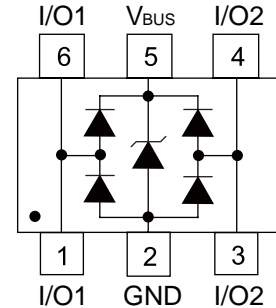


Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ±30kV
 - Contact discharge: ±30kV
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 5A (8/20µs)
- RoHS Compliant



Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

Mechanical Characteristics

- Package: SOT-563

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	Ppk	100	W
Peak Pulse Current (8/20µs)	Ipp	5	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6.5			V	IT = 1mA
Reverse Leakage Current	IR			0.08	uA	VRWM =5V
Clamping Voltage	VC			10	V	I _{PP} = 1A (8 x 20µs pulse)
Clamping Voltage	VC			16	V	I _{PP} = 4.5A (8 x 20us pulse)
Junction Capacitance	CJ		0.8	0.9	pF	VR = 0V, f = 1MHz (IO to GND)
Junction Capacitance	CJ		0.3		pF	VR = 0V, f = 1MHz (IO to IO)

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

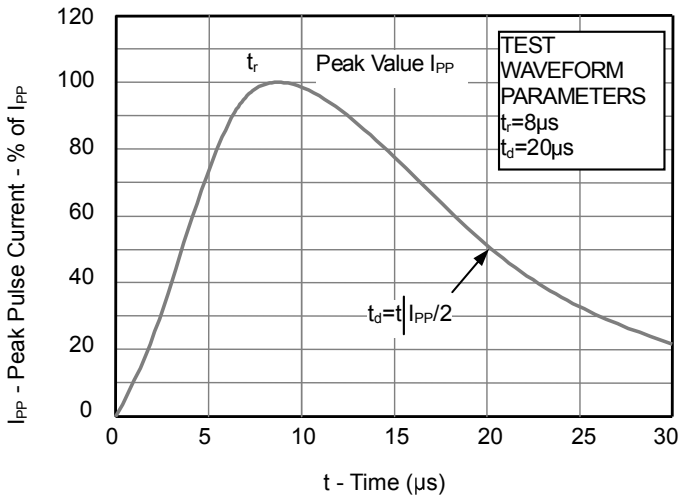


Fig1. 8/20µs Pulse Waveform

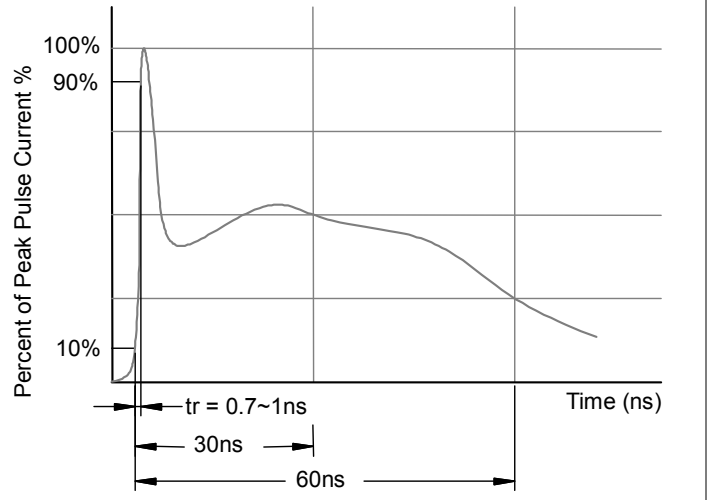


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

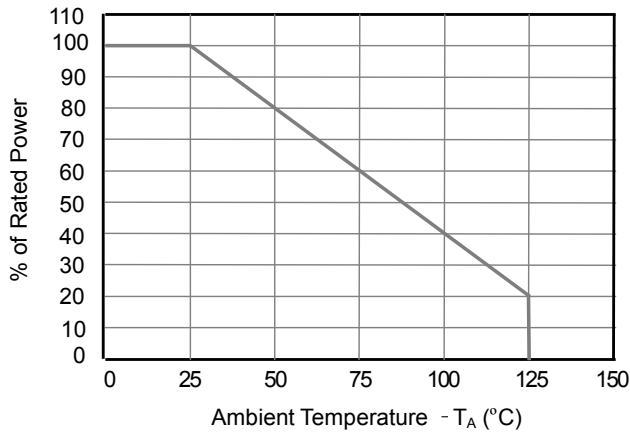


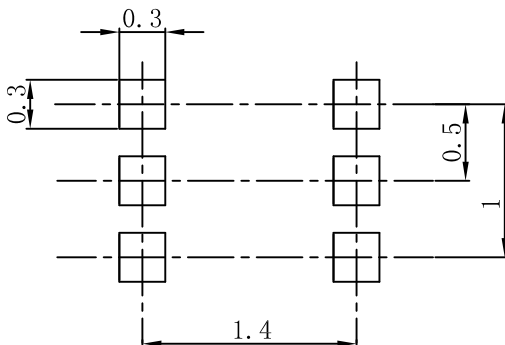
Fig3. Power Derating Curve

SOT-563 Package Outline Dimensions



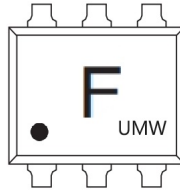
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.525	0.600	0.021	0.024
A1	0.000	0.050	0.000	0.002
e	0.450	0.550	0.018	0.022
c	0.090	0.160	0.004	0.006
D	1.500	1.700	0.059	0.067
b	0.170	0.270	0.007	0.011
E1	1.100	1.300	0.043	0.051
E	1.500	1.700	0.059	0.067
L	0.100	0.300	0.004	0.012
L1	0.200	0.400	0.008	0.016
theta	7 ⁰ REF.		7 ⁰ REF.	

SOT-563 Suggested Pad Layout



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

Marking



Ordering information

Order code	Package	Base qty	Delivery mode
UMW USBLC6-2P6	SOT-563	3000	Tape and reel