

MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

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

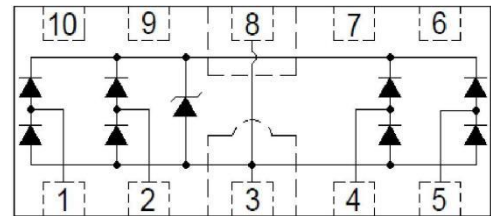
Pin Description



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	°C
T _{stg}	Storage Temperature Range	-	-55	150	°C

Electrical Characteristics($T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified)

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

Typical Characteristics

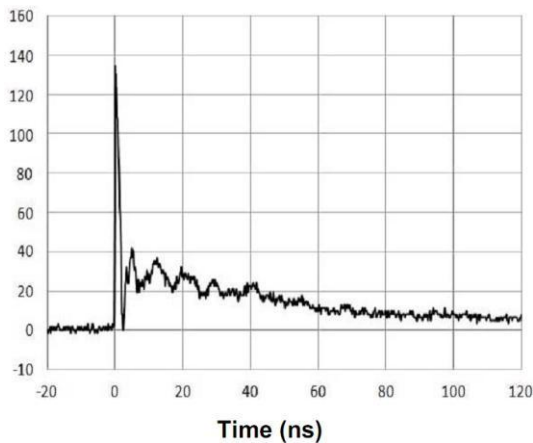


Fig.1 IEC61000-4-2 +8kV Contact ESD Clamping Waveform

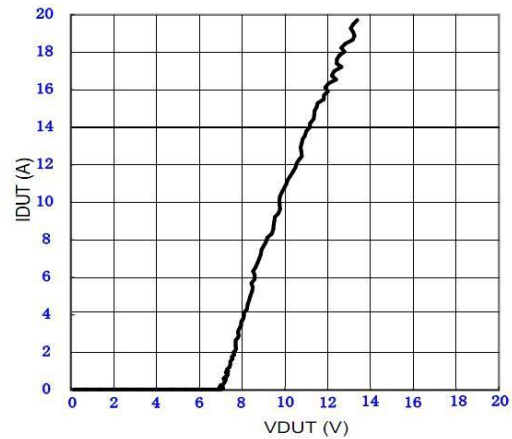


Fig.2 Transmission Line Pulse ($t_P=100\text{ns}$)

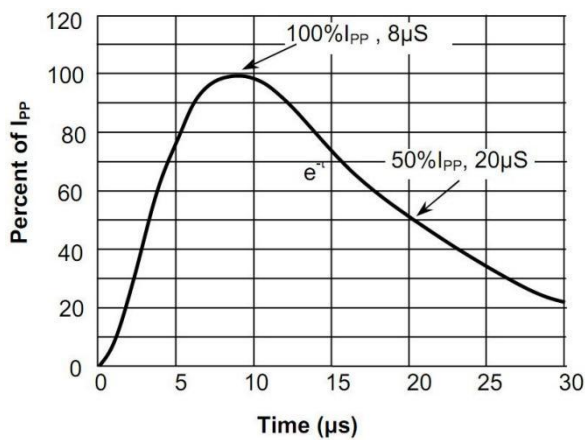


Fig.3 Pulse Waveform-8/20 μs

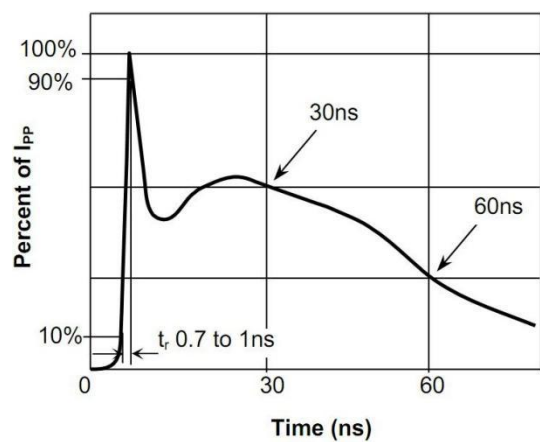
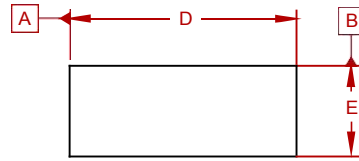
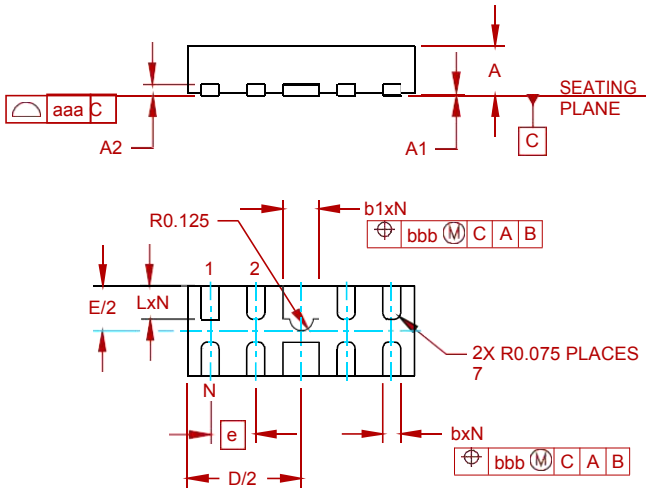


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

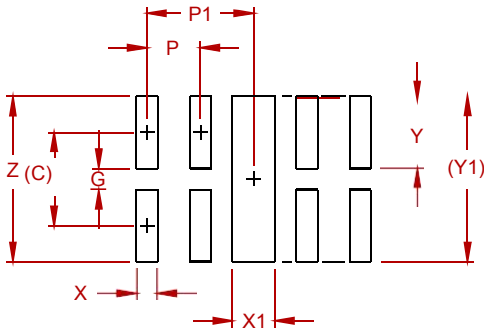
PACKAGE MECHANICAL DATA



DIM	DIMENSI ONS					
	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		

Dimensions in millimeters

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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