

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

MSESD16F5VPU

Product specification

Features

- 2-pin lead-less package
- Junction capacitance (Max value: 1000pF)
- Peak Pulse Current (8/20μs) Max: 130A
- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:5V
- RoHS Compliant


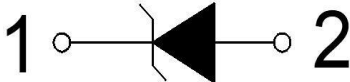

Mechanical Characteristics

- Package: DFN1610-2L
- Lead Finish:Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports

Reference News

DFN1610-2L	Graphic symbol	Marking
	 <p>Uni-directional</p>	

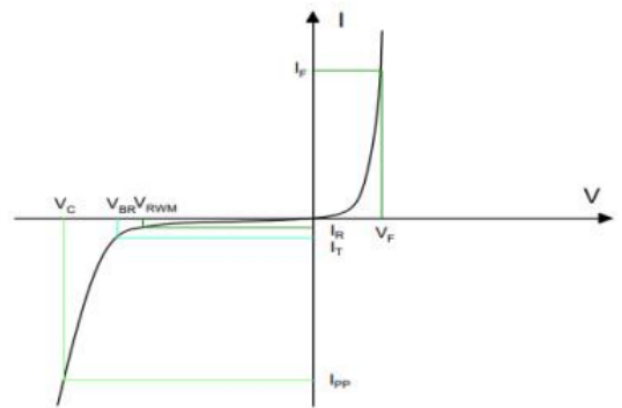
Absolute Maximum Ratings (T=25°C, RH=45%-75%, unless otherwise noted)

Parameters	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PP}	2600	W
Peak Pulse Current (8/20μs)	I _{PP}	130	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	±30 ±30	KV
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Electrical Characteristics (T=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				5	V
Reverse Breakdown Voltage	V _{BR}	I _R = 1mA	6		9	V
Reverse Leakage Current	I _R	V _R = 5V			1	uA
Clamping voltage	V _C	I _{PP} = 10A, T _P =8/20us			8.5	V
Clamping voltage	V _C	I _{PP} = 130A, T _P =8/20us		18	20	V
Junction capacitance	C _J	V _R = 0V, f = 1MHz			1000	pF

Symbol	Parameter
VRWM	Peak Reverse Working Voltage
IR	Reverse Leakage Current @VRWM
VBR	Breakdown Voltage @IT
IT	Test Current
IPP	Maximum Reverse Peak Pulse Current
VC	Clamping Voltage @IPP
PPP	Peak Pulse Power
CJ	Junction Capacitance
IF	Forward Current
VF	Forward Voltage @IF



