ◆ Protects one I/O line(bidirectional)
- ◆ Low clamping voltage
- ◆ Working voltages : 3.3V
- ◆ Low leakage current
- ◆ Response Time is < 1 ns

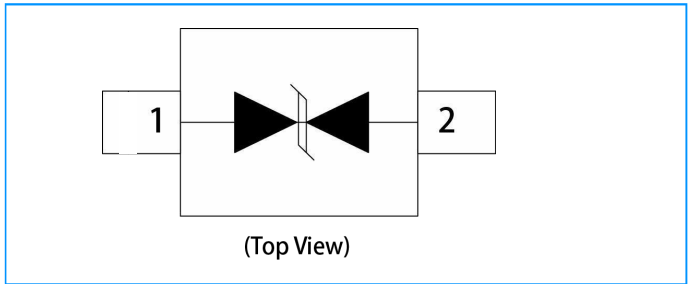
FeatCircuit Diagram



Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants(PDA's)
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ USB Interface

Pin Configuration



Mechanical Characteristics

- ◆ SOD-323 package
- ◆ Flammability Rating: UL 94V-0
- ◆ Packaging: Tape and Reel
- ◆ High temperature soldering guaranteed: 260°C/10s
- ◆ Reel Size: 7inch

Ordering Information

- ◆ Package: SOD-323
- ◆ Material: Halogen free
- ◆ Packing: Tape & Reel
- ◆ Quantity per reel: 3,000pcs

Absolute Maximum Rating

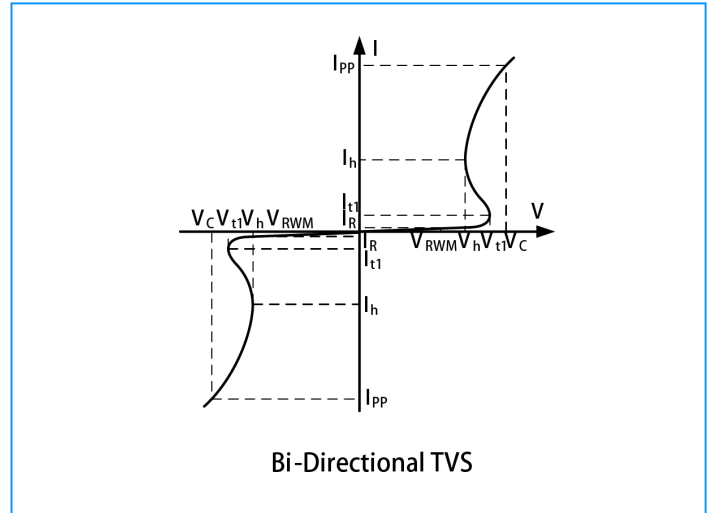
Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air)	±30	kV
	ESD per IEC 61000-4-2 (Contact)	±30	
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_{LST}	Lead Soldering Temperature	260	°C

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I-V Curve Characteristics

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{t1}	Trigger Voltage
I_{t1}	Trigger Current @ V_{t1}
V_h	Holding Voltage
I_h	Holding Current @ V_h
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance
C_{Δ}	Variation in C_{ESD} with Reverse Bias



