

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

ESD5304D-MS

Product specification

Features

- 100W peak pulse power ($t_P = 8/20\mu s$)
- DFN2510-10 Package
- Working voltage: 5.0V
- Low clamping voltage
- Low capacitance
- RoHS compliant
- Transient protection for data lines to
IEC 61000-4-2(ESD) $\pm 30KV$ (air), $\pm 15KV$ (contact);
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 5A (8/20us)

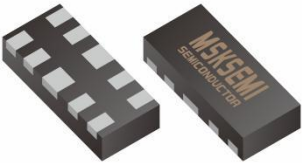
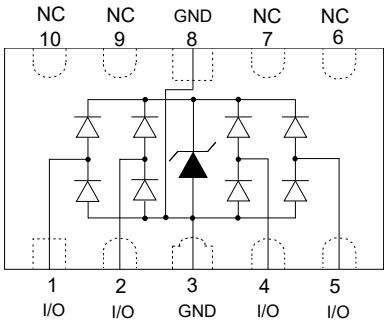

Mechanical Characteristics

- Lead finish: 100% matte Sn(Tin)
- Mounting position: Any
- MSD Level: MSL-1
- Qualified max reflow temperature: $260^{\circ}C$
- Pure tin plating: 7 ~ 17 μm
- Pin flatness: $\leq 3mil$

Applications

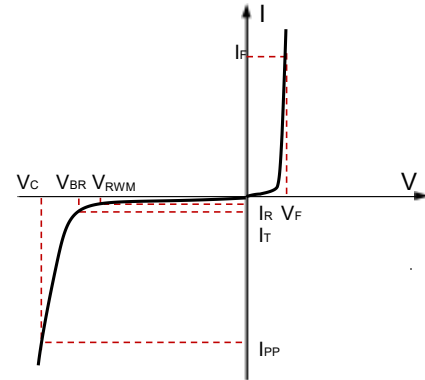
- USB 2.0,3.0 Power & Data Line Protection
- DVI & HDMI Port Protection
- Serial ATA Port Protection
- Mobile Handsets
- Digital Cameras and camcorders
- PDA & MP3 Players
- Digital TV and Set-top Boxes
- Other Portable Electronic Components

Order information

PACKAGE OUTLINE	Circuit Diagram	Marking
 <p data-bbox="220 1581 379 1610">DFN2510-10</p>		

Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F

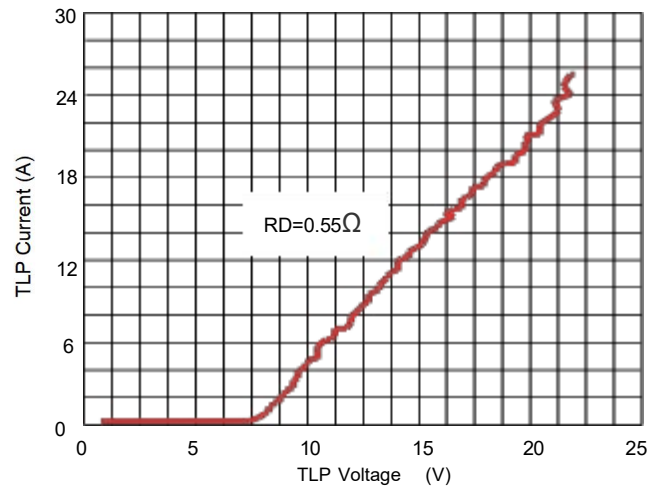
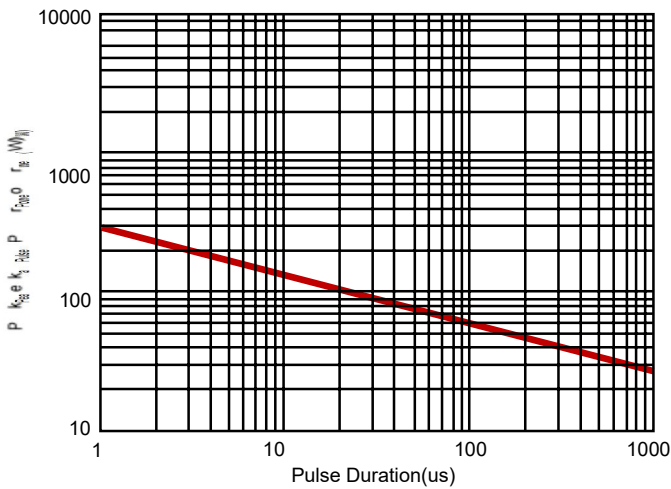
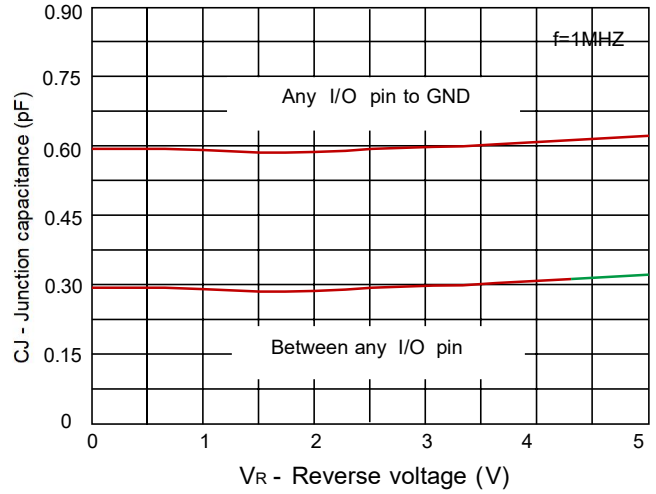
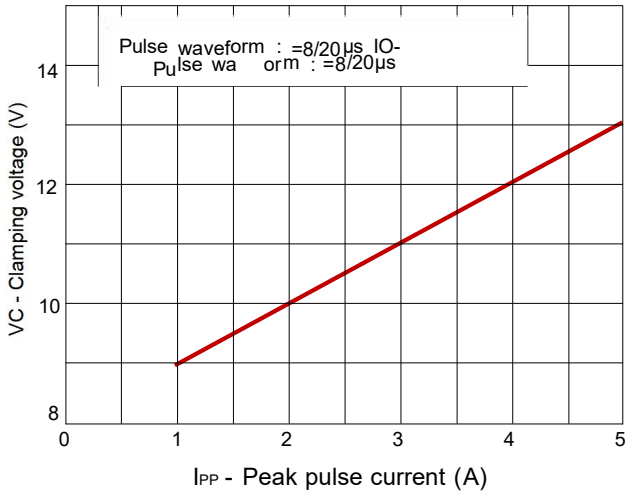
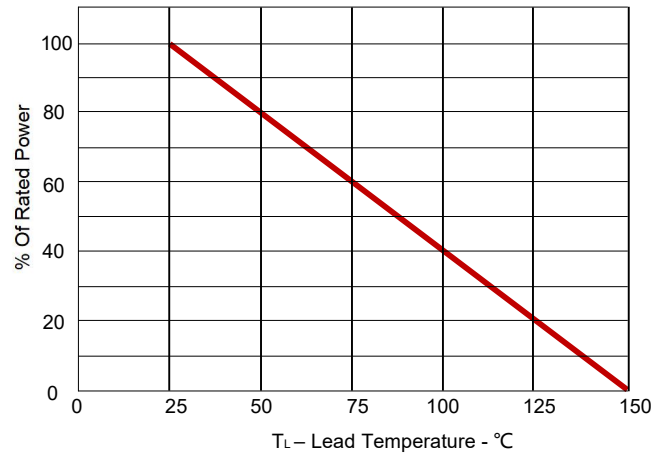
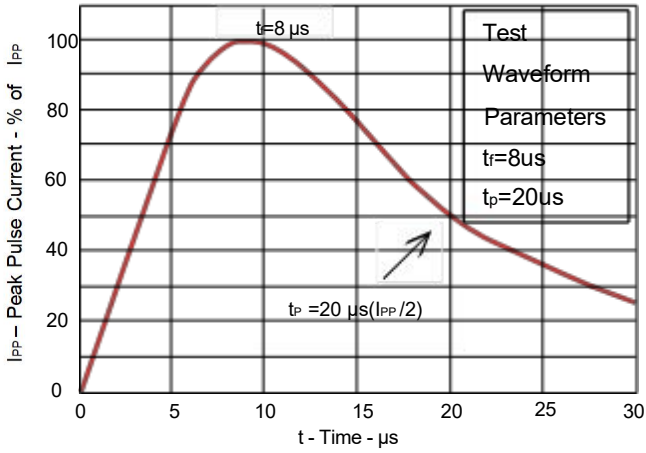

Electrical characteristics per line@ (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_t = 1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0\text{V}$, $T = 25^\circ\text{C}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$			11	V
Clamping Voltage	V_C	$I_{PP} = 5\text{A}$, $t_p = 8/20\mu\text{s}$			15	V
Junction Capacitance(IO-IO)	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		0.3	0.4	pF
Junction Capacitance(IO-GND)	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		0.6	0.75	pF

