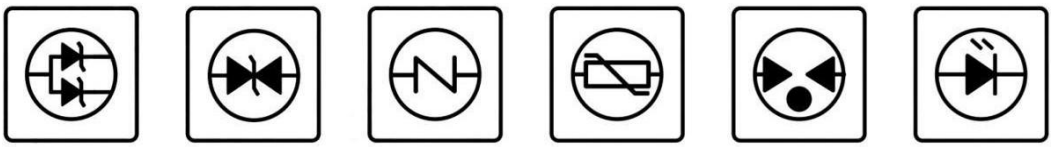
MSKSEMI 美森科
SEMICONDUCTOR



SMF15CT1G

Product specification

Features

- Uni-directional ESD protection of up to five lines
- Bi-directional ESD protection of up to four lines
- Low diode capacitance
- Low clamping voltage
- low leakage current
- IEC 61000-4-2; level 4 (ESD)
- IEC61000-4-5 (surge)

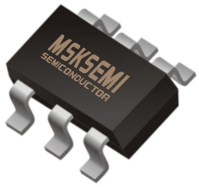
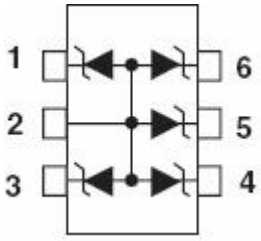
General Description

Low capacitance 5-fold ESD protection array in the very small SOT363 plastic package designed to protect up to five transmission or data lines from the damage caused by Electrostatic Discharge (ESD).

Applications

- Cellular handsets and accessories
- Portable electronics
- Computers and peripherals
- Communications systems
- Audio and video equipment

Reference News

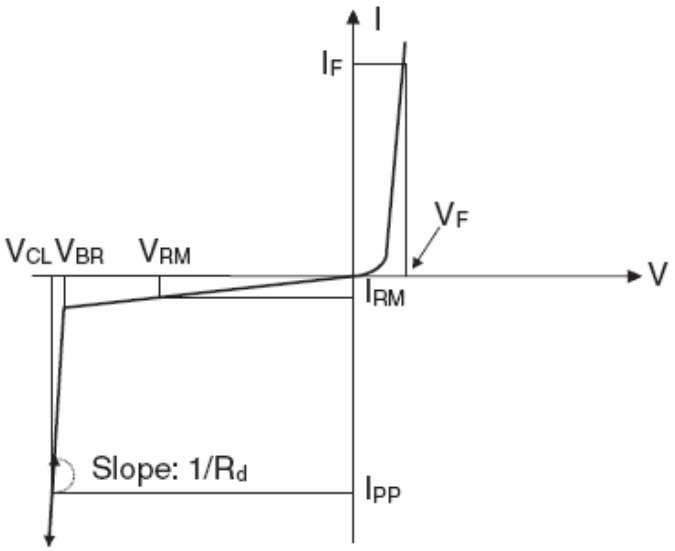
SOT-363	PIN Configuration	Marking
		6L *

Absolute Ratings (T_{amb}=25°C)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20μs)	150	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-60 to +150	°C
T_{op}	Operating Temperature Range	-60 to +150	°C
T_j	Maximum junction temperature	150	°C
V_{PP}	Electrostatic discharge IEC61000-4-2 (contact discharge) IEC61000-4-2 (air discharge)	 30 30	 kV kV

Electrical Parameter

Symbol	Parameter
V_{RM}	Stand-off voltage
V_{BR}	Breakdown voltage
V_{CL}	Clamping voltage
I_R	Leakage current
I_{PP}	Peak pulse current
C	Capacitance



Electrical Characteristics

Part Numbers	V_{BR}		V_{RM}	I_R	I_{PP}	V_{CL} (Max)		C
	Min.	Max.			8/20 μs pulse; notes1and2	@ I_{PP} =1A	@ I_{PP} =5A	f=1MHz; V_R = 0 V; seeFig.4
	V	V	V	μA	A	V	V	pF
SMF15CT1G	17	19	15	1	5	23	29	15

Notes

1. Non-repetitive current pulse 8/20 μs exponentially decaying waveform; see Fig.1.
2. Measured from any of pins 1, 3, 4, 5 or 6 to pin 2.

