

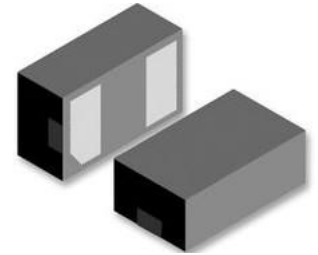
## Low Capacitance ESD/ Transient Protection Diode

### Features

- DFN1006 package
- Low leakage current
- Low clamping voltage
- Unidirectional configurations
- Low capacitance ( $C_j=0.45\text{pF typ.}$ )
- Protection one data/power line to
- IEC 61000-4-2  $\pm 20\text{kV}$  contact  $\pm 20\text{kV}$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 6A (8/20 $\mu\text{s}$ )
- 120Watts peak pulse power ( $t_p = 8/2\mu\text{s}$ )
- Solid-state silicon-avalanche technology
- RoHS compliant



RoHS  
COMPLIANT

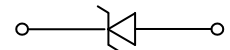


Marking : 5

DFN1006



Schematic Diagram



### Applications

- Thunderbolt, Display Port
- USB2.0, USB3.0, Firewire, DVI, HDMI, S-ATA
- Mobile HDMI Link, MDDI, MIPI, SWP / NFC
- Audio Line, Speaker, Headset, Microphone Protection
- Human Interface Devices (Keyboard, Touchpad, Buttons)

### Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ , Unless otherwise specified.)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $T_p=8/20\mu\text{s}$ )	$P_{PP}$	120	W
ESD contact/air discharge (IEC-61000-4-2)	$V_{ESD}$	20/20	kV
Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ )	$I_{PP}$	6.0	A
Junction Temperature	$T_J$	-55 to +125	$^\circ\text{C}$
Storage temperature	$T_{STG}$	-55 to +150	$^\circ\text{C}$

### Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ , Unless otherwise specified.)

Parameter	Symbol	Conditions	Min	Typ.	Max	Unit
Reverse stand-off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	6.0			V
Reverse Leakage Current	$I_R$	$V_R=5.0\text{V}$			1	$\mu\text{A}$
Clamping Voltage (IEC 61000-4-5)	$V_C$	$I_{PP}=6.0\text{A}$		16.5	20	V
Trigger Voltage (IEC 61000-4-2)	$V_T$	$V_{ESD}=8\text{kV}$		90		V
Clamping Voltage (IEC 61000-4-2)	$V_C$	$V_{ESD}=8\text{kV}$		15		V
Junction Capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$		0.45	0.65	pF

## Ratings and Characteristics Curves

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Fig.1 Peak Pulse Power Rating Curve

