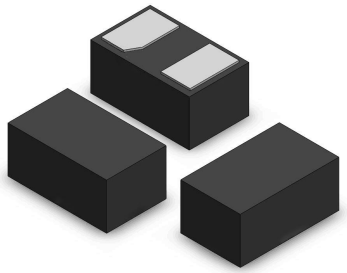
Transient Voltage Suppressors for ESD Protection

ESD2.5V88D-C

Description

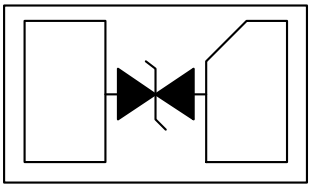
The ESD2.5V88D-C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.



Feature

- 100 Watts Peak Pulse Power per Line (tp=8/20μs)
- Protects one Bidirectional I/O line
- Low clamping voltage
- Working voltages : 2.5V
- Low leakage current
- IEC61000-4-4 (EFT) 40A (5/50ηs)
- IEC61000-4-2(ESD):±30kV (air discharge)
  ±30kV (contact discharge)

Functional Diagram



Applications

- Cell Phone Handsets and Accessories
- I²C Bus Protection
- Personal Digital Assistants (PDA)
- Notebooks, Desktops, and Servers
- Micro controller Input Protection
- Peripherals
- Parallel & Serial Port Protection

Mechanical Data

- SOD-882/DFN1006 (1.0x0.6x0.5mm) Package
- Molding Compound Flammability Rating : UL 94V-O
- Weight 0.5 Milligrams (Approximate)
- Lead Finish : Lead Free

Mechanical characteristics

Symbol	Parameter	Value	Units
P_{PP}	**Peak Pulse Power (Tp=8/20μs waveform)**	100	Watts
T_L	**Lead Soldering Temperature**	260 (10 sec.)	ºC
T_{STG}	**Storage Temperature Range**	-55 to +150	ºC
T_J	**Operating Junction Temperature Range**	-40 to +125	ºC

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Electrical Characteristics(@25C Unless Otherwise Specified)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	--	--	--	2.5	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	2.85	--	--	V
Reverse Leakage Current	I_R	V_{RWM}=2.5V；T=25°C	--	--	0.1	μA
Junction capacitance	C_J	V_R=0V，f=1MHz；	--	15	--	pF
Positive Clamping Voltage	V_C	I_{PP}=18A，T_P=8/20μs；	--	--	13	V

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

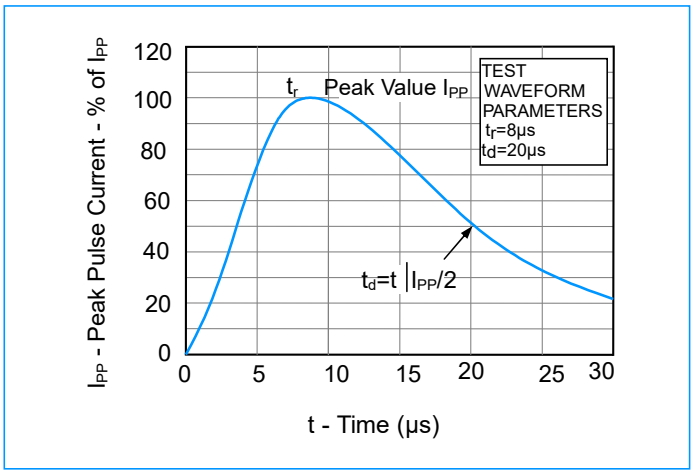


Fig2. Power Rating Derating Curve

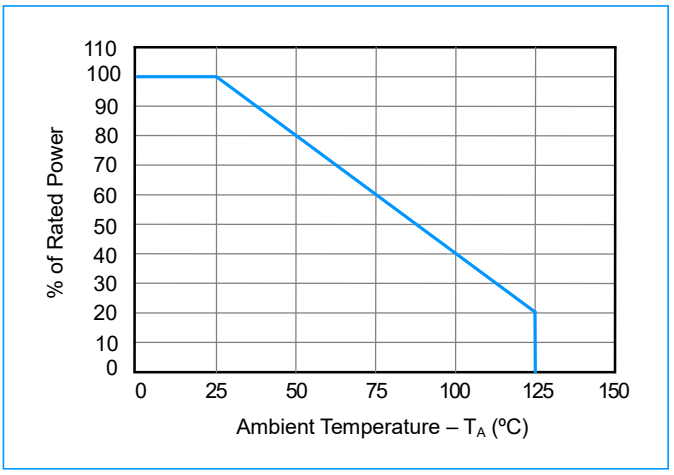


Fig3. ESD Pulse Waveform (according to IEC 61000-4-2)

