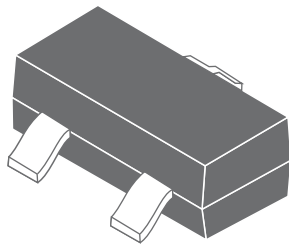
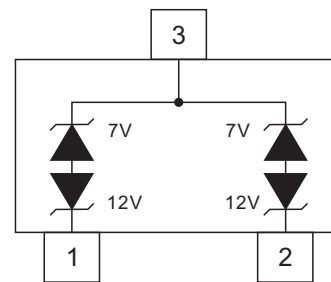


Electro-Static Discharge TESD712G2B Asymmetrical TVS Diode for Extended Common-Mode RS-485

SOT-23



Pin Configuration



Features

- 400 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- Protects two +12V to -7V line
- Low capacitance
- RoHS Compliant

IEC Compatibility

- IEC61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 17A (8/20 μs)

Applications

- Protection of RS-485 transceivers with extended common-mode range
- Security systems
- Automatic Teller Machines
- HFC systems
- Networks

Mechanical Characteristics

- JEDEC SOT-23 Package
- Molding Compound Flammability Rating:UL 94V-O
- Weight 8.0 Milligrams(Approximate)
- Quantity Per Reel:3000pcs
- Reel Size:7 inch
- Lead Finish:Lead Free

Maximum Ratings($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter		Symbol	Value	Units
IEC 61000-4-2 ESD Voltage	Air Model	$V_{\text{ESD}}^{(1)}$	± 15	kV
	Contact Model		± 8	
Peak Pulse Power($t_p=8/20\mu\text{s}$)		P_{PP}	400	Watts
Operating Temperature Range		T_J	-55~150	$^{\circ}\text{C}$
Storage Temperature Range		T_{STG}	-55~150	$^{\circ}\text{C}$

(1).Device stressed with ten non-repetitive ESD pulses, Per channel(I/O to GND).

Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise specified)

TESD712G2B(Marking:712)

Parameter	Symbol	Conditions	Pin1 to 3 and 2 to 3 (12V TVS)		Pin3 to 1 and 3 to 2 (7V TVS)		Units
			Min.	Max.	Min.	Max.	
Reverse Stand-off Voltage	V_{RWM}	Pin3 to 1 or Pin2 to 3		12		7	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	13.3		7.5		V
Clamping Voltage	V_C	$I_{\text{PP}}=5\text{A}$		20		10	V
Reverse Leakage Current	I_R	@ V_{RWM}		1		20	μA
Junction Capacitance	$C_{\text{I/O}}$	0Vdc, $f=1\text{MHz}$		75		75	pF

Ratings and Characteristic Curves

Fig.1 Non-repetitive Peak Pulse Power V.S Pulse Time

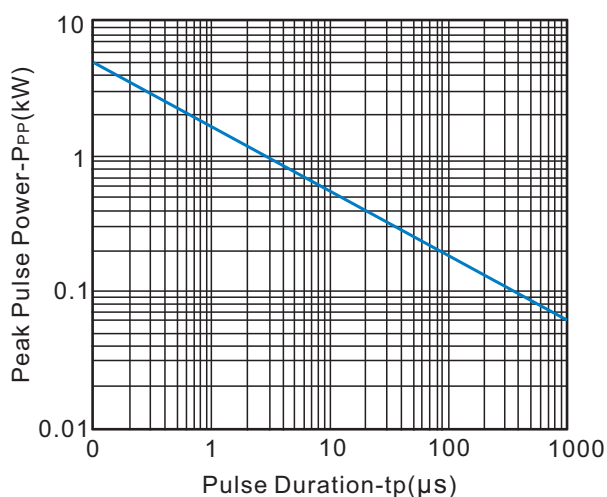
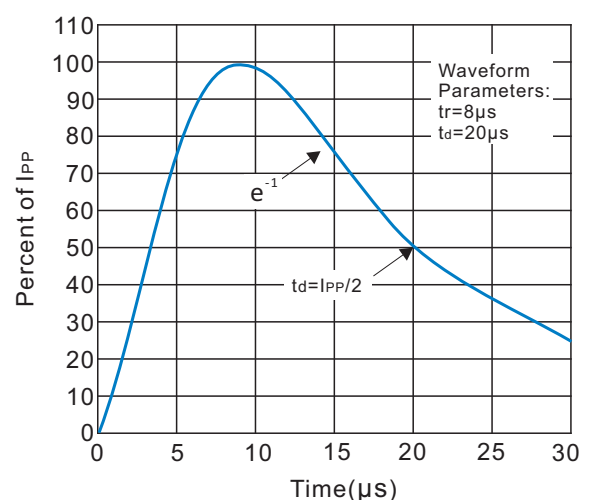


