

**ESD PROTECTION DIODE**

STAND-OFF VOLTAGE - **5.0** Volts  
POWER DISSIPATION - **100** WATTS

**GENERAL DESCRIPTION**

• The L10ESD5V0CF6-5 is designed to protect sensitive electronics from damage or latch-up due to ESD. They feature large cross-sectional area junctions for conducting high transient currents. They offer desirable characteristics for board level protection including fast response time, low operating and clamping voltage, and no device degradation.

**FEATURES**

- Bi-directional ESD protection of up to five lines.
- Low leakage current : IRM < 1uA @ 5V
- IEC 61000-4-2, level 4 ( ESD ), > 15KV ( air ) ; > 8KV ( contact ).
- IEC 61000-4-5 ( surge ); Ipp = 2.5A at tp = 8/20 us.
- Low operating and clamping voltage.

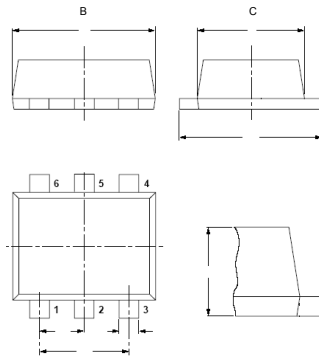
**APPLICATION**

- Cellular Handsets and Accessories
- Cordless Phones
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- MP3 Players

**MECHANICAL DATA**

- Case Material: "Green" molding compound UL flammability classification 94V-0 (No Br.Sb, Cl)
- Terminals: Lead Free Plating (Matte Tin Finish)
- Component in accordance to RoHs 2002/95/EC

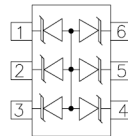
**SOT563**



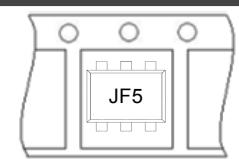
SOT563		
DIM.	MIN.	MAX.
A	0.50	0.60
B	1.50	1.70
C	1.10	1.30
D	1.00 (Typ.)	
E	0.50 (Typ.)	
F	1.50	1.70
G	0.17	0.27

All Dimensions in millimeter

PIN ASSIGNMENT	
1	Cathode 1
2	Cathode 2
3	Cathode 3
4	Cathode 4
5	Cathode 5
6	Cathode 6



**Marking & Orientation**



**MAXIMUM RATINGS (Tj= 25°C unless otherwise noticed)**

Rating	Symbol	Value	Unit
Peak pulse Power ( 8/20us Waveform ) notes 1 and 2	PPPM	100	W
Operating Junction Temperature Range	TJ	-55 to + 125	°C
Storage Temperature Range	Tstg	-55 to + 150	°C
Soldering Temperature, t max = 10s	TL	260	°C

**NOTE;**1.Non-repetitive current pulse 8/20 us exponentially decaying waveform. 2.Measured from any of pins 1,3,4,5 or 6 to pin2.

**ELECTRICAL CHARACTERISTICS (Tj= 25°C unless otherwise noticed)**

Parameter	Symbol	Conditions	Min	Max	Unit
Reverse stand-off voltage	VDRM	---	---	5.0	V
Reverse leakage current	IRM	VDRM = 5 V	---	1	uA
Reverse leakage current	IRM	VDRM = 3 V	---	0.5	uA
Breakdown voltage	VBR	IR = 1 mA	6.0	9.0	V
Diode capacitance	CJ	VR = 0 V , f = 1MHz Between I/O pins and GND	---	40	pF
Clamping voltage	VCL	Ipp = 1 A, tp =8/20us	---	9	V
Clamping voltage	VCL	Ipp = 7 A, tp =8/20us	---	12	V

