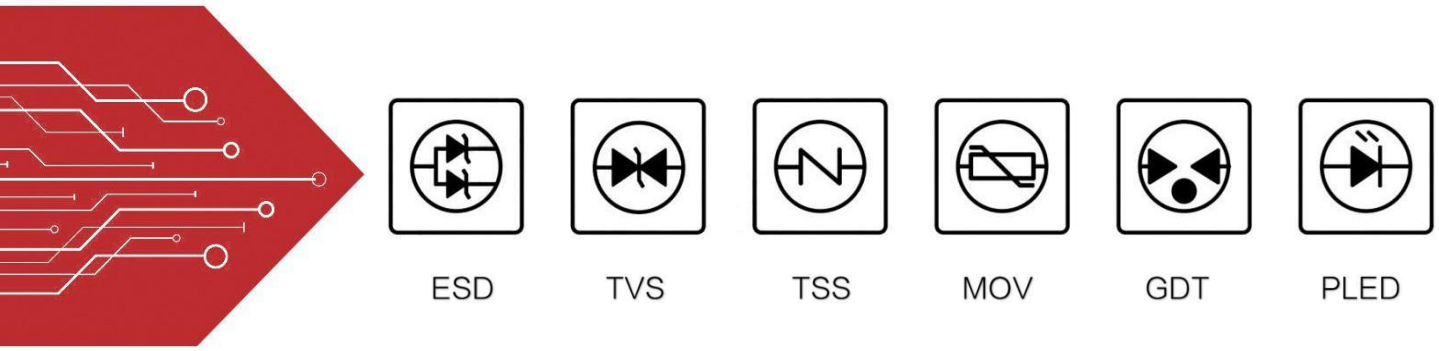
MSKSEMI
SEMICONDUCTOR



Product data sheet

Features

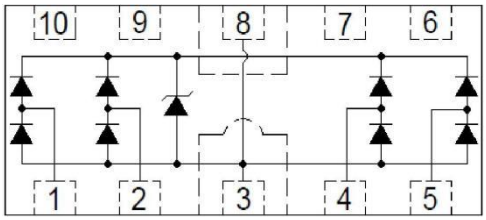
- Ultra-Low capacitance:0.35pF(typ.)
- Reverse stand-off voltage:5V
- IEC 61000-4-2 (Air): ±15KV
  IEC 61000-4-2 (Contact): ±10KV

Pin Description

Applications

- USB 3.0, USB 2.0
- HDMI 1.3/1.4, Display Port 1.3, eSATA
- Unified Display Interface (UDI)
- Digital Visual Interface (DVI)
- High speed serial interfaces

Schematic Diagram



Top View

Limiting Values(T_A = 25 °C, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Max	Unit
V_{ESD}	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	-	±10	kV
		IEC 61000-4-2; Air Discharge	-	±15	kV
I_{PPM}	Rated Peak Pulse Current	t_P = 8/20 μs	-	2.5	A
T_A	Ambient Temperature Range	-	-55	125	℃
T_{stg}	Storage Temperature Range	-	-55	150	℃

Electrical Characteristics(T_A = 25 °C unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V_{RWM}	Reverse Working Voltage	T_A = 25 °C	-	-	5	V
V_{BR}	Breakdown Voltage	I_R = 1 mA	6	7.2	9.5	V
I_R	Reverse Leakage Current	V_{RWM} = 5V	-	0.01	1	μA
V_C	Clamping Voltage	I_{PP}=2.5A, T_P=8/20μs	-	10	-	V
		V_{ESD}=+8kV	-	20	-	V
V_T	Trigger Voltage	V_{ESD}=+8kV	-	135	-	V
C_J	Junction Capacitance	V_R = 0V, f = 1 MHz, I/O to I/O	-	0.15	-	pF
		V_R = 0V, f = 1 MHz, I/O to GND	-	0.35	-	pF

Typical Characteristics

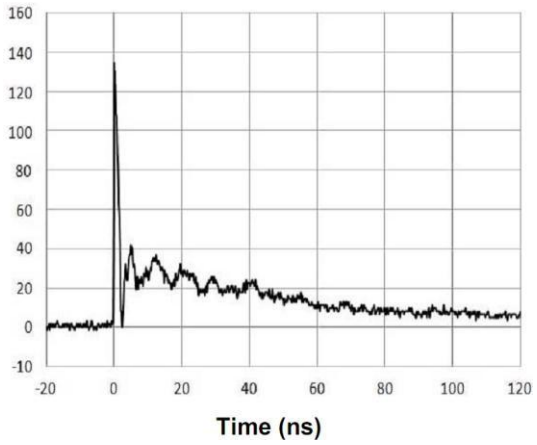


Fig.1 IEC61000-4-2 +8kV Contact ESD Clamping Waveform

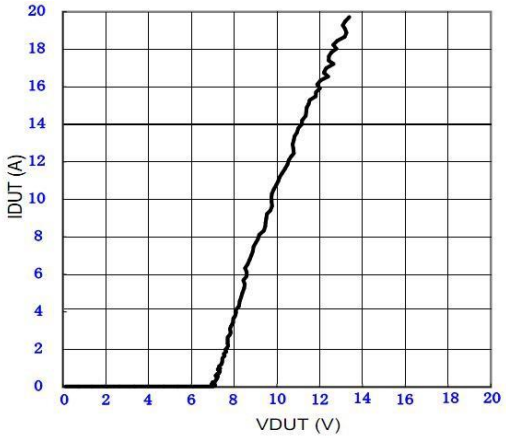


Fig.2 Transmission Line Pulse (t_P=100ns)