GRAPHICAL DATA

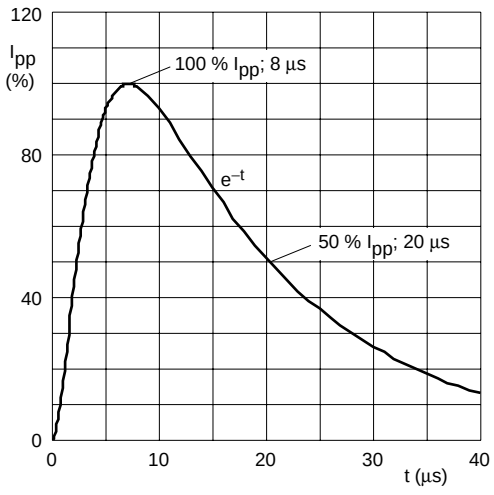


Fig.1 8/20 μs pulse waveform according to IEC 61000-4-5.

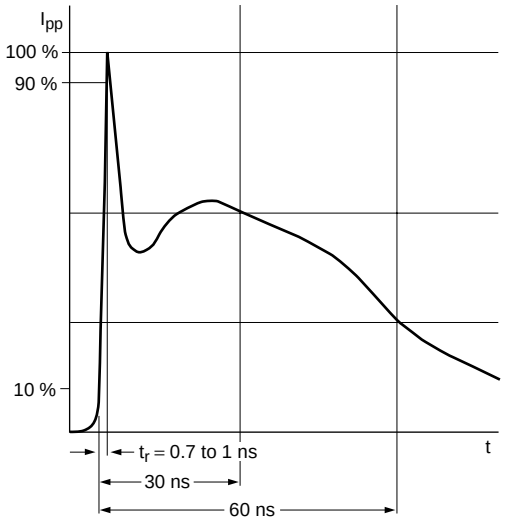
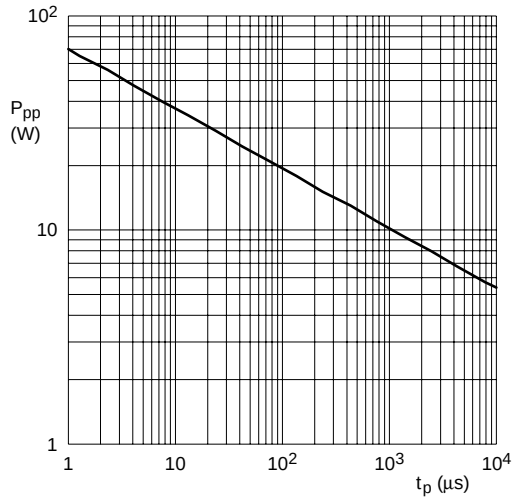


Fig.2 Electrostatic Discharge (ESD) pulse waveform according to IEC 61000-4-2.

GRAPHICAL DATA



T_{amb} = 25 °C.
I_{pp} = 8/20 µs exponentially decaying waveform; see Fig.1.

Fig.3 Peak pulse power dissipation as a function of pulse time; typical values.