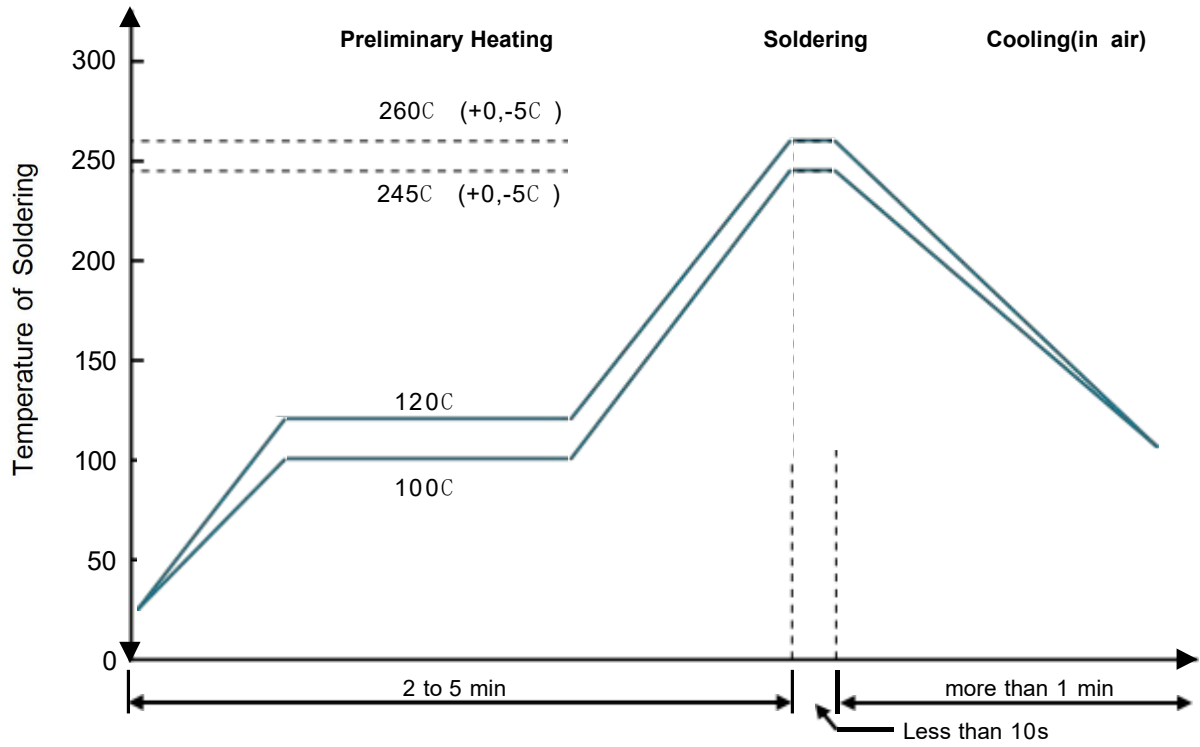
Absolute maximum rating@ 25°C

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{pp}	100	W
Operating Temperature	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^\circ\text{C}$

Typical Characteristics

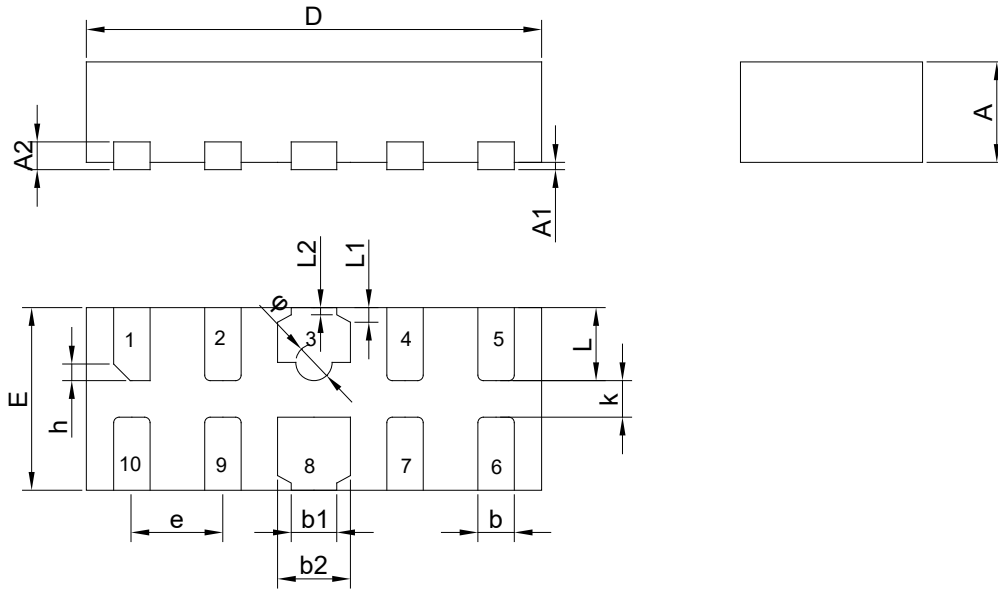


SolderReflowRecommendation



Remark: Pb free for 260°C ; Pb for 245°C .

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
ESD5304D-MS	DFN2510-10	3000

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