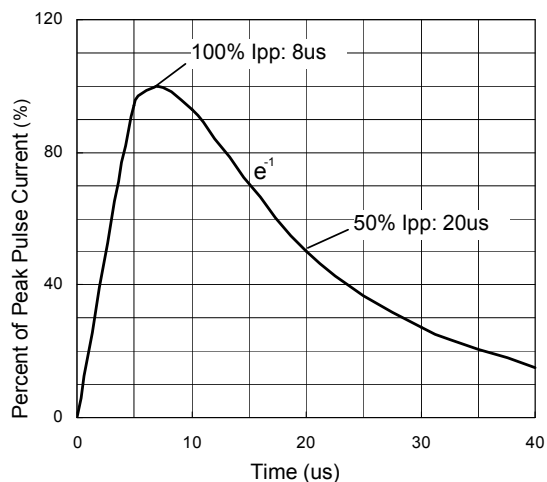


Figure 1. 8/20 us pulse waveform according to IEC 61000-4-5

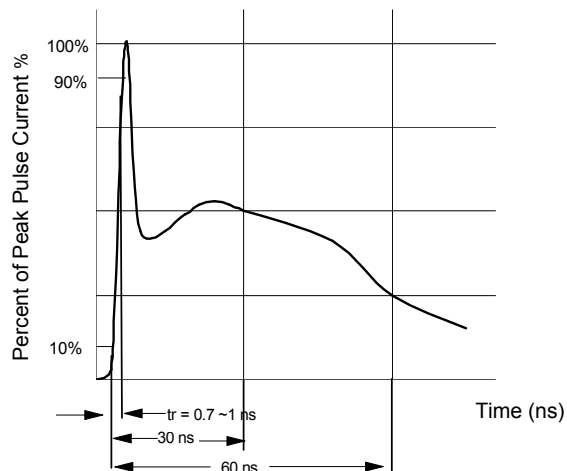


Figure 2. ESD pulse waveform according to IEC 61000-4-2

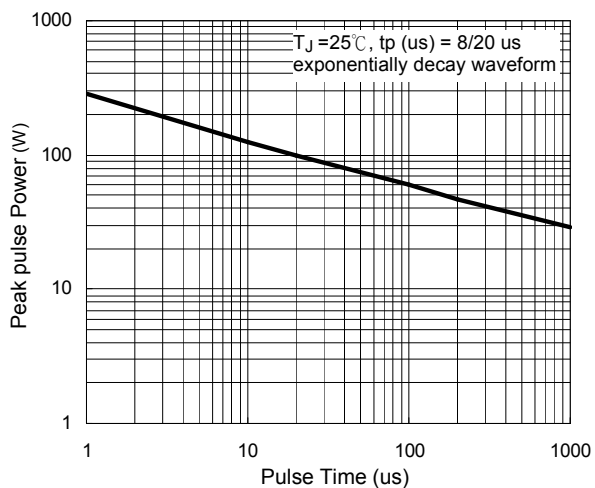


Figure 3. Power Dissipation versus Pulse Time

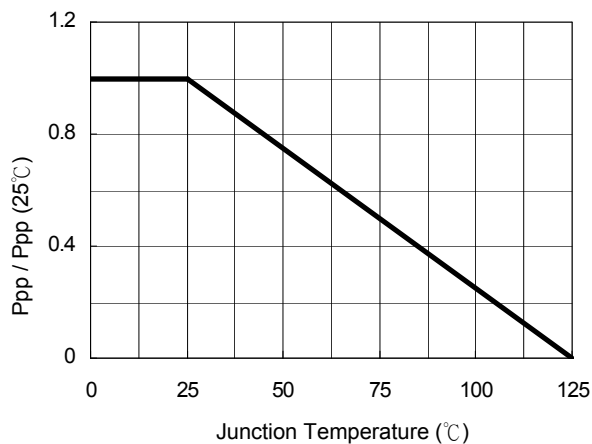


Figure 4. Peak pulse power versus T<sub>J</sub>

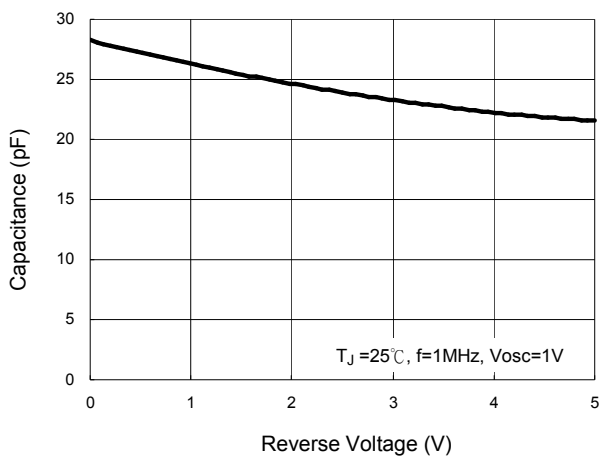