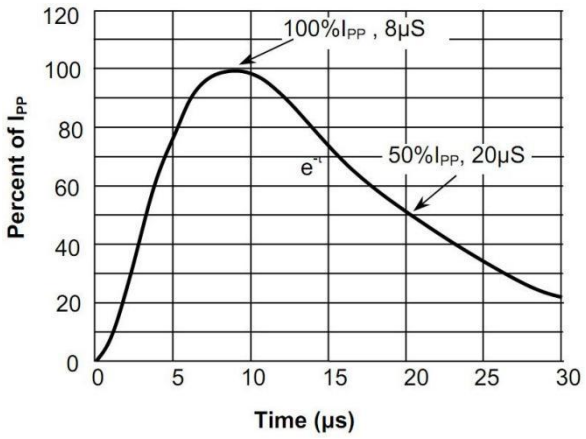


Fig.3 Pulse Waveform-8/20μs

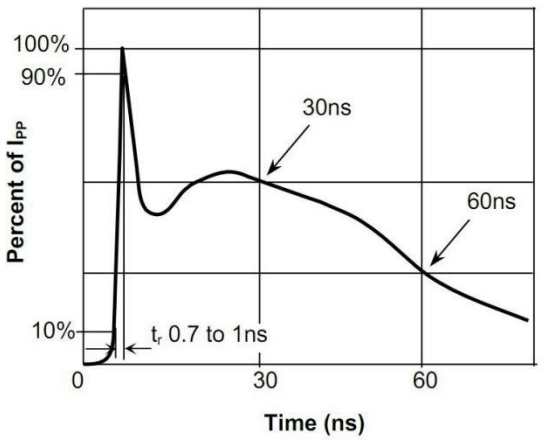
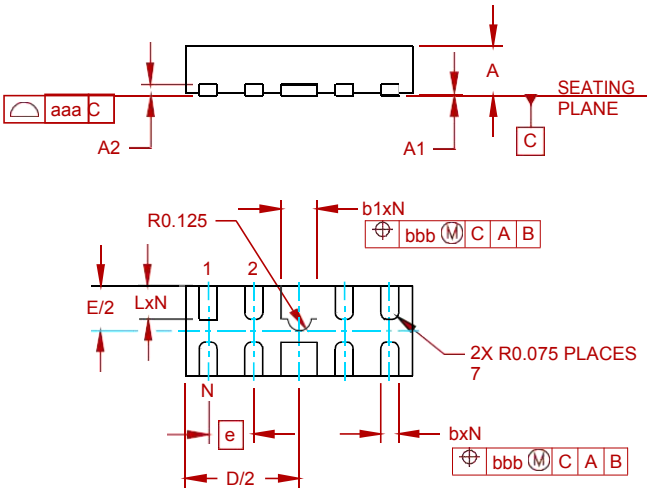
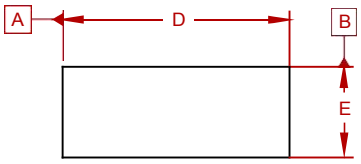


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

PACKAGE MECHANICAL DATA

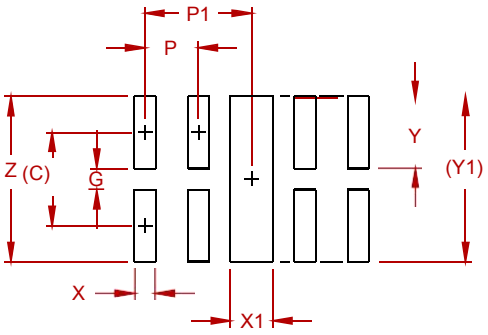




Dimensions in millimeters

DIM	DIMENSIONS					
	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.020	.023	.026	0.50	0.58	0.65
A1	0.00	.001	.002	0.00	0.03	0.05
A2	(.005)			(0.13)		
b	.006	.008	.010	0.15	0.20	0.25
b1	.014	.016	.018	0.35	0.40	0.45
D	.094	.098	.102	2.40	2.50	2.60
E	.035	.039	.043	0.90	1.00	1.10
e	.020 BSC			0.50 BSC		
L	.012	.015	.017	0.30	0.38	0.425
N	8			8		
aaa	.003			0.08		
bbb	.004			0.10		

Suggested Pad Layout



DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.034)	(0.875)
G	.008	0.20
P	.020	0.50
P1	.039	1.00
X	.008	0.20
X1	.016	0.40
Y	.027	0.675
Y1	(.061)	(1.55)
Z	.061	1.55

NOTES:

CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).

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REEL SPECIFICATION

P/N	PKG	QTY
MS1045-04F	DFN2510P10E	3000

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