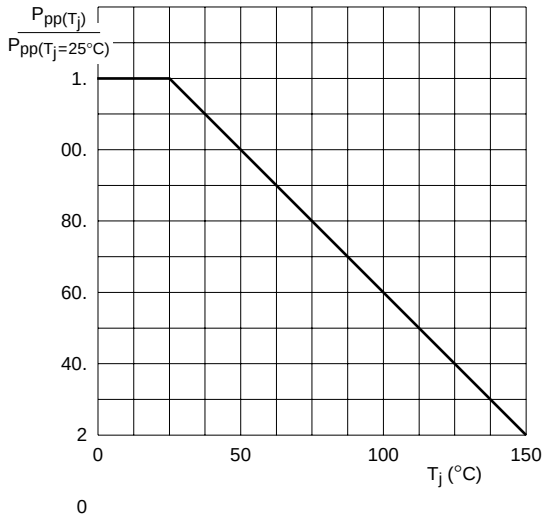
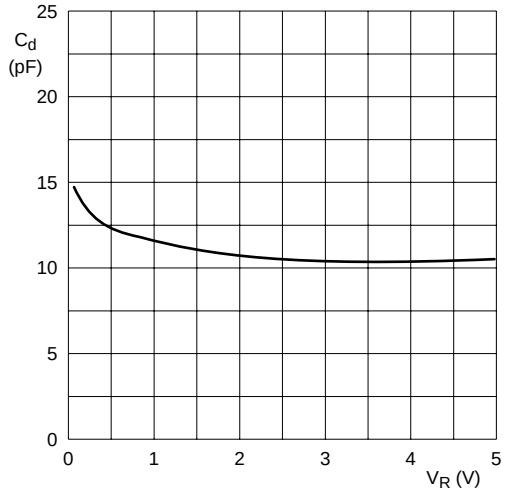


Fig.4 Relative variation of peak pulse power as a function of junction temperature; typical values.



f = 1 MHz; T_{amb} = 25 °C.

Fig.5 Diode capacitance as af unction of reverse voltage; typical values.

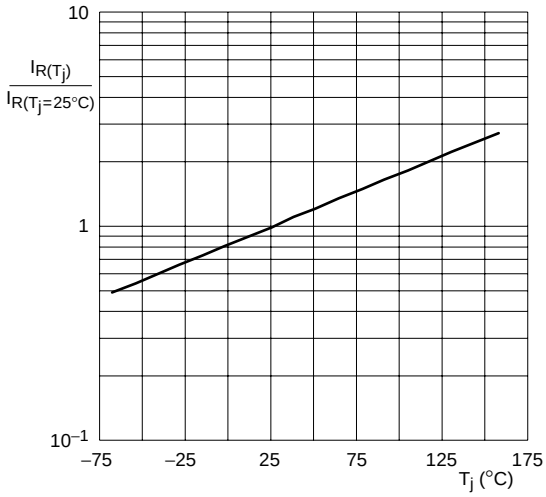
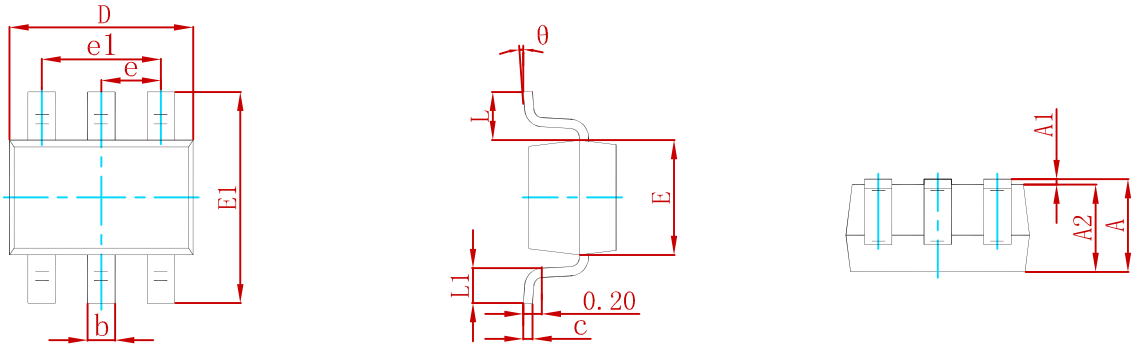


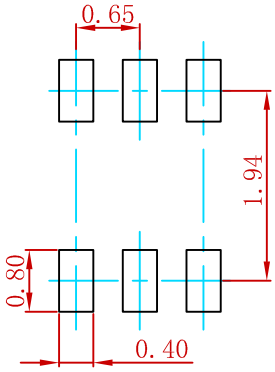
Fig.6 Relative variation of reverse leakage current as a function of junction temperature; typical values.

PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

Order information

Orderable Device	Package	Packing Option
SMF15CT1G	SOT-363	3000PCS

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