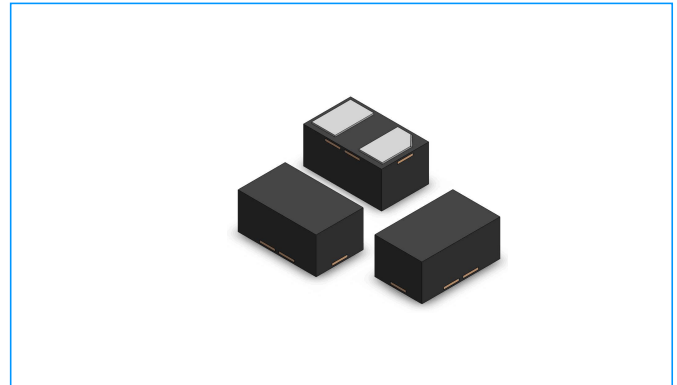


## Transient Voltage Suppressors for ESD Protection

### ESD05V88D-CB

#### Description

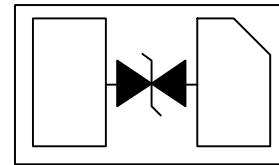
The ESD05V88D-CB is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.



#### Feature

- ◆ 100 Watts Peak Pulse Power per Line ( $t_p=8/20\mu s$ )
- ◆ Protects one Bidirectional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages : 5.0V
- ◆ Low leakage current
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (LIGHTNING) 5.5A (8/20 $\mu s$ )
- ◆ IEC61000-4-2(ESD): $\pm 20kV$  (air discharge)  
 $\pm 15kV$  (contact discharge)

#### Functional Diagram



#### Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Personal Digital Assistants
- ◆ Peripherals

#### 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)	100	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	$^{\circ}C$

# Transient Voltage Suppressors for ESD Protection

## ESD05V88D-CB

### Electrical Characteristics (@ 25°C Unless Otherwise Specified)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	$V_{RWM}$	--	--	--	5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$ ;	5.6	--	--	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5.0V, T=25^{\circ}C$ ;	--	--	1.0	$\mu A$
Positive Clamping Voltage	$V_C$	$I_{PP}=1A, T_P=8/20\mu s$ ;	--	--	10	V
		$I_{PP}=5.5A, T_P=8/20\mu s$ ;	--	14.5	17	V
Junction capacitance	$C_J$	$V_R=0V, f=1MHz$ ;	--	15	--	pF