Typical Characteristics

FIG1: Power rating derating curve

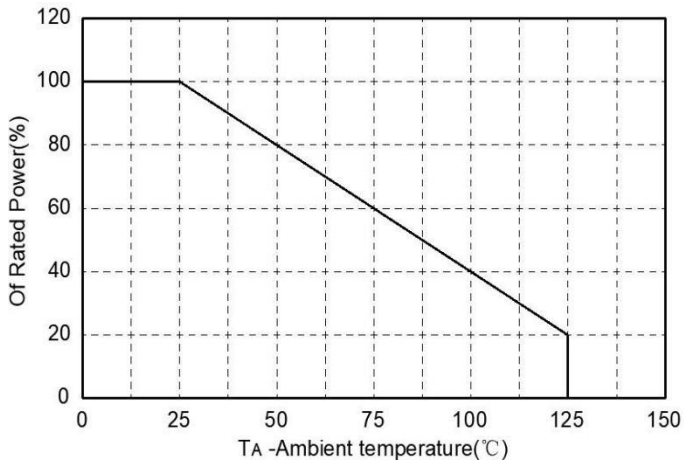


FIG2: pulse Waveform

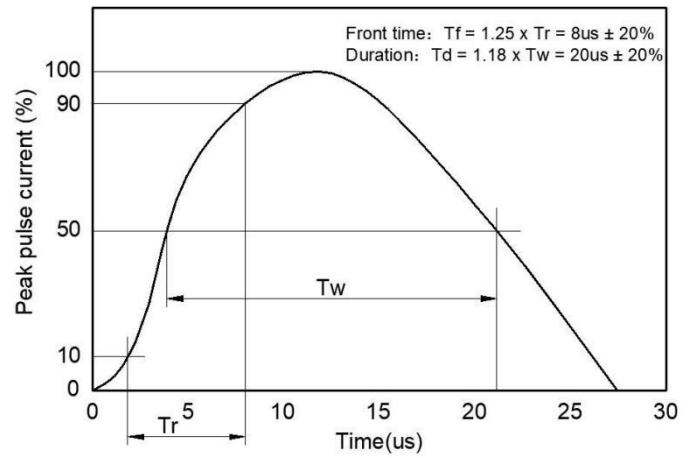


FIG3: Capacitance between teminals charateristics

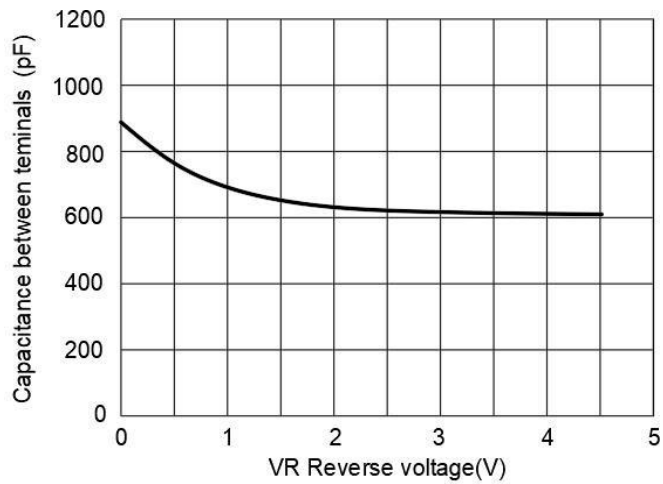
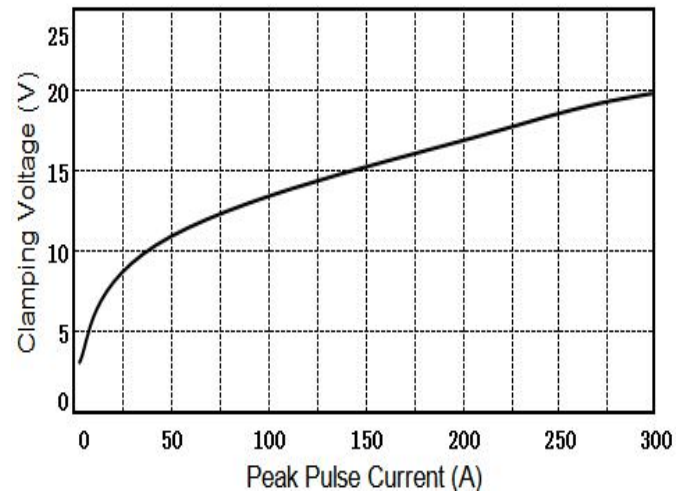
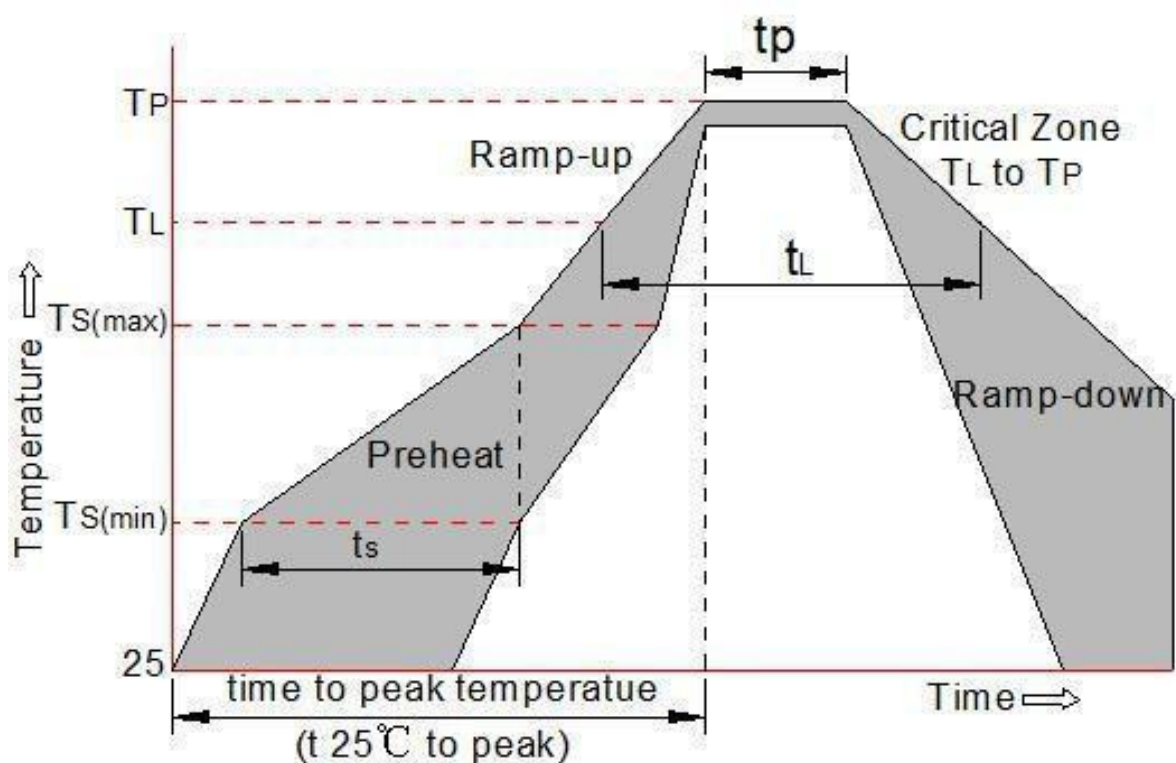