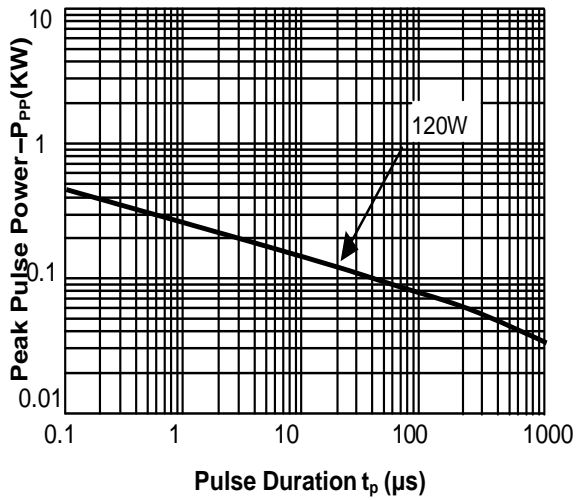


Fig.2 Pulse Derating Curve

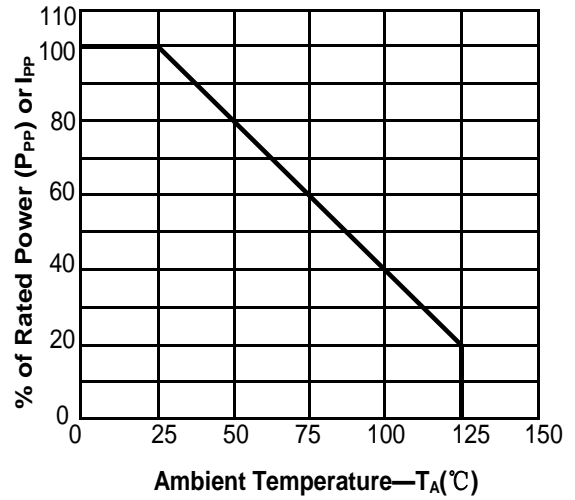


Fig.3 Pulse Waveform-8/20 $\mu\text{s}$

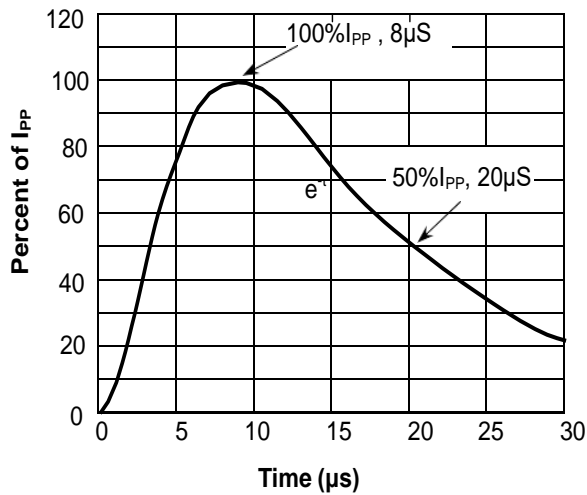
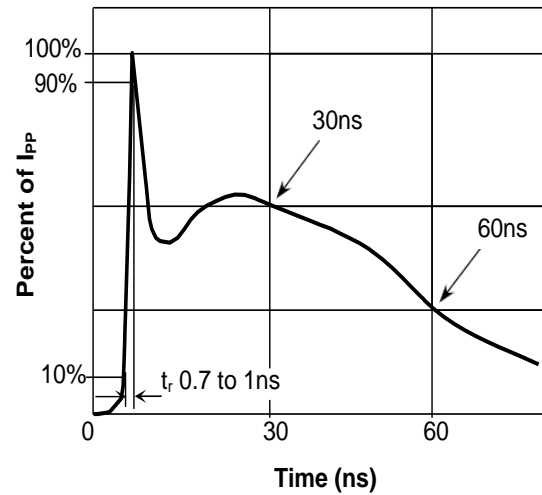
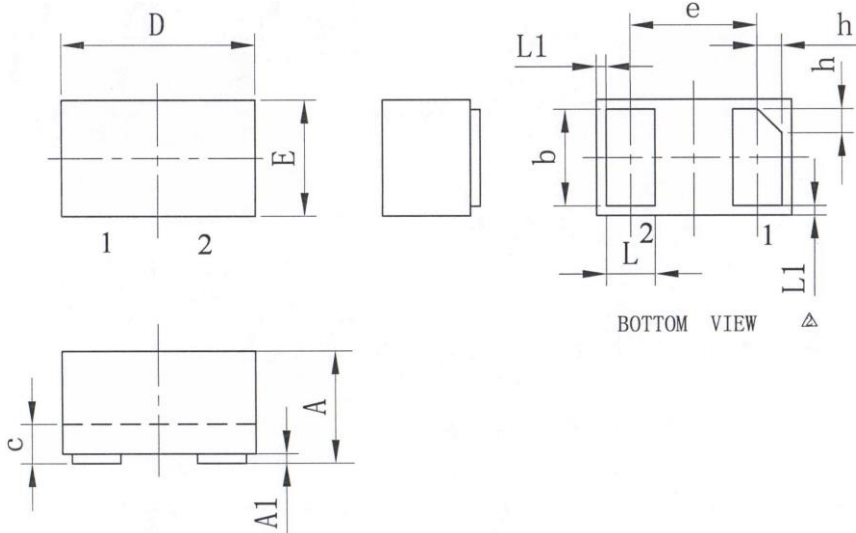


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)



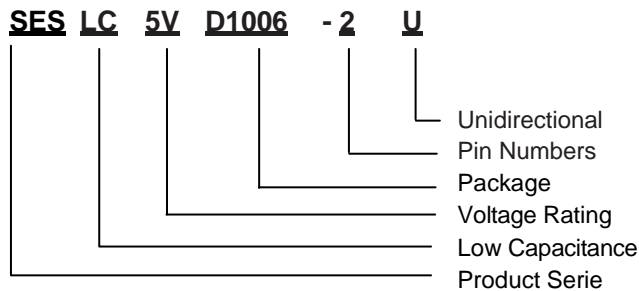
## Package Outline Dimensions

millimeters



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.45	0.50	0.55
A1	0	0.02	0.05
b	0.45	0.50	0.55
c	0.12	0.15	0.18
D	0.95	1.00	1.05
e	0.65BSC		
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.05REF		
h	0.07	0.12	0.17
载体尺寸 (M11)	20*20		

## Part Number System



## Revision History

Document Version	Date of release	Description of changes
Rev.A	2015.04.12	First issue

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