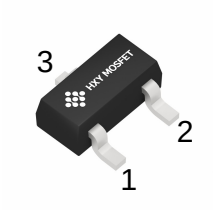
Discription

The SM712E protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events.

Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD.

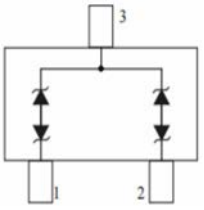
It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



SOT-23

Features

★ Low capacitance.
★ Low clamping voltage.
★ ESD protection
★ Complies with IEC 61000-4-2 standards:
Air discharge:±15kV
Contact discharge:±8kV
★ We declare that the material of product compliance with RoHS requirements and Halogen Free.



Circuit Diagram

Ordering Information

Product ID	Pack	Qty(PCS)
SM712E	SOT-23	3000

Absolute Ratings (T_{amb}=25°C)

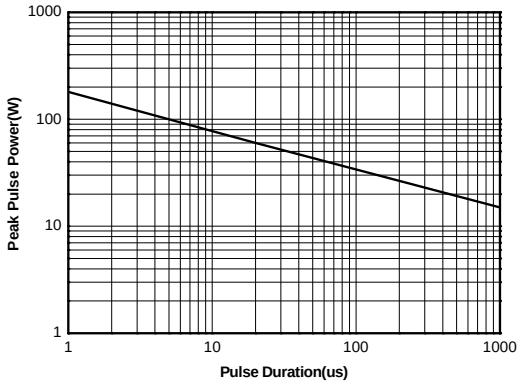
Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20μs)	400	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_{op}	Operating Temperature Range	-55 to +125	°C
T_j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge contact discharge	±15 ±8	KV
	IEC61000-4-4 (EFT)	15	A

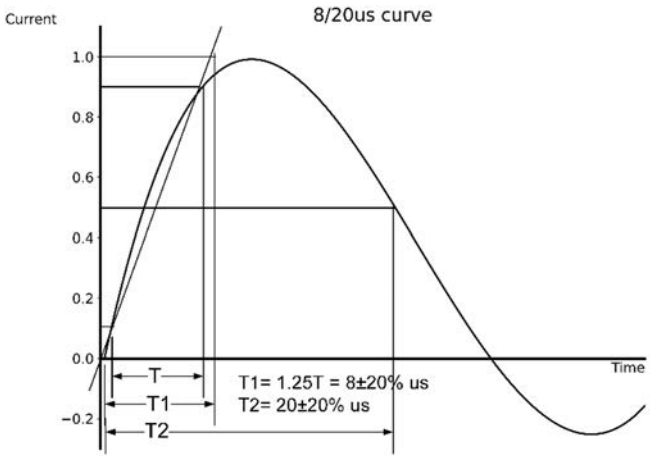
Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	MIN	MIN	MAX	Unit
Reverse stand-off voltage (Pin 1、2 to Pin 3) (Pin 3 to Pin 1、2)	VRWM			12 7	V
Reverse breakdown voltage (IT = 1 mA,Pin 1、2 to Pin 3) (IT = 1 mA,Pin 3 to Pin 1、2)	VBR	13.3 7.5			V
Reverse leakage current (VR = VRWM,Pin 1、2 to Pin 3) (VR = VRWM,Pin 3 to Pin 1、2)	IR			1 1	uA
Clamping Voltage (IPP = 15A (8 x 20us pulse),Pin 1、2 to Pin 3) (IPP = 24A (8 x 20us pulse),Pin 3 to Pin 1、2)	VC			32 19	V
Junction Capacitance (VR = 0V, f = 1MHz,Pin 1、2 to Pin 3) (VR = 0V, f = 1MHz,Pin 3 to Pin 1、2)	CJ			55 55	pF

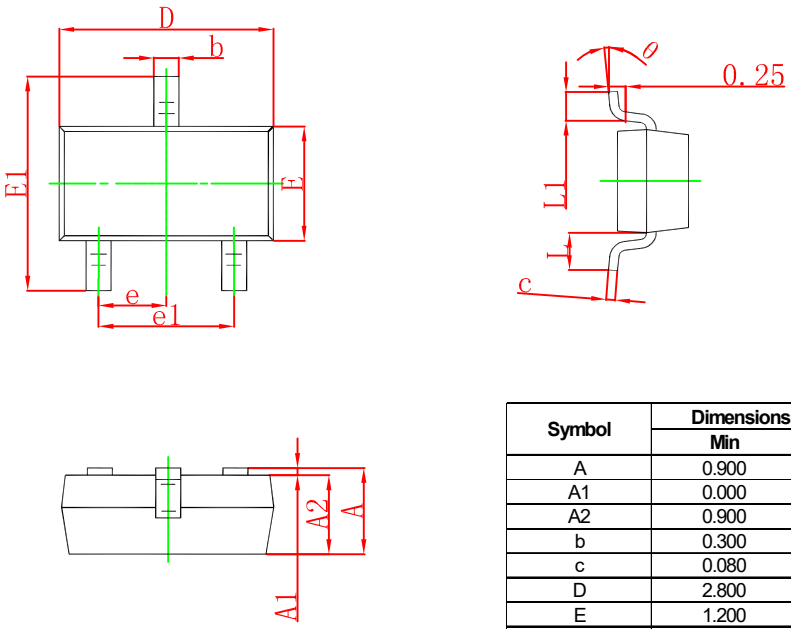
Typical Characteristics

Non-repetitive peak pulse power vs. pulse time



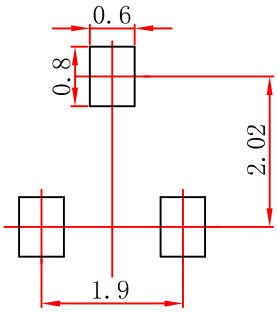


SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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