Fig.2 Pulse Waveform



Ratings and Characteristic Curves

Fig.3 Power Derating Curve

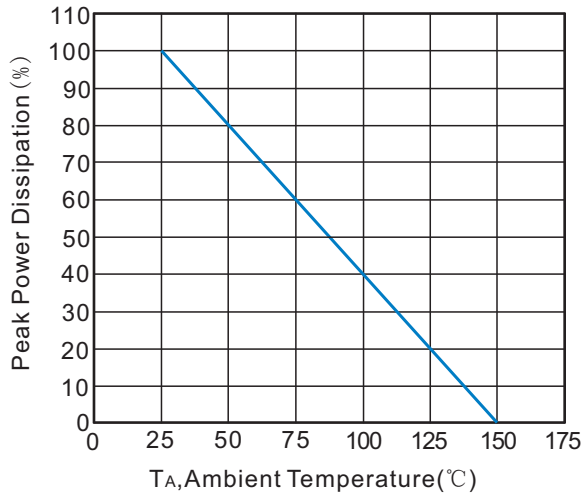
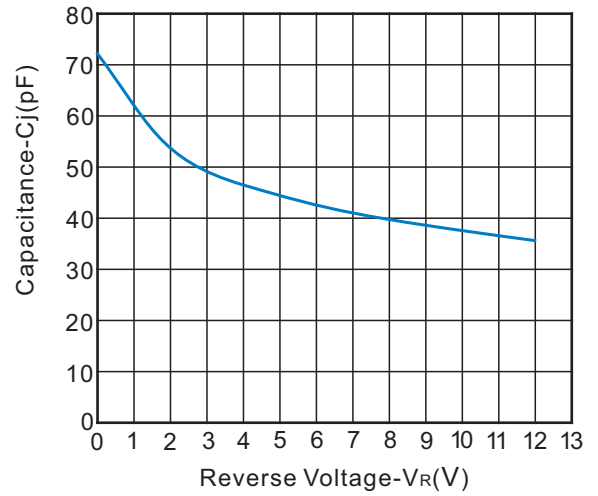
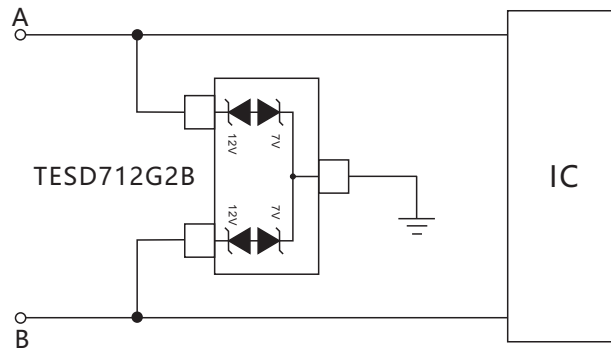


Fig.4 Capacitance VS.Reverse Voltage

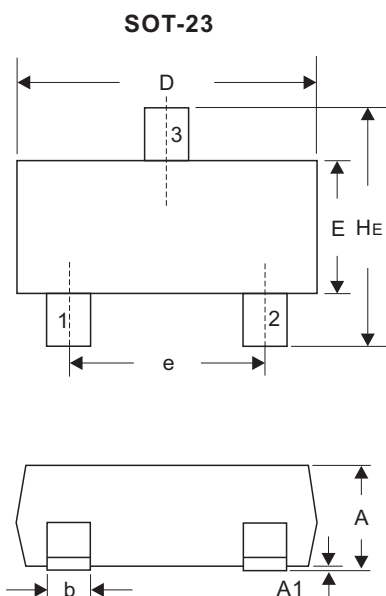


Application

RS485 Protection



Dimensions(SOT-23)



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	0.89	1.11	0.035	0.044
A1	0.01	0.10	0.001	0.004
b	0.37	0.50	0.015	0.020
c	0.09	0.18	0.003	0.007
D	2.80	3.04	0.110	0.120
E	1.20	1.40	0.047	0.055
e	1.78	2.04	0.070	0.081
L	0.35	0.69	0.014	0.029
He	2.10	2.64	0.083	0.104

Recommended Mounting Pad Layout

