PESD5V2S2UT ESD Protection Diode

Feature

- Uni-directional ESD protection of two lines
- 220 Watts peak pulse power (tp = 8/20μs)
- Working voltage: 5V
- Junction capacitance: 190pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 20A (8/20μs)

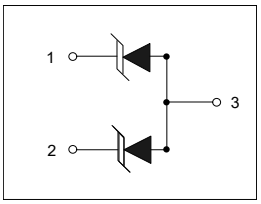
Application

- Dataline
- Automatic Teller Machines
- Net works
- Power line

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
PESD5V2S2UT	SOT-23	5M2	3000 Tape & Reel	7 inches

Absolute Maximum Rating (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	220	W
Peak Pulse Current (8/20μs)	I_{PP}	20	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Junction Temperature	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +125	°C

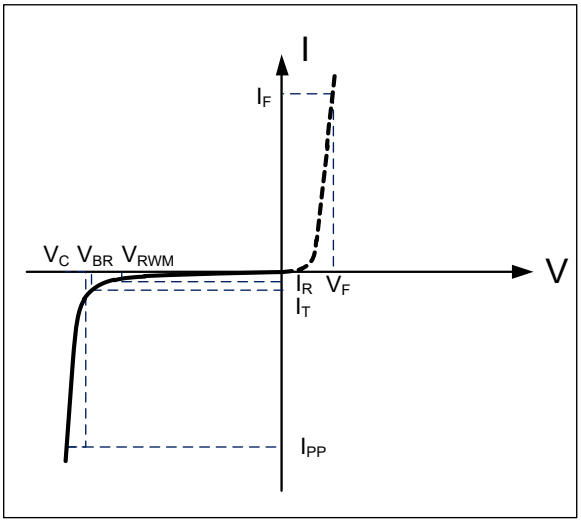
Electrical Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6			V
Reverse Leakage Current	I_R	V_{RWM}=5V,T=25℃		0.5	1.0	μA
Peak Pulse Current	I_{PP}	tp =8/20μs			20	A
Clamping Voltage	V_C	I_{PP}=20A,t_p=8/20μs		11		V
Junction Capacitance	Cj	V_R = 0V, f = 1MHz		190		pF

Electrical Parameters

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current

Note:. 8/20μs pulse waveform.



Typical Characteristic (T_A = 25°C unless otherwise noted)

Figure 1: Peak Pulse Power vs. Pulse Time

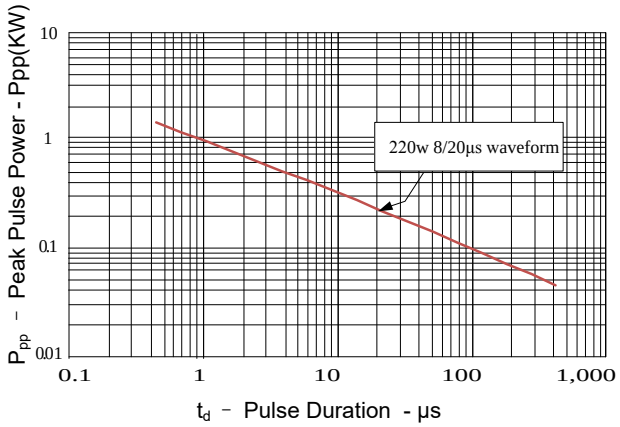


Figure 2: Power Derating Curve

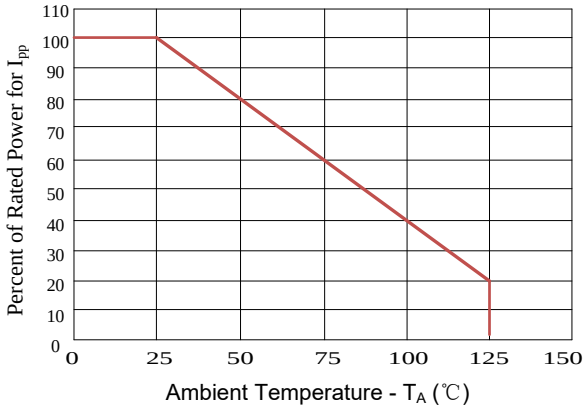


Figure3: Pulse Waveform

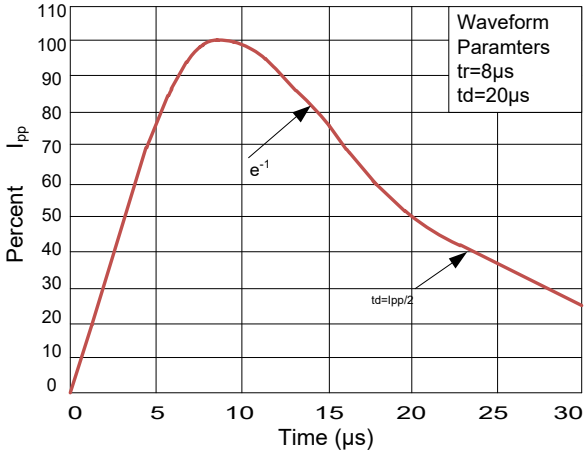
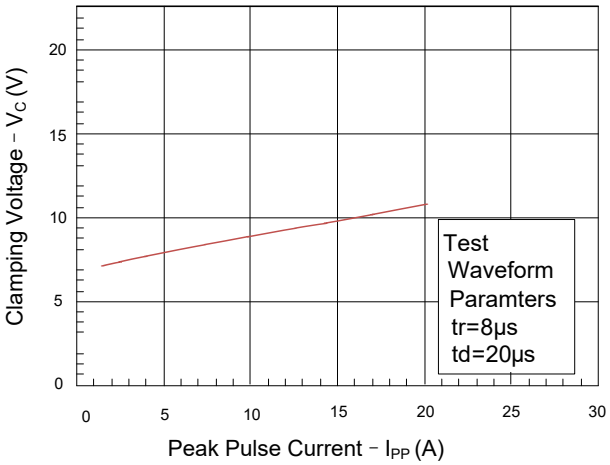
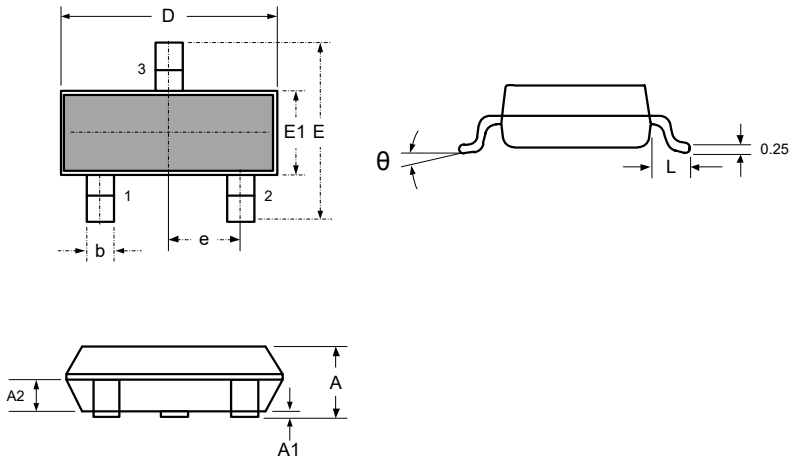


Figure 4: Clamping Voltage vs.Ipp



Outline Drawing –SOT-23



DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.500	0.012	0.020
θ	0	8°	0	8°