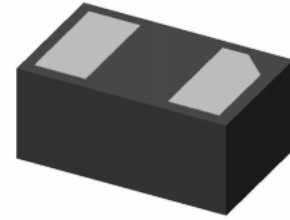


## FEATURES:

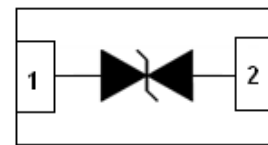
- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 12V
- ✧ ROHS compliant

## MAIN APPLICATIONS

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



DFN1006



PIN Configuration

## PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ✧ IEC61000-4-5 (Lighting) 4.0A (8/20us)

## MECHANICAL CHARACTERISTICS

- ✧ Package DFN1006
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Quantity Per Reel : 10,000pcs
- ✧ Lead Finish : Lead Free
- ✧ Marking code: 12S

## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

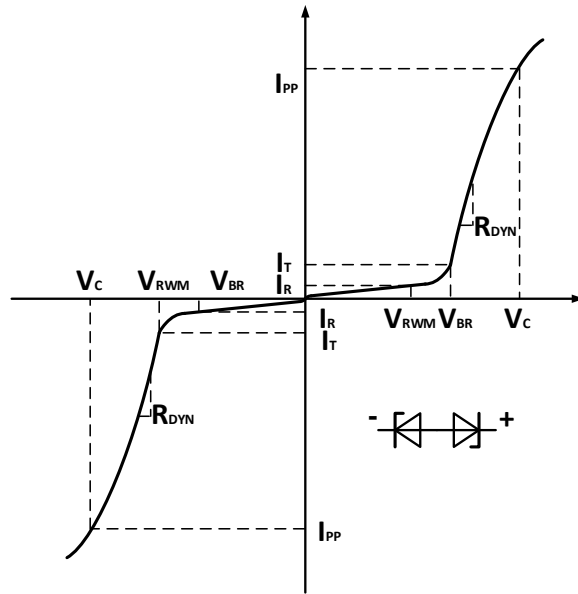
Parameter	Symbol	Value	Unit
Storage temperature range	T <sub>stg</sub>	-55 to +150	°C
Operating junction temperature range	T <sub>j</sub>	-55 to +125	°C
Lead Soldering Temperature	T <sub>L</sub>	260 (10 sec.)	°C
Peak pulse power dissipation on 8/20 μs waveform	P <sub>PP</sub>	120	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	+/- 30	kV
ESD per IEC 61000-4-2 (Contact)		+/- 30	

## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V <sub>R</sub>				12	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> = 1mA	13.3			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 12V			1.0	μA
Peak Pulse Current	I <sub>pp</sub>	t <sub>p</sub> = 8/20μs			4.0	A
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 1.0A, t <sub>p</sub> = 8/20μs			20	V
		I <sub>PP</sub> = 4.0A, t <sub>p</sub> = 8/20μs			30	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> = 0V, f = 1MHz		8	15	pF

## RATINGS AND V-I CHARACTERISTICS CURVES

Symbol	Parameter
V <sub>RWM</sub>	Reverse Standoff Voltage
I <sub>R</sub>	Max Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
I <sub>PP</sub>	Max Peak Pulse Current
R <sub>DYN</sub>	Dynamic Resistance
C <sub>J</sub>	Junction Capacitance
P <sub>PP</sub>	Peak Pulse Power



**RATINGS AND V-I CHARACTERISTICS CURVES** ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

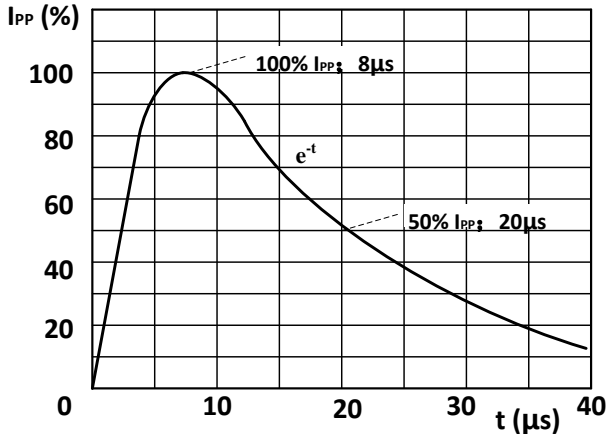


Fig. 1. 8/20  $\mu\text{s}$  pulse waveform according to IEC 61000-4-5 and IEC 61643-321

