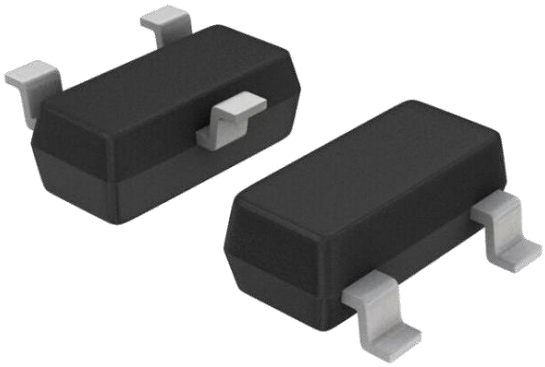
SM05T1G-N

ESD Protection Diode Array

»Features

- 300 Watts peak pulse power (tp = 8/20μs)
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (C_j=120 pF typ.)
- Protection two data lines
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 17A(8/20μs)



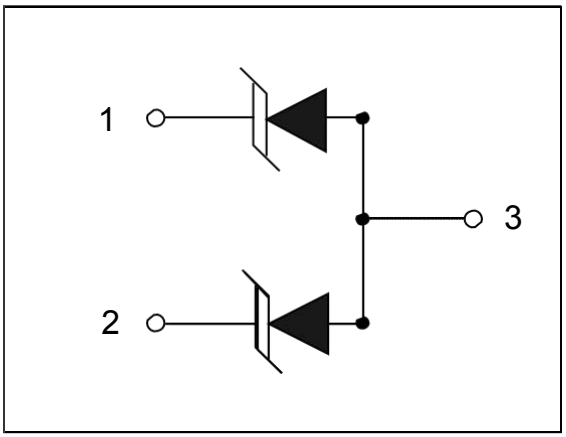
»Applications

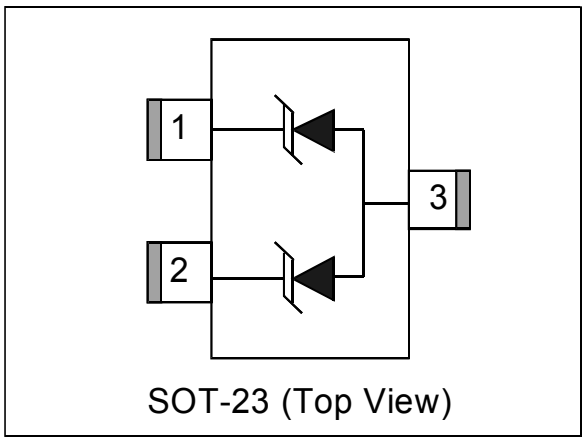
- Dataline
- Automatic Teller Machines
- Net works
- Power line

»Mechanical Data

- SOT-23 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

»Schematic & PIN Configuration





»Absolute Maximum Rating

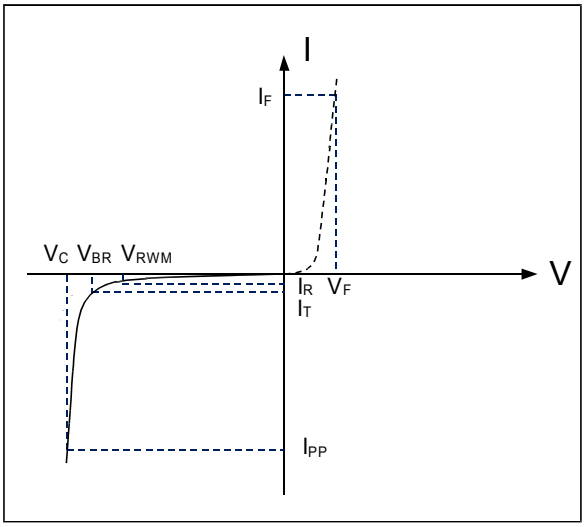
Rating	Symbol	Value	Units
Peak Pulse Power (t_p=8/20μs)	P_{PP}	300	Watts
Peak Pulse Current (t_p=8/20μs)(note1)	I_{pp}	17	A
ESD per IEC 61000-4-2(Air) ESD per IEC 61000-4-2(Contact)	V_{ESD}	30 30	kV
Lead SolderingTemperature	T_L	260(10seconds)	℃
JunctionTemperature	T_J	-55 to + 125	℃
StorageTemperature	T_{stg}	-55 to + 125	℃

»Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-OffVoltage	V_{RWM}				5	V
Reverse BreakdownVoltage	V_{BR}	I_T=1mA	6.0	7.0	8.5	V
Reverse LeakageCurrent	I_R	V_{RWM}=5V,T=25℃		0.5	1	μA
Peak PulseCurrent	I_{PP}	tp =8/20μs			17	A
Clamping Voltage	V_C	I_{PP}=10A,t_p=8/20μs		12	15	V
		I_{PP}=17A,t_p=8/20μs			16	V
JunctionCapacitance	C_j	V_R = 0V, f =1MHz (pin1 、pin2 topin3)		150		pF

»Electrical Parameters (TA = 25°C unless otherwisenoted)

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 pulsewaveform.

