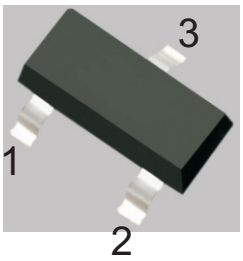
SOT-23 Plastic-Encapsulate ESD Protection Diode

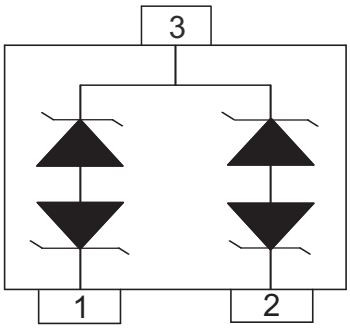
SOT-23



The ESDB712T2 Transient Voltage Suppressor (tvs) Diode Is Designed For Asymmetrical (12v To - 7v) Protect Devices From Transient Voltages Resulting From Electrostatic Discharge (esd), Electrical Fast Transients (fet), And Lightning.

Features

- 400 Watts Peak Pulse Power per (8/20μs)
- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Protects two bidirectional line
- Low clamping voltage
- Low leakage current
- Meets MSL 1 Requirements



Applications

Cell Phone Handsets and Accessories
Microprocessor based equipment
Personal Digital Assistants (PDA's)
Notebooks, Desktops, and Servers
Portable Instrumentation
Networking and Telecom

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20us)	P_{PP}	400	W
Peak Pulse Current(8/20us)	I_{PP}	17	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	± 15 ± 8	KV
Operating Temperature	T_{OPT}	−55 to +150	°C
Storage Temperature	T_{STG}	−55 to +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260(10 sec.)	°C

Electrical Characteristics (T_A=25°C unless otherwise specified)

Symbol	Parame	Test Condition	Pin 1 to 3 and Pin 2 to 3 (12V) TVS			Pin 3 to 1 and Pin 3 to 2 (7V TVS)			Units
			Min	Typ	Max	Min	Typ	Max	
V_{RWM}	Reverse Working Voltage	Pin 3 to 1 or Pin 2 to 1			12			7	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	13.3			7.5			V
I_R	Reverse Leakage Current	$V_R = V_{RWM}$			1			20	μA
V_{C1}	Clamping Voltage 1	I_{PP} = 5A, t_p = 8/20μs			20			13	V
V_{C2}	Clamping Voltage 2	I_{PP} = 17A, t_p = 8/20μs			26			17	V
C_{J1}	Junction Capacitance 1	V_R = 0V, f = 1MHz			75			75	pF
C_{J2}	Junction Capacitance 2	$V_R = V_{RWM}$, f = 1MHz		45			45		pF

The above data are for reference only.

