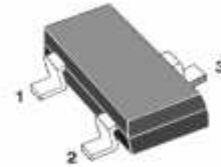


Description

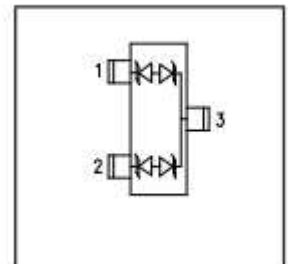
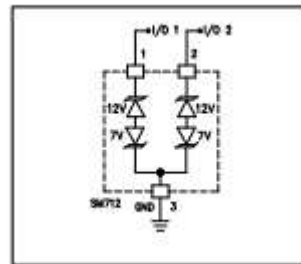
This device is designed to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that exposed to ESD.

Features

- 400Watts peak pulse power ($T_p = 8/20\mu s$)
- Tiny SOT-23 package
- Bidirectional configurations
- Protects two I/O port
- Low clamping voltage
- Low leakage current
- Protection one data/power line to:
 - IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
 - IEC 61000-4-4 (EFT) 40A (5/50ns)
 - IEC 61000-4-5 (Lightning) 17A (8/20 μs)



SOT23



Application

- Dataline
- Automatic Teller Machines
- Net works
- Power line

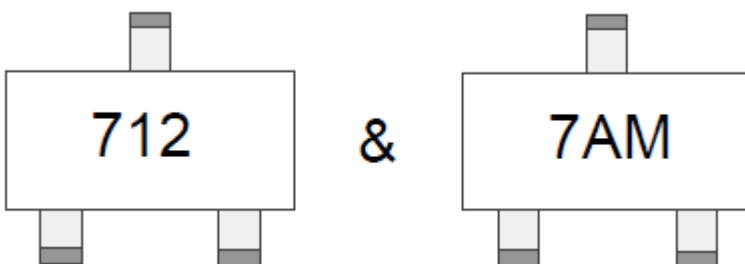
Mechanical Data

- Case: SOT-23 (plastic package).
Lead free; RoHS compliant; Halogen free
- Molding Compound Flammability Rating:
UL 94 V-0
- Terminals: High temperature soldering guaranteed: 260 °C/10 sec. at terminals

Order information

Order code	Package	Packaging option	Base quantity	Packaging specification
CES712M	SOT-23	Tape and reel	3000pcs / reel	EIA STD RS-481

Marking



Absolute Maximum Ratings

(TA=25°C, Unless otherwise specified.)

Parameter	Symbol	Value	Unit
Peak Pulse Power (TP=8/20μs)	P _{PP}	400	W
ESD contact/air discharge (IEC-61000-4-2)	V _{ESD}	30/30	kV
Peak Pulse Current (TP = 8/20μs)	I _{PP}	12	A
Junction Temperature	T _J	-55 to +125	°C
Storage temperature	T _{STG}	-55 to +150	°C

Electrical Characteristics per line

(TA = 25 °C unless otherwise specified)

Parameter	Symbol	Conditions	Pins 1 to 3 and 2 to 3 (12V TVS)			Pins 3 to 1 and 3 to 2 (7V TVS)			Unit
			Min	Typ	Max	Min	Typ	Max	
Reverse Stand-Off Voltage	V _{RWM}				12			7	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	13.3	14		7.5	9.5		V
Reverse Leakage Current	I _R	V _R =V _{RWM}			1			1	μA
Clamping Voltage	V _C	I _{PP} =17A, T _P =8/20μs		24			10		V
Junction Capacitance	C _j	V _R = 0V, f = 1MHz		45			45		pF

Typical Characteristic

($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Fig.1 Peak Pulse Power Rating Curve

