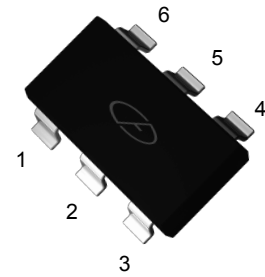


**Features**

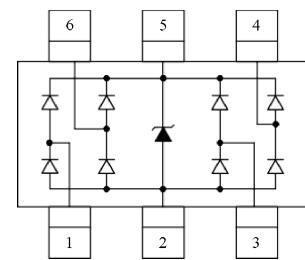
- Low clamping voltage
- Low leakage current
- Ultra low capacitance (0.20 pF typical I/O to I/O)
- ESD Protection for high-speed data lines to:  
 IEC 61000-4-2 ±20KV contact; ±25KV air  
 IEC 61000-4-4 (EFT) 40A (5/50ns)



**Package: SOT-363**

**Applications**

- Serial ATA
- MDDI ports
- USB 2.0/3.0 power and data line protection
- Display ports
- High definition multi-media interface (HDMI)
- Digital visual interface (DVI)



**Schematic Diagram**

**Absolute Maximum Ratings** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

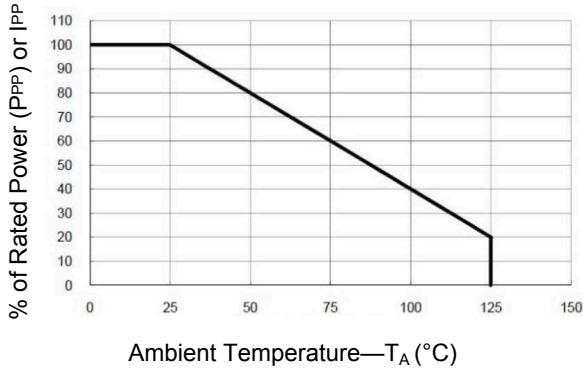
Parameter	Symbol	Value	Unit
Peak Pulse Power ( $T_P=8/20 \mu\text{S}$ )	$P_{PP}$	60	W
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	±25	KV
ESD per IEC 61000-4-2 (Contact)		±20	KV
Operating Temperature	$T_{OPT}$	-55 to +125	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

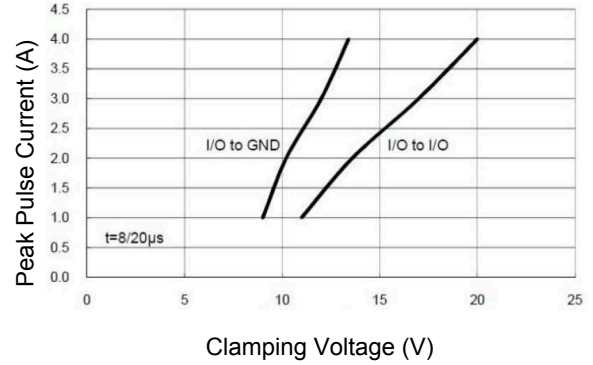
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$	Any I/O pin to GND	-	-	5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$ Any I/O pin to GND	6	-	9	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5\text{V}$ Any I/O pin to GND	-	-	1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP}=1\text{A}, T_P=8/20\mu\text{s}$ Any I/O pin to GND	-	-	10	V
		$I_{PP}=4\text{A}, T_P=8/20\mu\text{s}$ Any I/O pin to GND	-	-	15	V
		$I_{PP}=8\text{A}, T_P=8/20\mu\text{s}$ Any I/O pin to GND	-	-	15	V
Parasitic Capacitance	$C_{ESD}$	$V_R=0\text{V}, F=1\text{MHz}$ Between I/O and I/O	-	0.2	0.3	pF
		$V_R=0\text{V}, F=1\text{MHz}$ Between I/O and I/O	-	0.45	0.5	pF
		$V_R=0\text{V}, F=1\text{MHz}$ Between I/O and I/O	-	0.8	-	pF

Note: I/O Pins are pin 1,3,4,6. Pin 5 is  $V_{CC}$ . Pin 2 is GND.