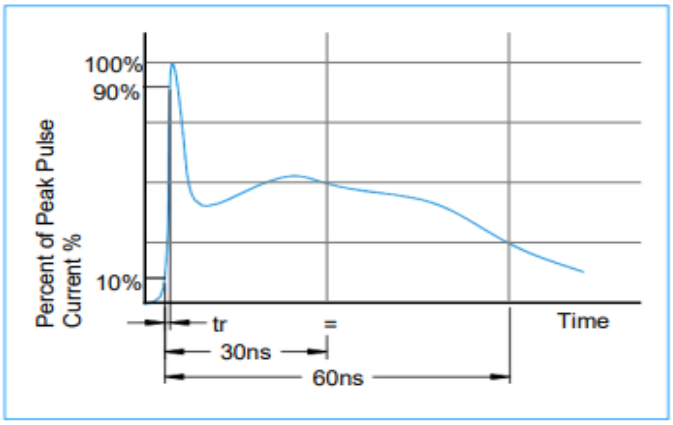
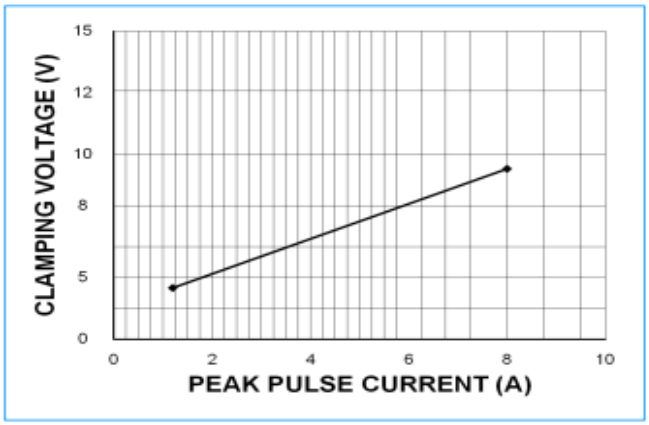


Figure 4. Clamping Voltage vs. Peak Pulse Current



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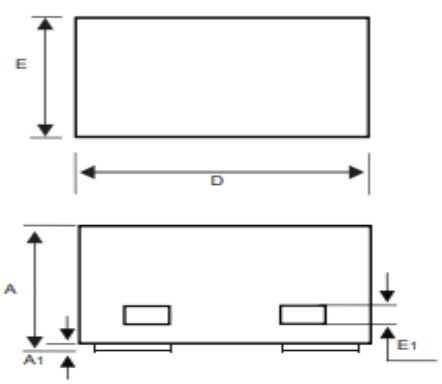
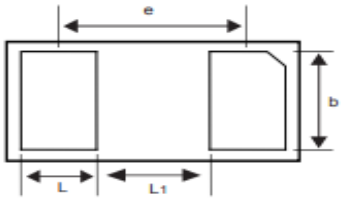
SOD-882/DFN1006 Package Outline&Dimensions

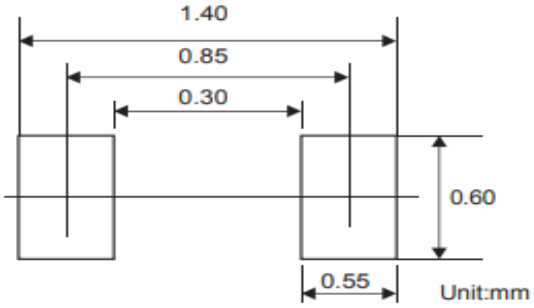
SOD-882/DFN1006





Symbol	Millimeters		
	Min	Nom	Max
A	0.450	0.500	0.550
A1	0	0.020	0.050
E1	0.013	0.063	0.113
D	0.900	1.000	1.100
E	0.500	0.600	0.700
e	0.65BSC		
L	0.150	0.250	0.350
b	0.400	0.500	0.600
L1	0.300	0.400	0.500

Suggested PAD Layout



Ordering Information

Device	Marking	Package	Quantity	Reel Size
ESD2.5V88D-C	N1	SOD-882/DFN1006	10,000pcs/Reel	7 inch