Figure 5. Typical Junction Capacitance

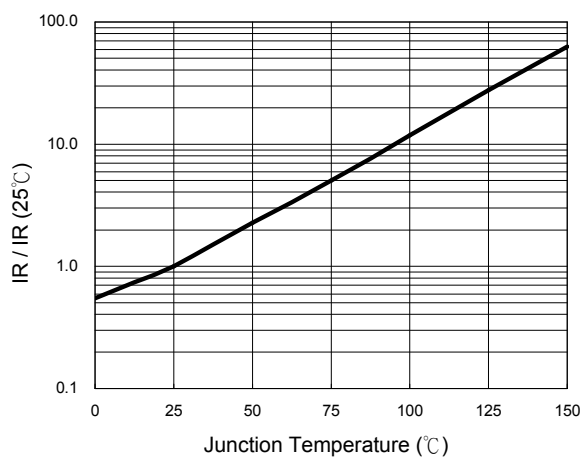


Figure 6. Reverse Leakage Current versus T<sub>J</sub>

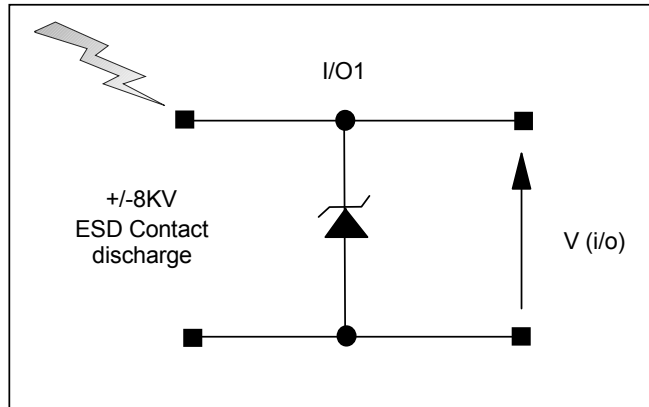


Figure 7. ESD Test Configuration

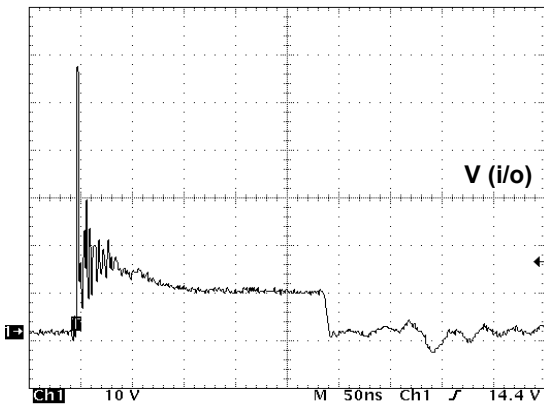


Figure 8. Clamped +8 kV ESD voltage waveform

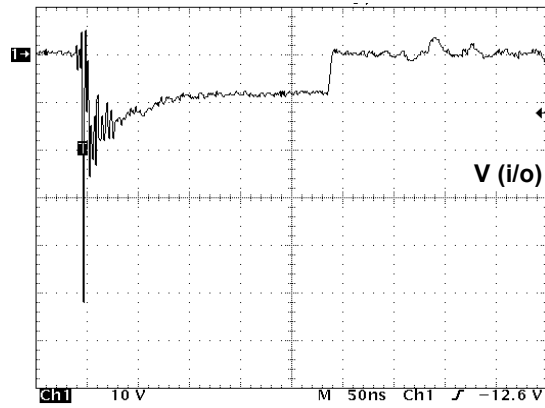


Figure 9. Clamped -8 kV ESD voltage waveform