

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

MS1045-04F

Product specification

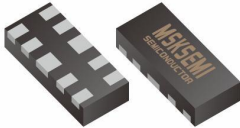
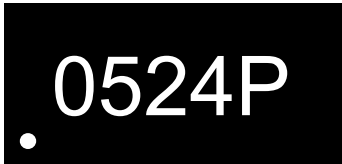
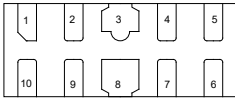
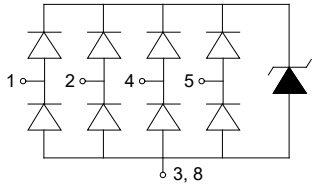
Features

- IEC 61000-4-2 Level 4 ESD Protection
 - $\pm 12\text{kV}$ Contact Discharge
 - $\pm 17\text{kV}$ Air Discharge
- IEC 61000-4-4 EFT Protection
 - 40A (5/50ns)
- IEC 61000-4-5 Surge
 - 4.5A (8/20us)
- RoHS compliance
- Protecting four I/O line
- Ultra-low Capacitance:0.6pF (Typical)
- Low clamping voltage
- Low leakage current
- Solid-state silicon technology

Applications

- HDMI/USB2.0
- Monitors and flat panel displays
- 10/100/1000 ethernet
- Notebook computers
- SIM ports
- ATM interface

Pin Configuration and Functions

PACKAGE OUTLINE	Outline	Circuit Diagram
 DFN2510-10	 	

Pin	Name	Description
1	IO	Connect to IO
2	IO	Connect to IO
3	GND	Connect to GND
4	IO	Connect to IO
5	IO	Connect to IO
6	NC	NO Connection
7	NC	NO Connection
8	GND	Connect to GND
9	NC	NO Connection
10	NC	NO Connection

Absolute Maximum rating

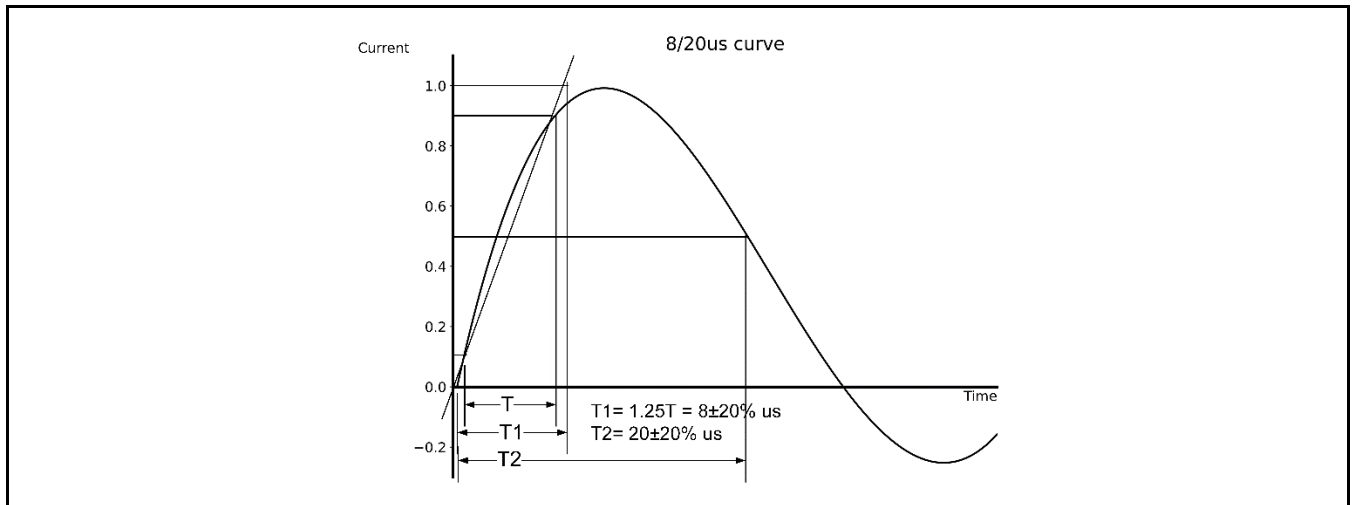
Over operating free-air temperature range otherwise

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25°C	P _{pk}	-	70	W
Peak pulse current (tp=8/20us)@25°C	I _{PP}		4.5	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}	-	±17	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}	-	±12	kV
Junction temperature	T _J	-	150	°C
Operating temperature	T _{OP}	-40	125	°C
Storage temperature	T _{STG}	-55	150	°C
Lead temperature	T _L	-	260	°C

