

Transient Voltage Suppressors for ESD Protection

ESD4.5V88D-C

Description

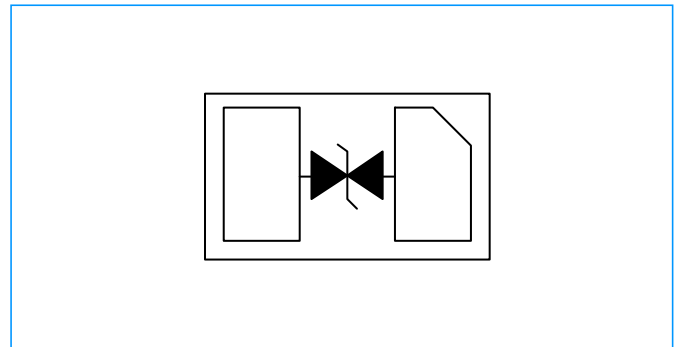
The ESD4.5V88D-C is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.



Feature

- ◆ 495 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- ◆ Protects one Bidirectional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages : 4.5V
- ◆ Low leakage current
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (LIGHTING) 45A (8/20 μs)
- ◆ IEC61000-4-2(ESD): $\pm 30kV$ (air discharge)
 $\pm 30kV$ (contact discharge)

Functional Diagram



Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Keypads, Side Keys, Audio Ports
- ◆ Portable Instrumentation
- ◆ Notebooks, Desktops, and Servers
- ◆ Digital Lines
- ◆ Tablet PC

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 ($t_p=8/20\mu s$ waveform)	495	Watts
T_L	Lead Soldering Temperature	260 (10 sec.)	$^{\circ}C$
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}C$
T_J	Operating Junction Temperature Range	-40 to +125	$^{\circ}C$

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Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	--	--	--	4.5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$;	4.8	--	--	V
Reverse Leakage Current	I_R	$V_{RWM}=4.5V, T=25^{\circ}C$;	--	--	0.2	μA
Positive Clamping Voltage	V_C	$I_{PP}=1A, T_P=8/20\mu s$;	--	--	6.5	V
		$I_{PP}=45A, T_P=8/20\mu s$;	--	--	11	V
Junction capacitance	C_J	$V_R=0V, f=1MHz$;	--	60	--	pF

Characteristic Curves

Fig1. 8 x 20 μs Pulse Waveform

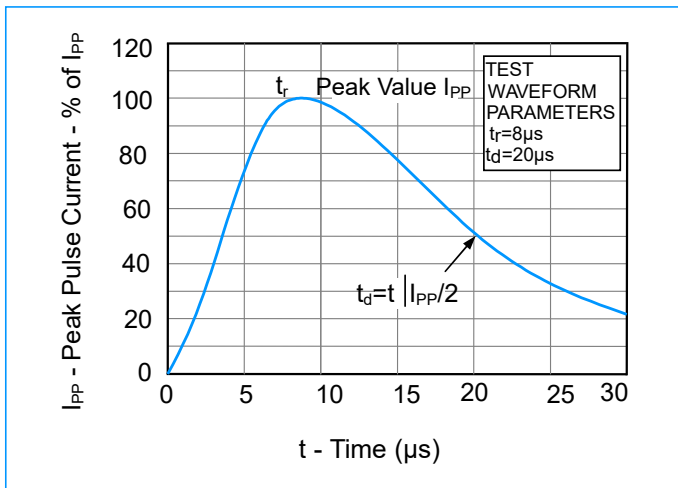


Fig2. Power Derating Curve

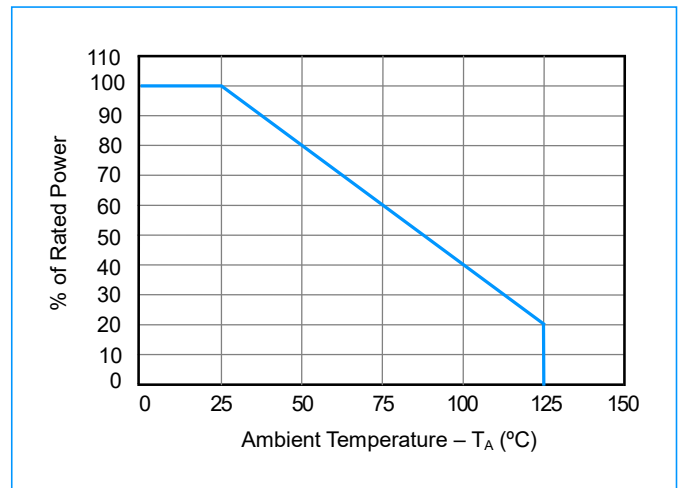
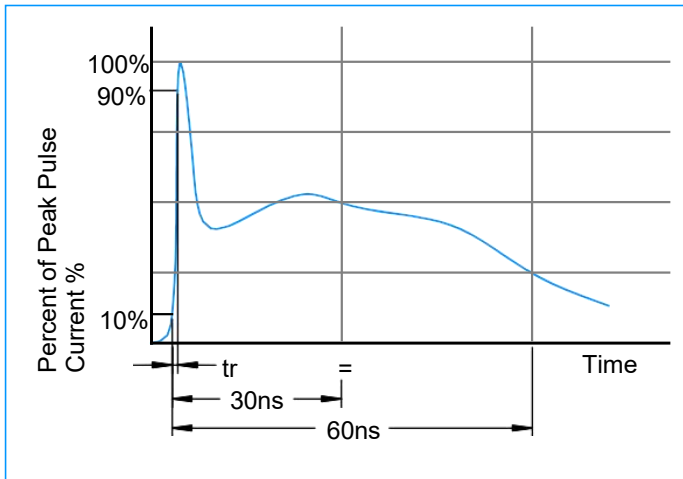