FIG4: Clamping Voltage vs. Peak Pulse Current

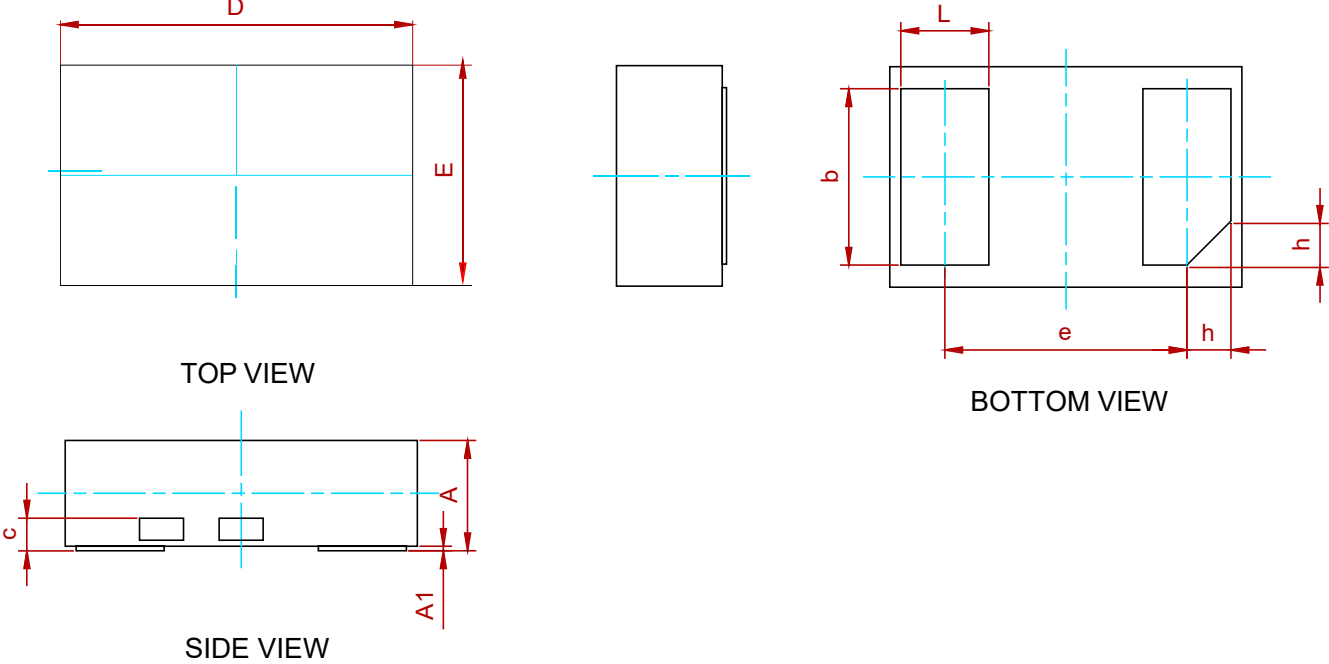


Soldering Parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C

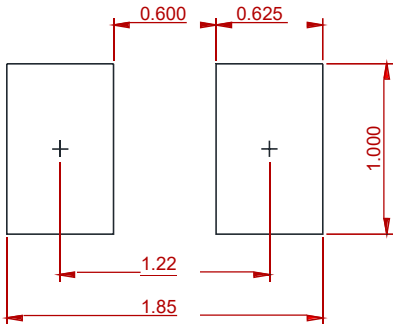


PACKAGE MECHANICAL DATA



Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.45	0.50	0.60
A1	0.00	0.02	0.05
c	0.15 Ref.		
b	0.75	0.80	0.95
L	0.35	0.40	0.45
D	1.55	1.60	1.70
E	0.95	1.00	1.10
e	1.10 BSC		
h	0.20 Ref.		

Recommend PCB Layout (Unit: mm)



Notes:
This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.

REEL SPECIFICATION

P/N	PKG	QTY
MSESD16F5VPU	DFN1610-2L	3000

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