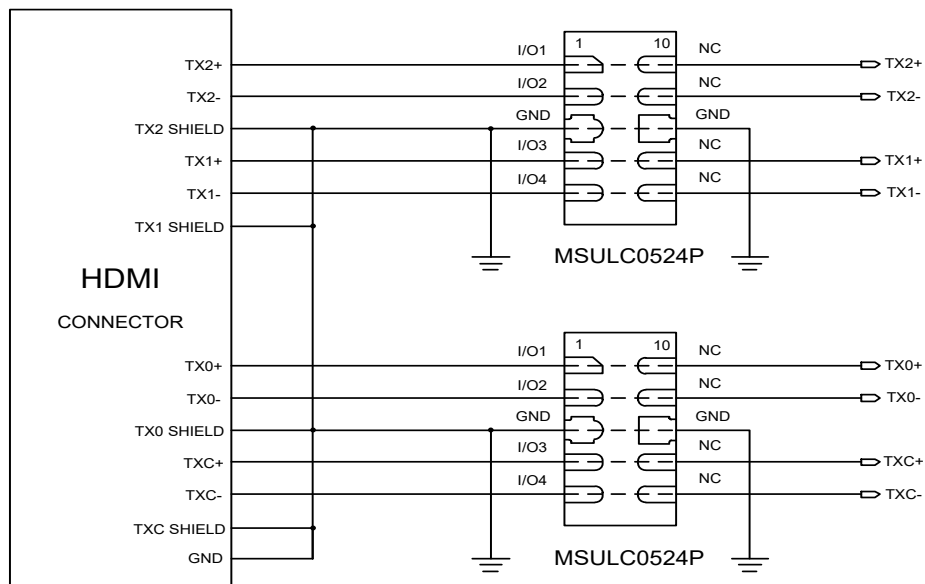
Electrical Characteristics At TA = 25°C unless otherwise noted

Parameters	Symbol	conditions	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V _{RWM}				5.0	V
Reverse Breakdown Voltage	V _{BR}	I _r = 1mA	6.0			V
Reverse Leakage Current	I _R	V _{RWM} =5V			1.0	uA
Peak Pulse Current	I _{PP}	TP=8/20us@25°C			4.5	A
Clamping Voltage	V _{CL}	I _{PP} =1A; TP=8/20us		9.0	11.0	V
Clamping Voltage	V _{CL}	I _{PP} =4.5A; TP=8/20us		12.0	15.0	V
Junction capacitance	C _J	I/O pins to ground; V _R =0V; f = 1MHz		0.6		pF
		Between I/O pins; V _R =0V; f = 1MHz		0.3		

Typical Characteristic

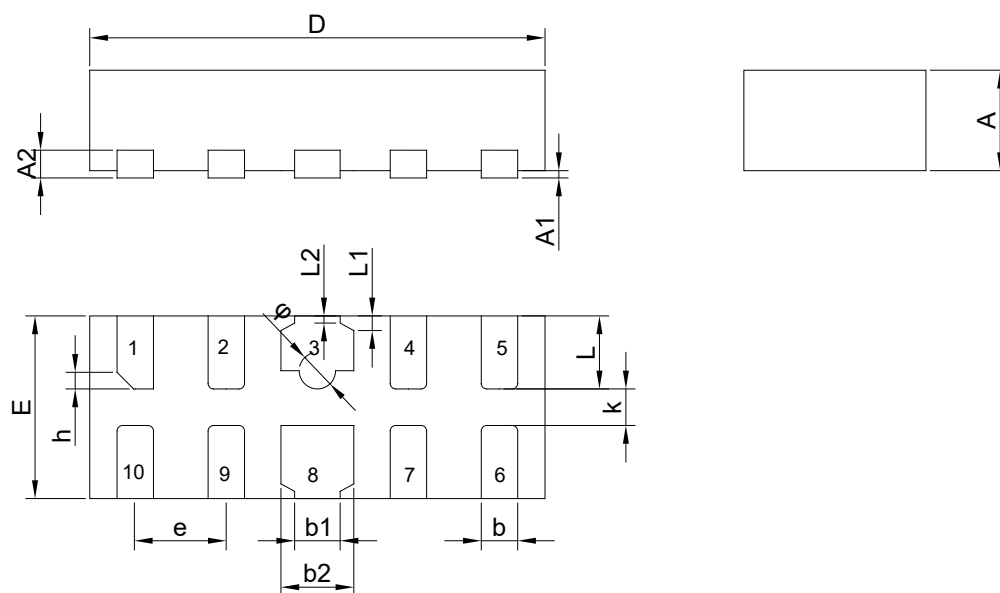


Typical Application



Typical HDMI Interface Application

Dimension (DFN2510-10)



Dimensions in Millimeter							
Symbol	Min.	Nom.	Max.	Symbol	Min.	Nom.	Max.
A	0.500	0.550	0.600	D	2.450	2.500	2.550
A1	0.00	/	0.05	E	0.950	1.00	1.050
A2	0.122	0.152	0.200	e	0.450	0.500	0.550
b	0.150	0.200	0.250	h	0.080	0.120	0.150
b1	0.200	0.250	0.300	k	0.150	0.200	0.250
b2	0.350	0.400	0.450	L	0.350	0.400	0.450
L1	0.075 REF			L2	0.05 REF		
φ	0.150	0.200	0.250				

REEL SPECIFICATION

P/N	PKG	QTY
MS1045-04F	DFN2510-10	3000

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