

Features

- Uni-directional ESD protection of two lines
- 38Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 0.3pF (Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 25kV$ contact $\pm 25kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3.5A (8/20 μs)

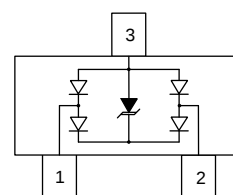
Applications

- USB2.0 and USB3.0
- HDMI1.3 and HDMI1.4
- SATA and eSATA
- Portable Electronics
- DVI

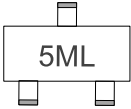
Mechanical Data

- Package: SOT-23
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
ESD5302F-3/TR	SOT-23		3000 Tape & Reel	7 inches

Absolute Maximum Rating($T_A=25^{\circ}\text{C}$ unless otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{pk}	38	W
Peak Pulse Current (8/20 μs)	I_{PP}	3.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	25 25	kV
Lead Soldering Temperature	T_L	260(10seconds)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +125	$^{\circ}\text{C}$

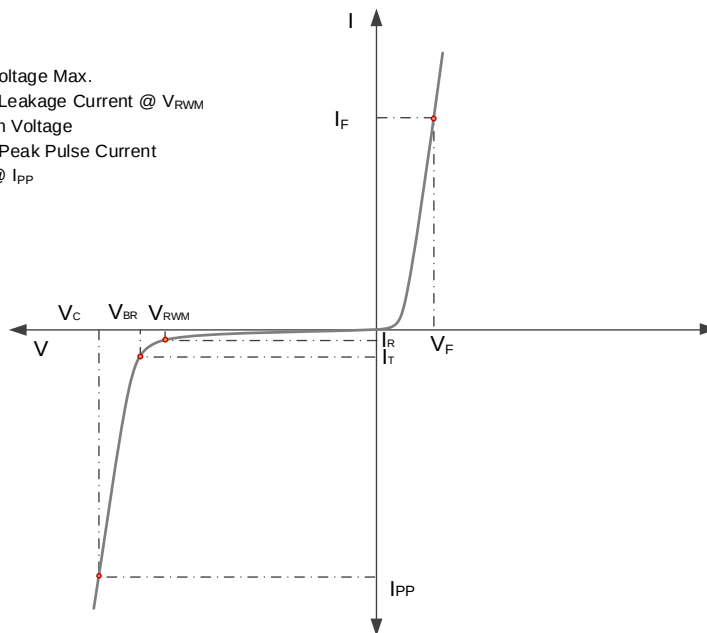
Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise Specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}, T=25^{\circ}\text{C}$			0.5	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu\text{s}$			3.5	A
Clamping Voltage	V_C	$I_{PP} = 3.5\text{A}$ (8 x 20 μs pulse)			11	V
Junction Capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$ pin1/pin2 to pin3		0.6	0.8	pF
Junction Capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$ pin1 to pin2		0.3	0.5	pF



Electrical Parameters ($T_A = 25^\circ\text{C}$ unless otherwise noted)

- V_{RWM} Reverse Working Voltage Max.
- I_R Maximum Reverse Leakage Current @ V_{RWM}
- V_{BR} Reverse Breakdown Voltage
- I_{PP} Maximum Reverse Peak Pulse Current
- V_C Clamping Voltage @ I_{PP}