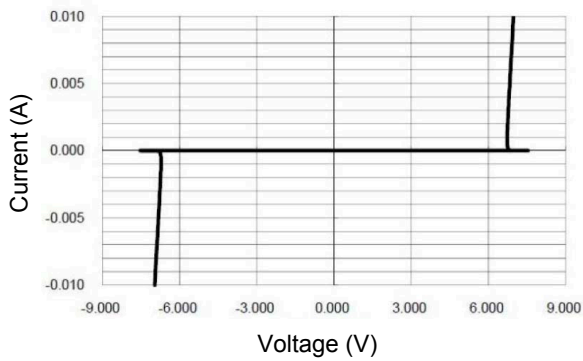
**Typical Characteristic Curves**



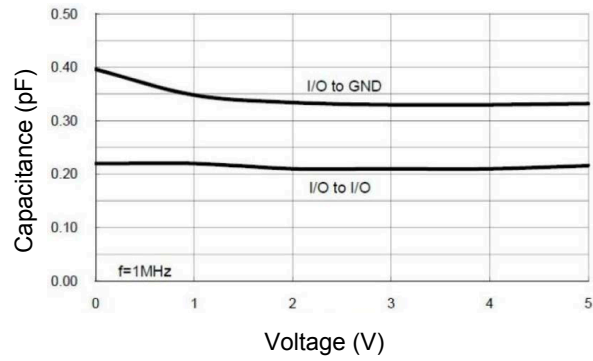
**Figure 1. Pulse Derating Curve**



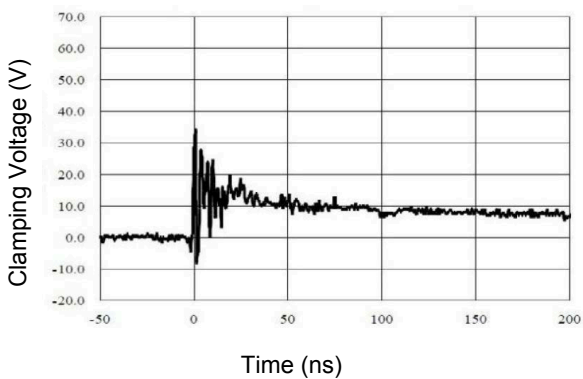
**Figure 2. Clamping Voltage vs. Peak Pulse Current**



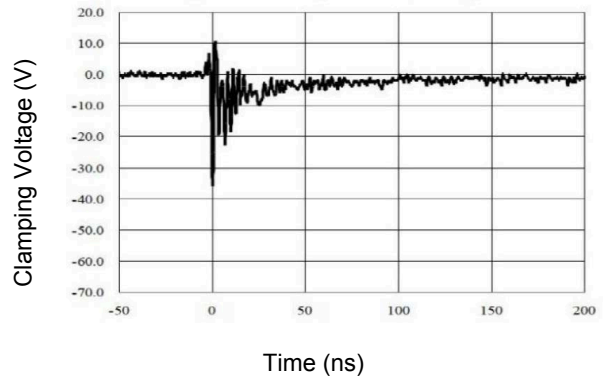
**Figure 3. Voltage Sweeping of I/O to I/O**



**Figure 4. Voltage vs Capacitance**

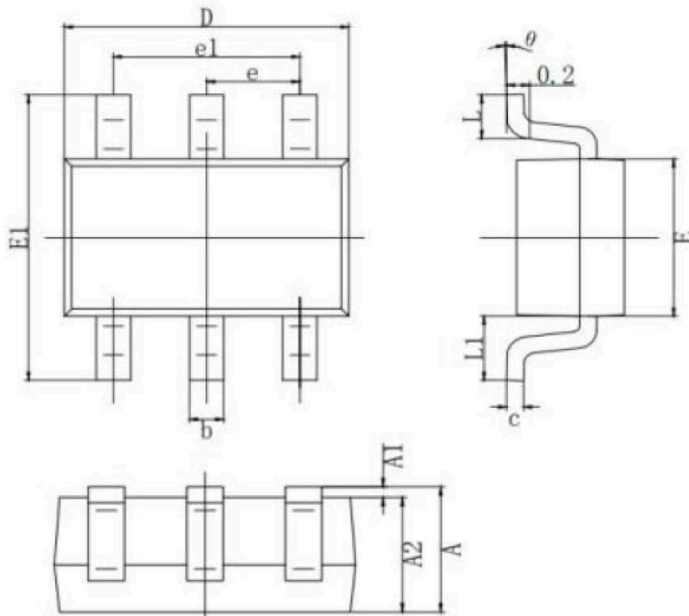


**Figure 5. IEC61000-4-2 +8kV Contact Discharge**



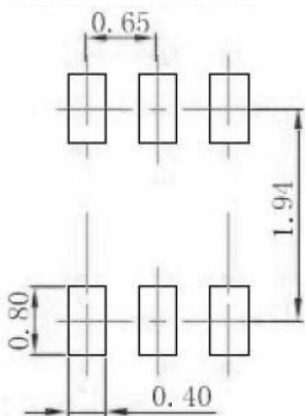
**Figure 6. IEC61000-4-2 -8kV Contact Discharge**

**Package Outline Dimensions SOT-363**



Symbol	Dimensions in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
theta	0°	8°

**Recommended Pad Layout**



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$ .
  3. The pad layout is for reference purposes only.