

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

Product data sheet

[www.msksemi.com](http://www.msksemi.com)

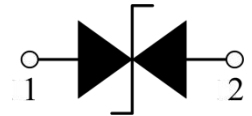
## Features

- low Capacitance 10pF
- Low Clamping Voltage
- Small Body Outline Dimensions: 0.039" x 0.024" (1.0 mm x 0.60 mm)
- Low Body Height: 0.019" (0.5 mm)
- Stand-off Voltage: 5.0V
- Low Leakage
- Response Time is Typically < 1 ns
- IEC61000-4-2 Level 4 ESD Protection for datalines
- These are Pb-Free Devices

### Pin Description



### Schematic Diagram



## Applications

DFN1006-2

- 10/100/1000 Mbits/s Ethernet
- FireWire
- Display ports
- MDDI ports
- Digital Visual Interface (DVI)
- Cellular handsets & accessories
- Computer and peripherals

## Electrical Characteristics @ Ta=25°C unless otherwise

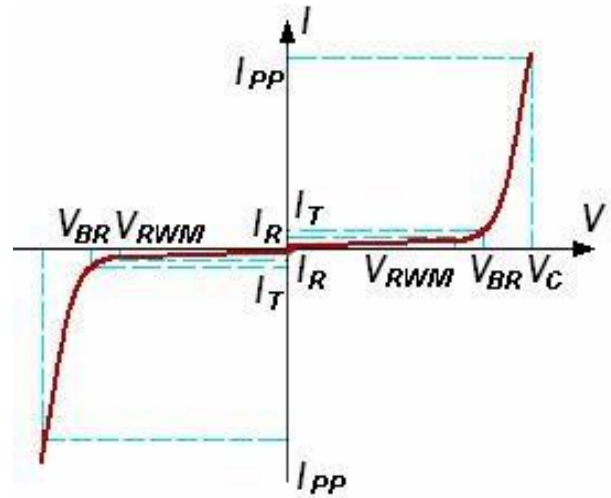
P/N	VRWM @IR		VBR@1mA	VC@1A	VC@IPP		CJ
	V	µA	V	V	V	A	pF
		MAX	MIN	MAX	MAX		TYP
MSESD5451X	5	1	5.8	11	15	5	10

## Maximum Rating @ Ta=25°C unless otherwise specified

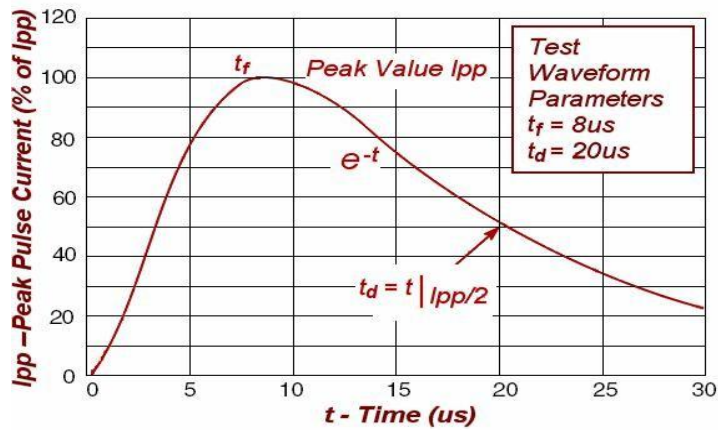
Symbol	Parameter	Ratings	Units
ESD	IEC 61000-4-2 (HBM-ESD)	Contact	8
		Air	15
TL	Lead Soldering Temperature	260(10sec.)	°C
TJ	Operating Temperature	-55 to +125	°C
TSTG	Storage Temperature	-55 to +150	°C

**Electrical Parameter**

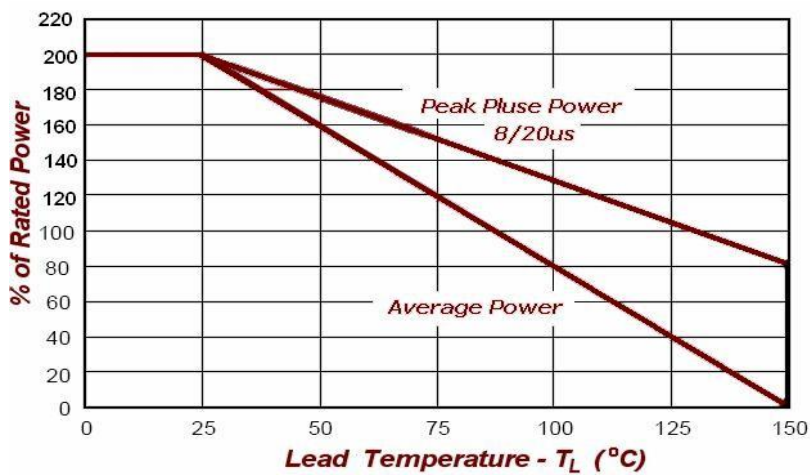
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$I_T$	Test Current
$V_{BR}$	Breakdown Voltage @ $I_T$



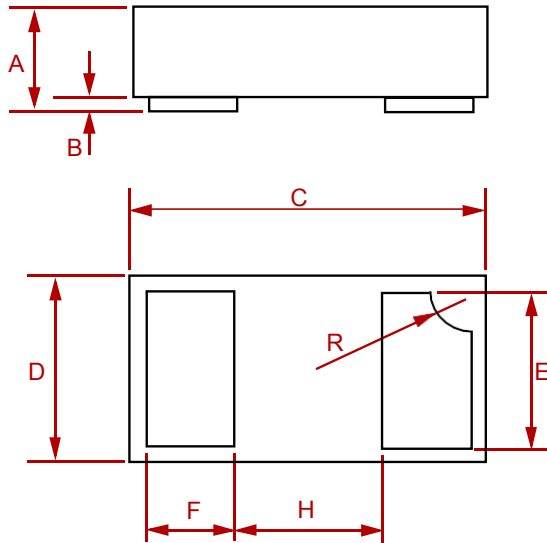
**FIG1: Pulse Waveform**



**FIG2: Power Derating**

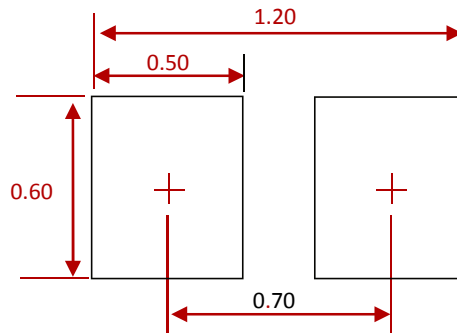


**PACKAGE MECHANICAL DATA**



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.0125	0.02	0.32	0.52
B	0.000	0.002	0.00	0.05
C	0.037	0.043	0.95	1.080
D	0.022	0.027	0.55	0.680
E	0.016	0.024	0.40	0.60
F	0.008	0.012	0.20	0.30
H	0.015Typ.		0.40Typ.	
R	0.001	0.005	0.05	0.15

**Suggested Pad Layout**



NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

**REEL SPECIFICATION**

P/N	PKG	QTY
MSESD5451X	DFN1006-2	10000

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