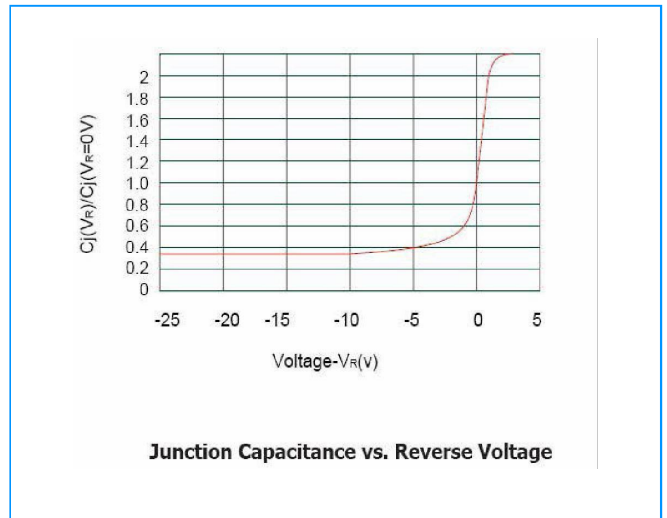
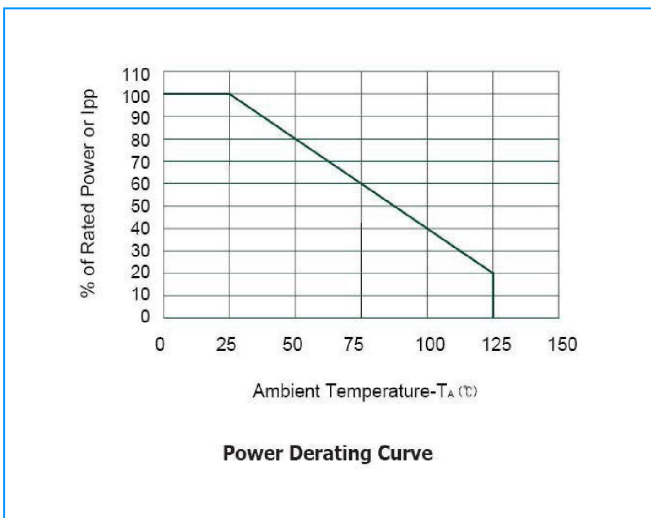
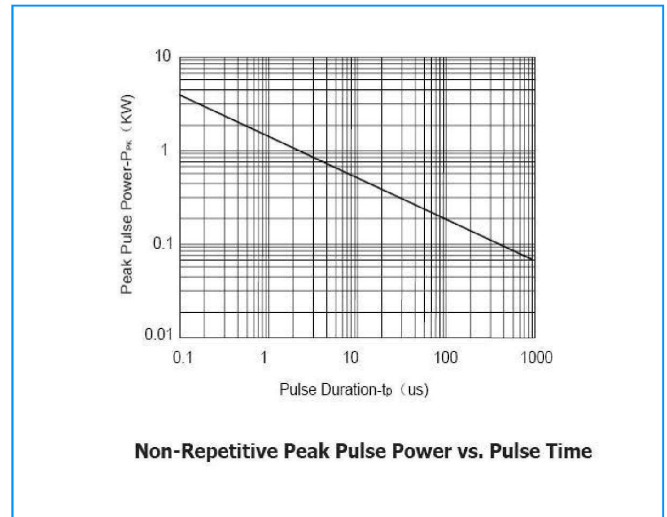
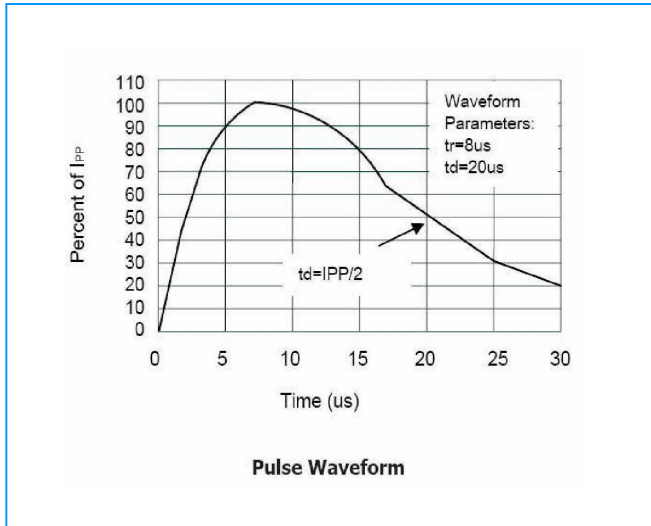
Electrical Characteristics

Symbol	Test Condition	Minimum	Typical	Maximum	Units
V_{RWM}	—	—	—	3.3	V
I_R	$V_{RWM} = 3.3V, T = 25^{\circ}C$	—	—	1.0	μA
V_{t1}	$I_{t1} = 1\mu A$	6.0	6.8	—	V
V_h	$I_h = 1mA$	3.5	—	—	V
V_C	$I_{PP} = 2A, t_p = 8/20\mu s$	—	—	7.0	V
V_C	$I_{PP} = 10A, t_p = 8/20\mu s$	—	—	8.0	V
C_{ESD}	$V_R = 0V, f = 1MHz$	—	3.5	—	pF

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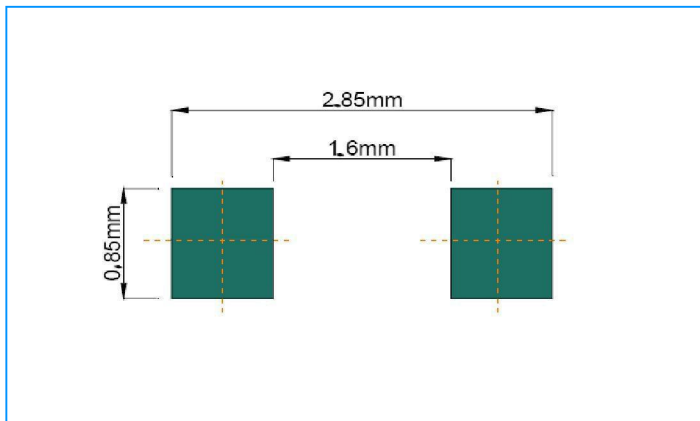
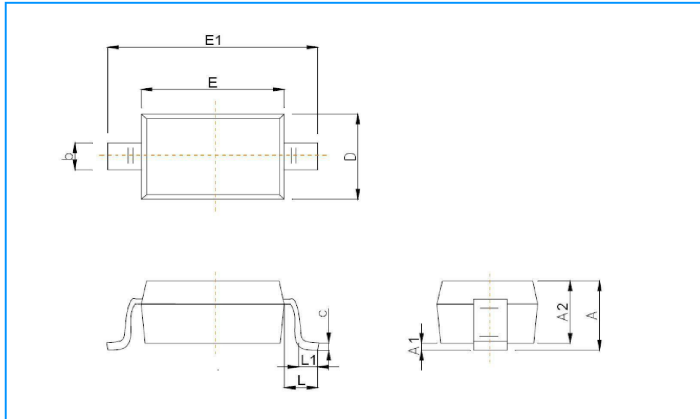
Electrical Characteristics Curve



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Package Outline Dimensions



Symbol	Dimensions In Millimeters	
	Min	Max
A	--	1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475REF.	
L1	0.250	0.400
Φ	0°	8°