### Characteristic Curves

Fig1. 8 x 20  $\mu$  s Pulse Waveform

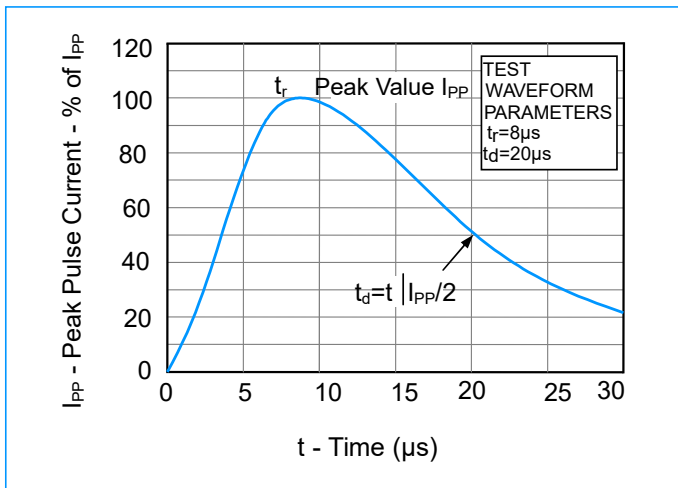


Fig2. Power Derating Curve

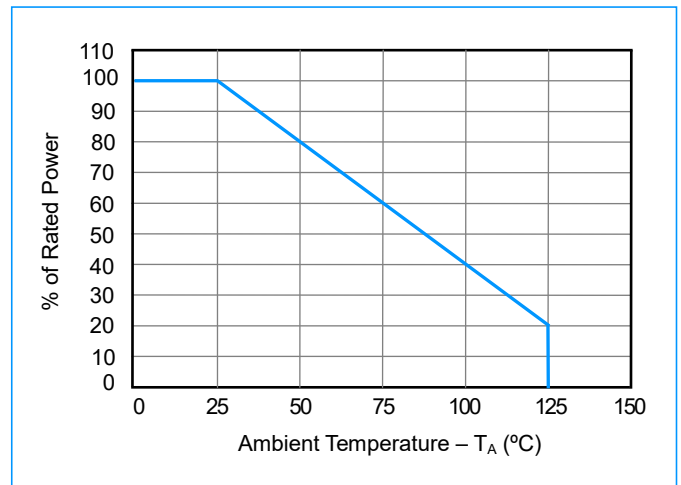
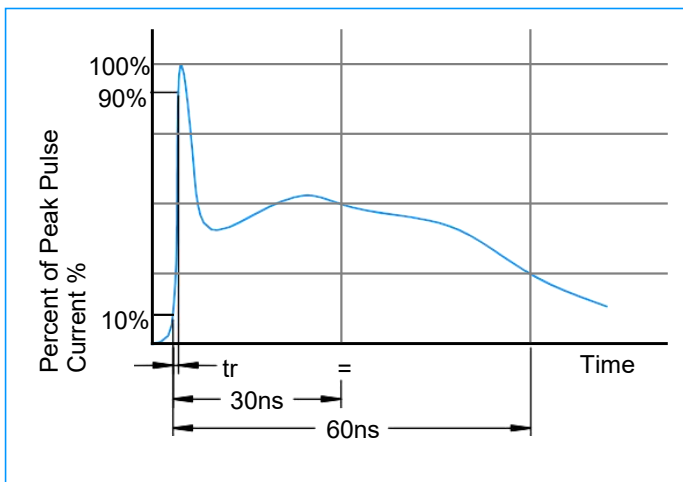


Fig3. ESD Pulse Waveform (according to IEC 61000-4-2)

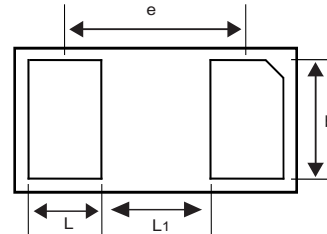
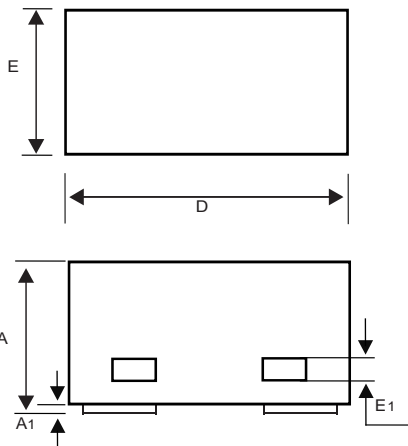


## Transient Voltage Suppressors for ESD Protection

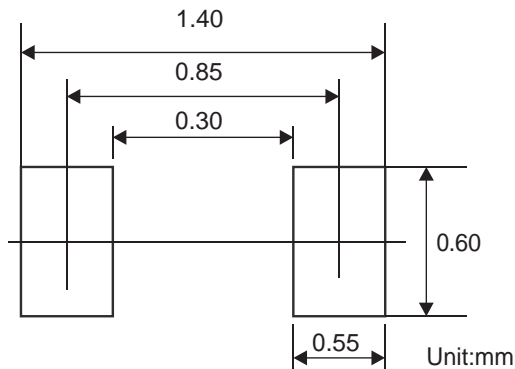
### ESD05V88D-CB

#### SOD-882/DFN1006 Package Outline & Dimensions

#### SOD-882/DFN1006



#### Suggested PAD Layout



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

#### Ordering Information

Device	Marking	Package	Quantity	Reel Size
ESD05V88D-CB	PB	SOD-882/DFN1006	10,000pcs/Reel	7 inch