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

Figure 1: Peak Pulse Power vs. Pulse Time

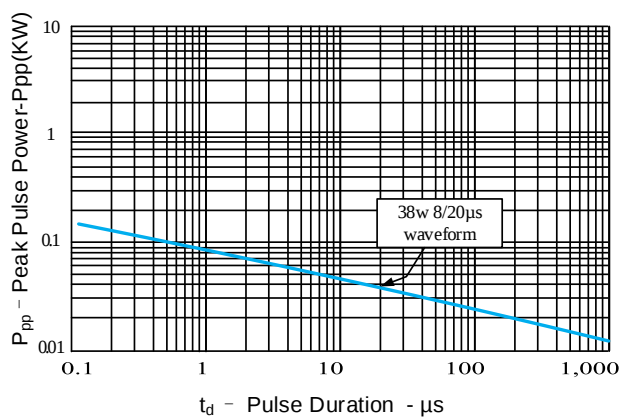


Figure 2: Power Derating Curve

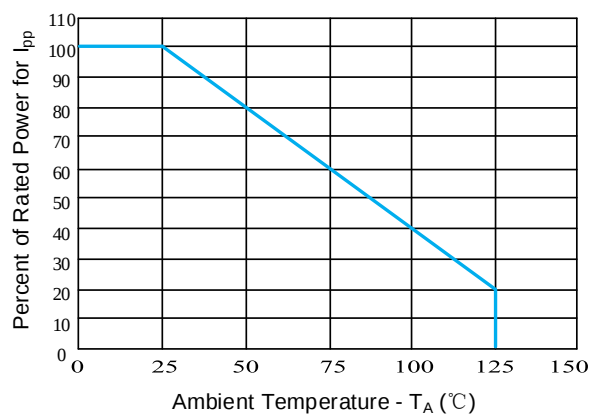


Figure 3: Pulse Waveform

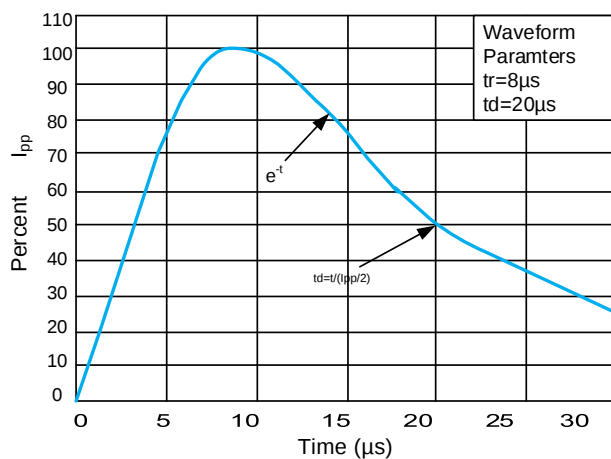
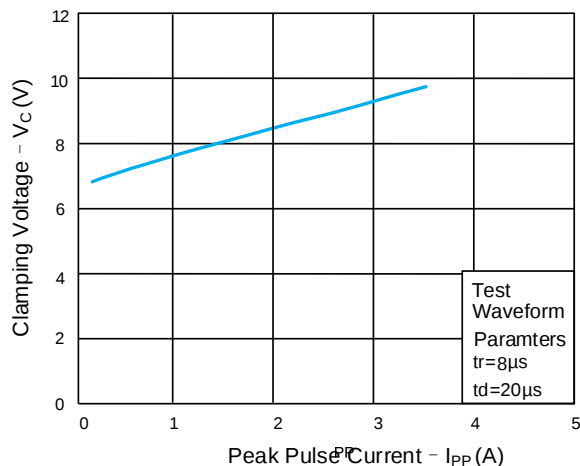
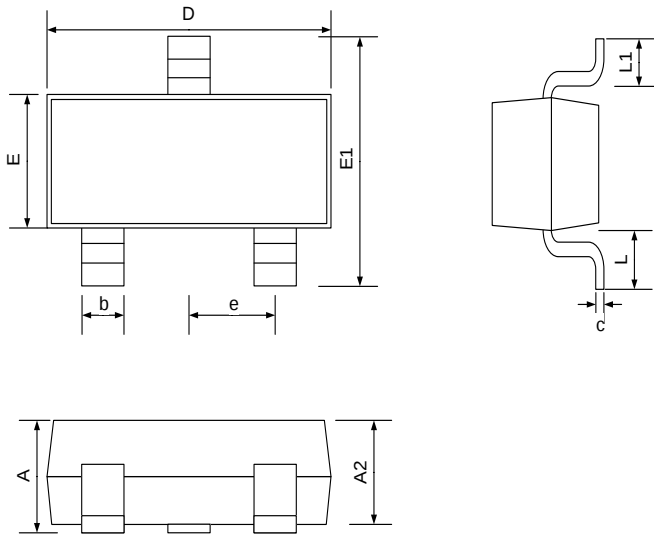


Figure 4: Clamping Voltage vs. I_PP





Outline Drawing – SOT23



COMMON DIMENSION (mm)			
PKG	SOT23		
REF.	MIN.	NOM.	MAX.
A	0.900		1.150
A2	0.900		1.050
b	0.300		0.500
c	0.080		0.150
D	2.800		3.000
E	1.200		1.400
E1	2.250		2.550
e		0.950	
L		0.550	
L1	0.300		0.500