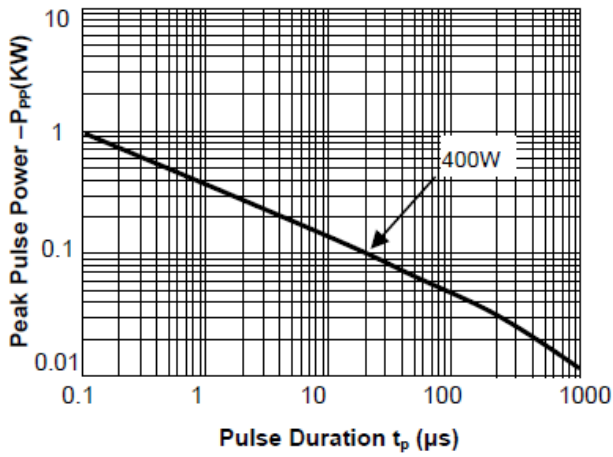


Fig.2 Pulse Derating Curve

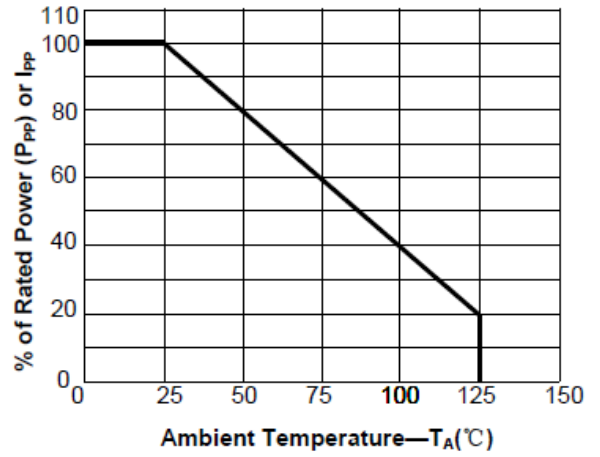


Fig.3 Pulse Waveform-8/20μs

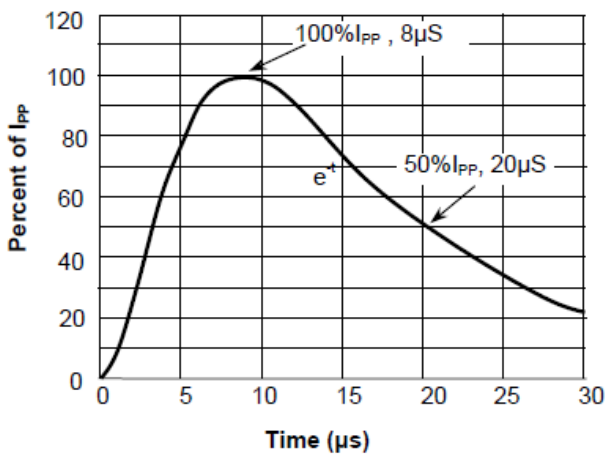
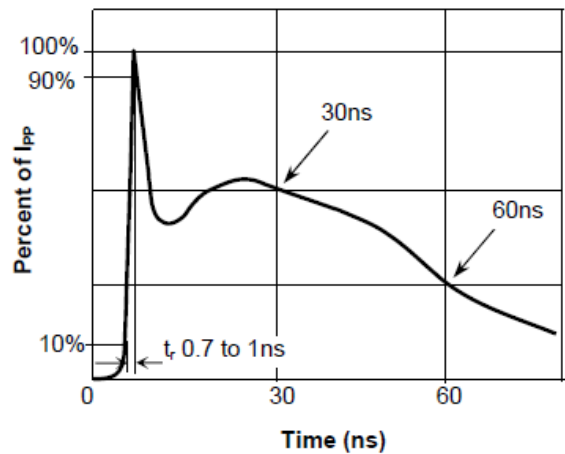
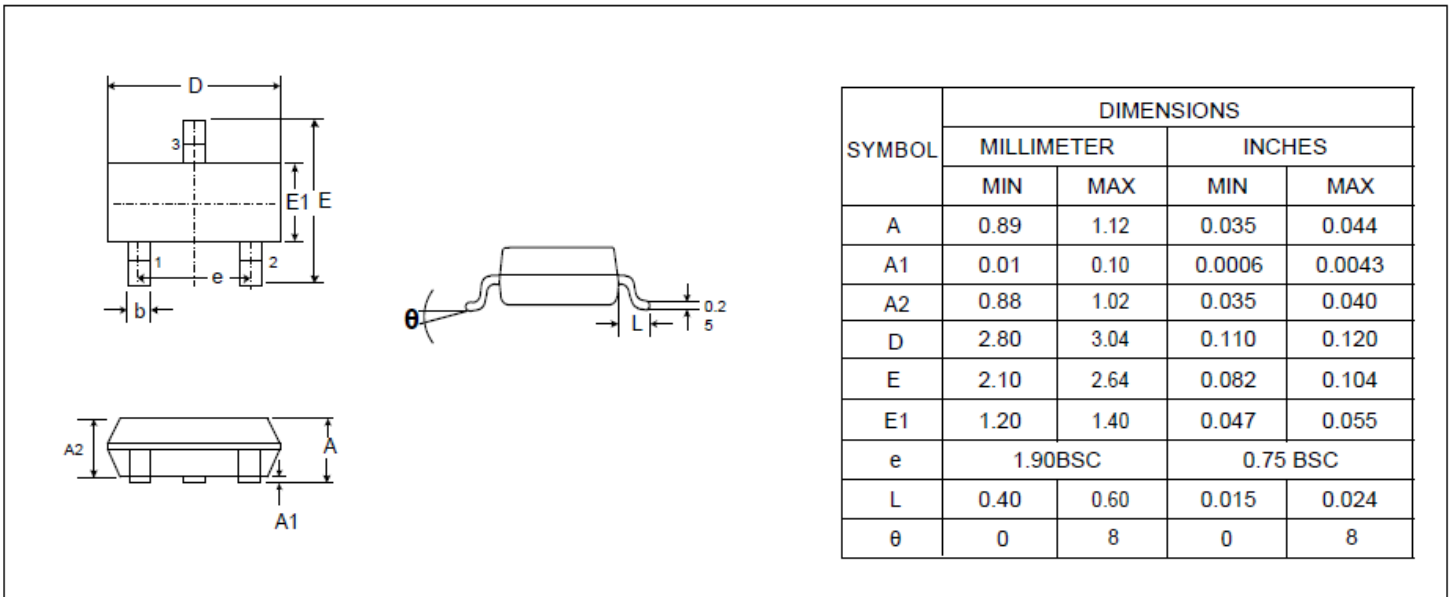