Fig3. ESD Pulse Waveform (according to IEC 61000-4-2)

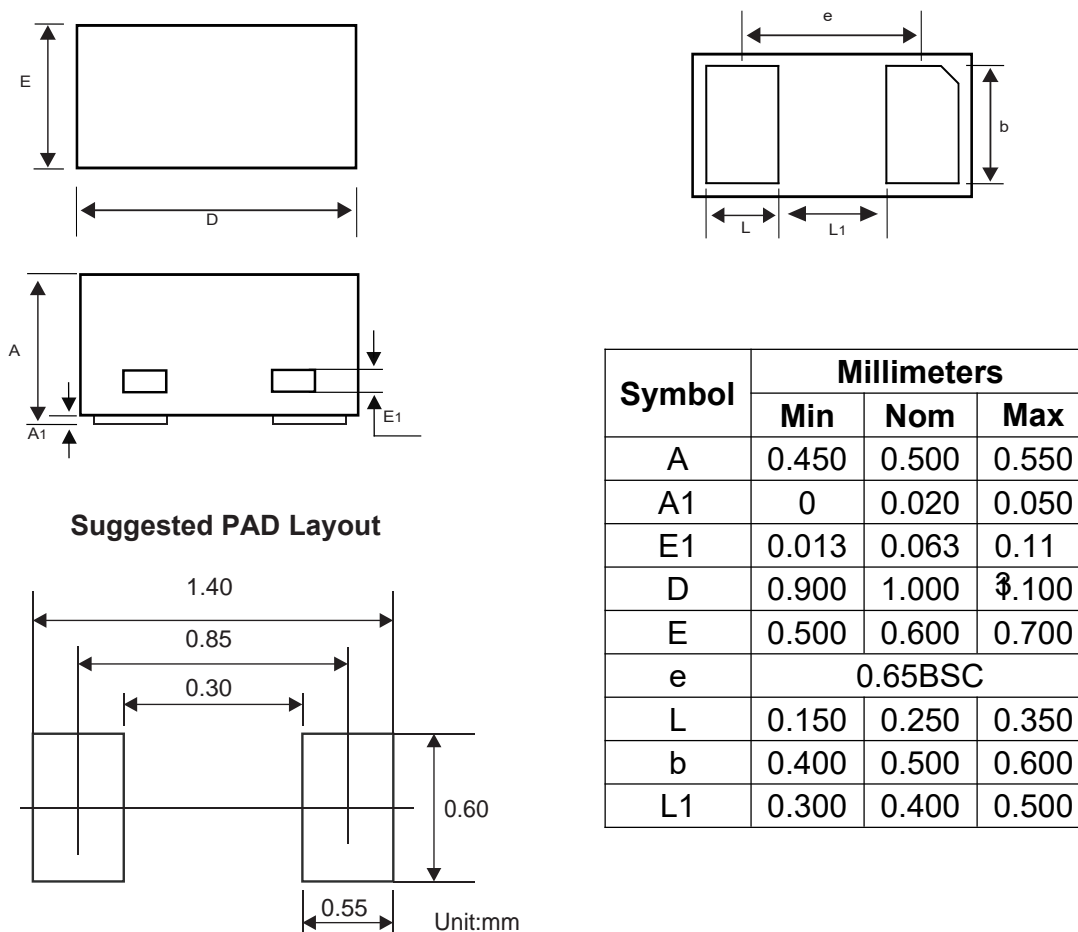


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SOD-882/DFN1006 Package Outline & Dimensions

SOD-882/DFN1006



Ordering Information

Device	Marking	Package	Quantity	Reel Size
ESD4.5V88D-C	45	SOD-882/DFN1006	10,000pcs/Reel	7 inch