»TypicalCharacteristics

Figure 1: Peak Pulse Power vs. Pulse Time

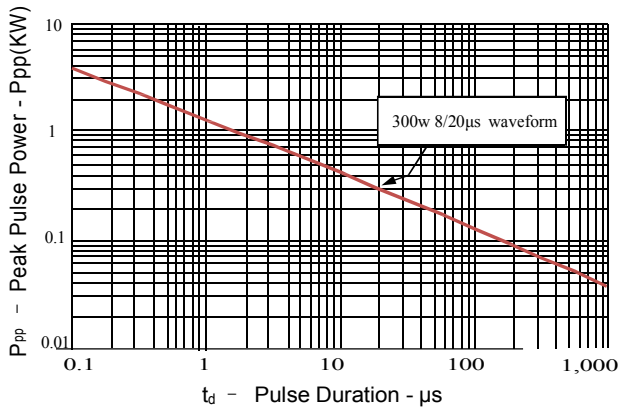


Figure 2: Power Derating Curve

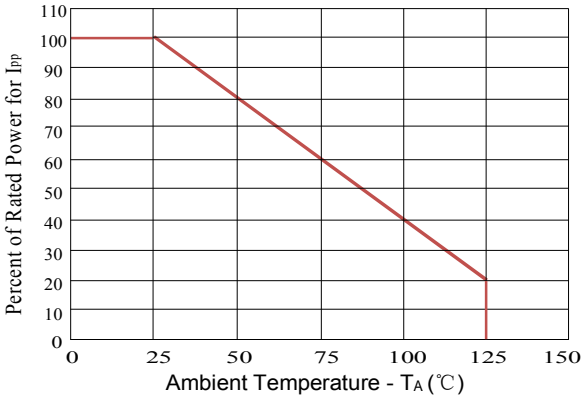


Figure3: Pulse Waveform

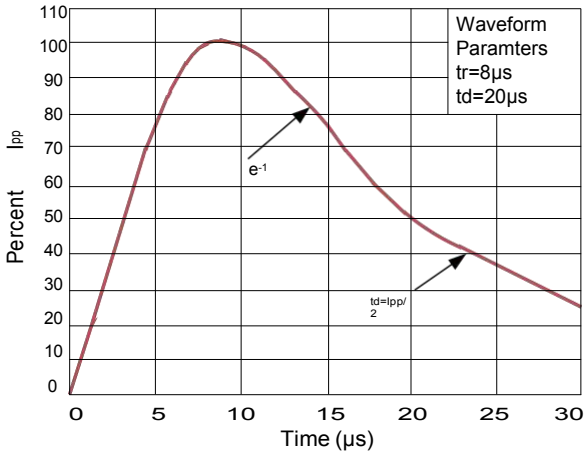
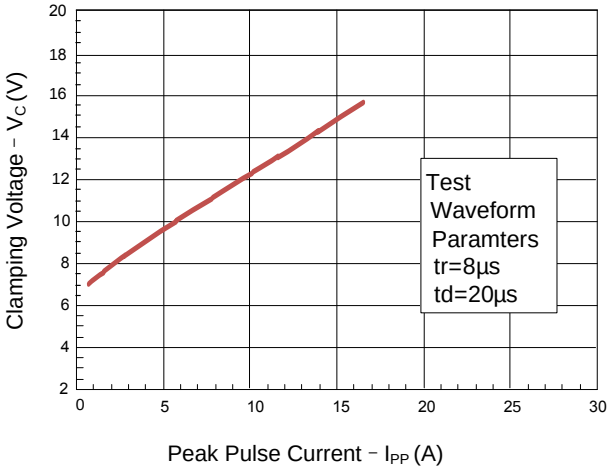
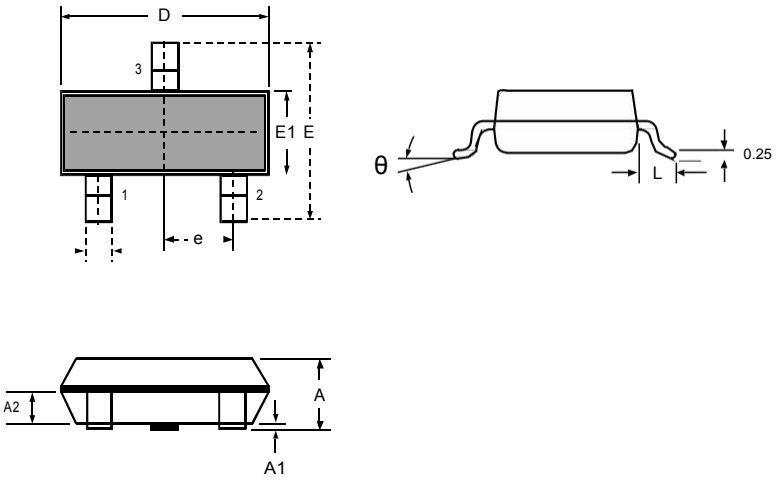


Figure 4: Clamping Voltage vs.Ipp



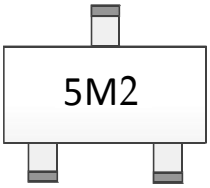
»Outline Drawing – SOT-23



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°

»Marking



»Ordering information

Order code	Package	Base qty	Delivery mode
SM05T1G-N	SOT-23	3k	Tape and reel

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

BORN:

MMBZ39VCLT1G-N PESD15VL1BA-N PSD24-N BAT46X MMBZ27VCLT1G-N BN5A181V45 BSD3A241V BWF102N S8550 SM24CANB-02HTG-N 5.0SMDJ15CA BSD3A031V 1N4148WT BC858B BDFN1C031V SMFJ170A 1.5SMBJ18CA BML6401 BST23A052U ESDA14V2L GBJ1510 P4SMA6.8CA SMD2920-400/30N 1.5SMBJ40CA BM3134E 1.0SMBJ6.5A BDFN2C031V BSD3C031LX BSD9C051V GBLC03C-N