Electrical Characteristics curve

Fig.1 Power Derating Curve

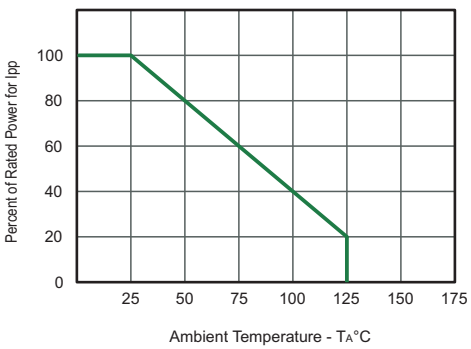
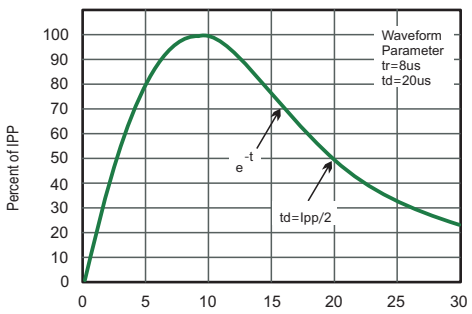
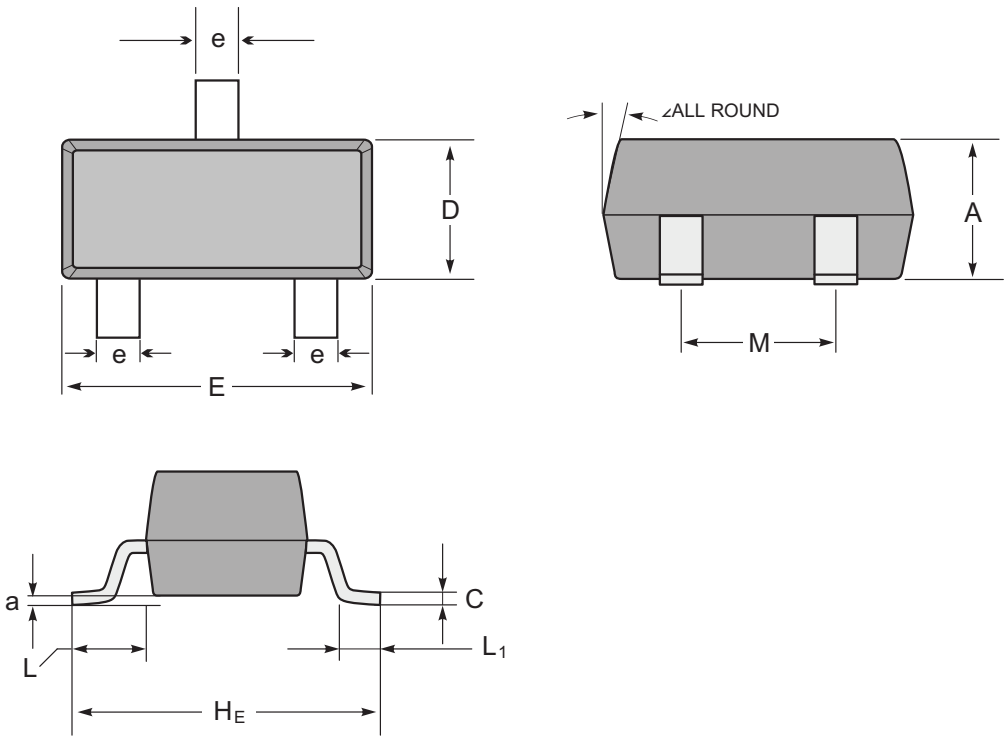


Fig.2 Pulse Waveform



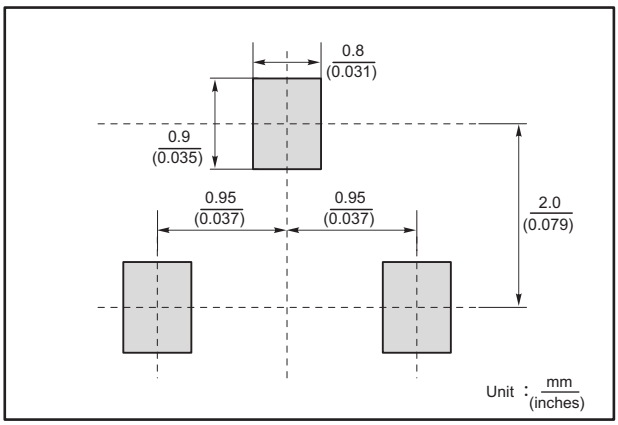
SOT-23 Package Outline Dimensions



SOT-23 mechanical data

UNIT		A	C	D	E	H_E	e	M	L	L_1	a	∠
mm	max	1.1	0.20	1.4	3.0	2.6	0.6	1.95	0.55 (ref)	0.36 (ref)	0.15	12°
	min	0.9	0.08	1.2	2.8	2.2	0.35	1.7			0.0	
mil	max	43	7.9	55	118	102	24	77	22 (ref)	14 (ref)	6	
	min	35	3.1	47	110	87	13	67			0.0	

The recommended mounting pad size



Marking

Type number	Marking code
ESDB712T2	712

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