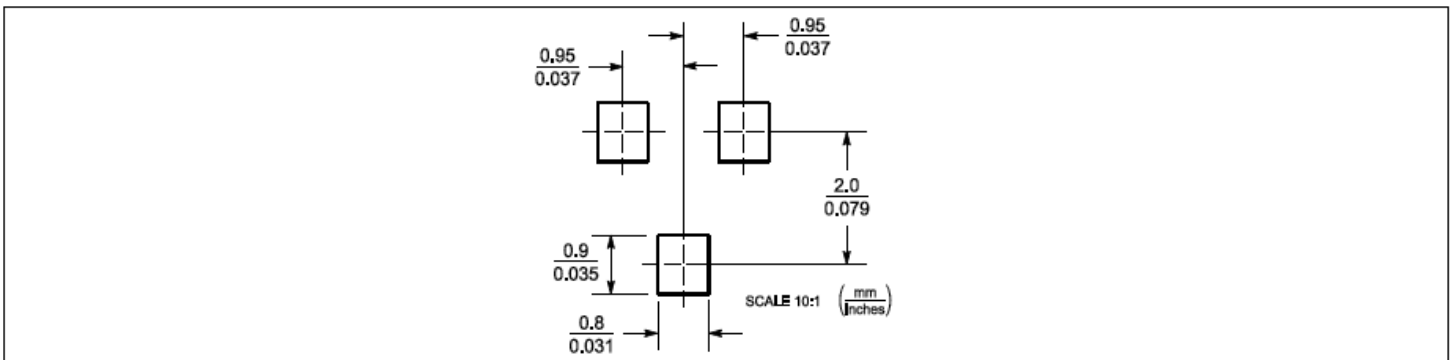
Fig.4 Pulse Waveform-ESD(IEC61000-4-2)



Package Dimensions



Pad Dimensions



Package Information