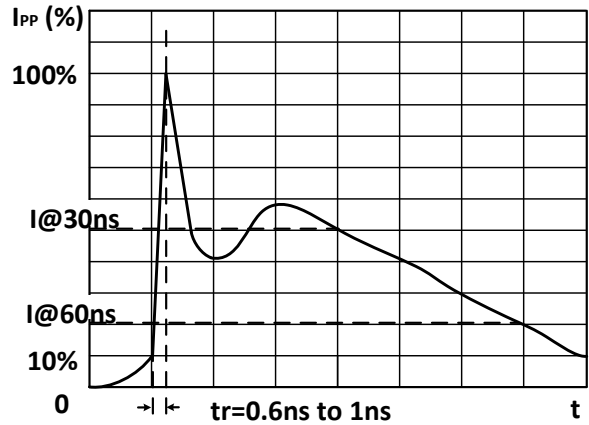


Fig. 2. ESD pulse waveform according to IEC 61000-4-2

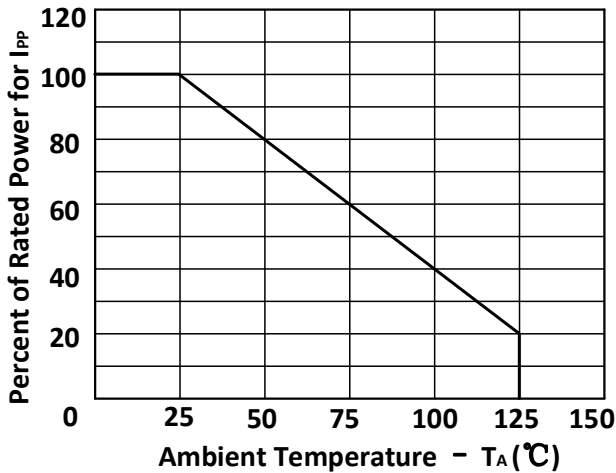


Fig. 3. Power Derating Curve

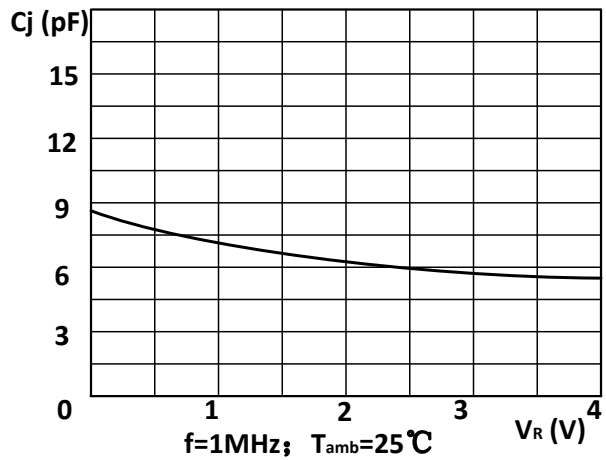
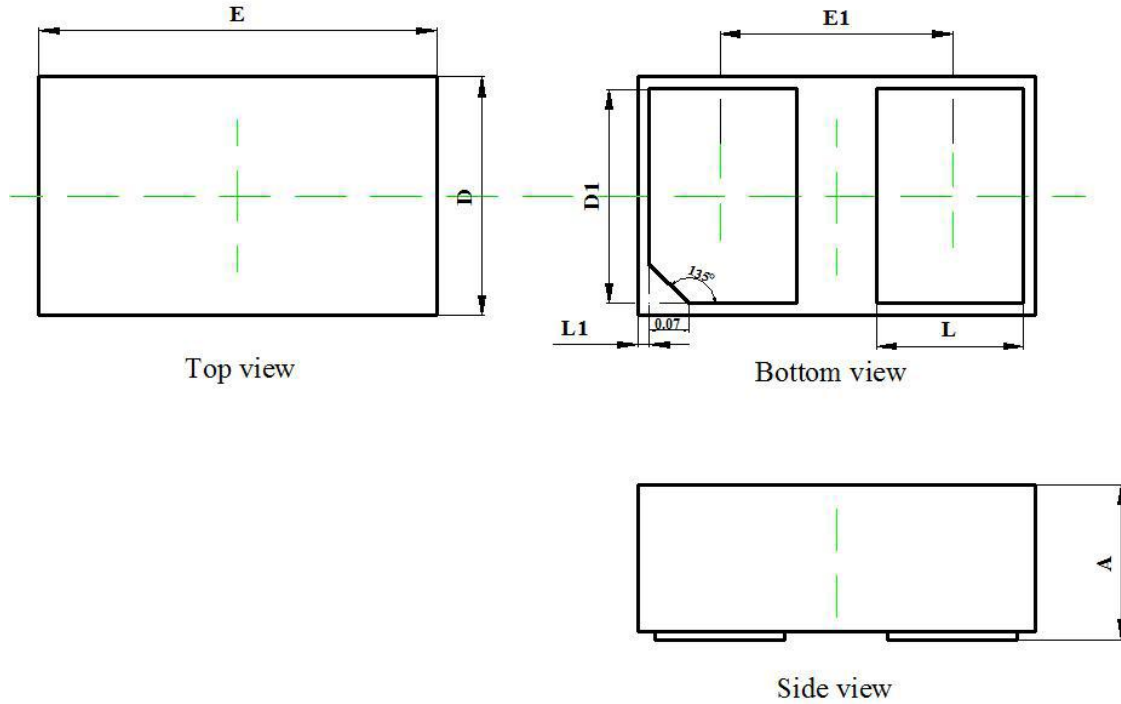


Fig. 4. Junction Capacitance vs  $V_R$

## PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
<b>A</b>	0.350	0.450	0.014	0.018
<b>D</b>	0.550	0.650	0.022	0.026
<b>E</b>	0.950	1.050	0.037	0.041
<b>D1</b>	0.420	0.520	0.017	0.020
<b>E1</b>	0.550	0.650	0.022	0.026
<b>L</b>	0.270	0.370	0.011	0.015
<b>L1</b>	0.000	0.100	0.000	0.004

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[SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ33CATR](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD105-B1-02EL E6327](#) [ESD112-B1-02EL E6327](#) [ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#)  
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