SR05-L

ESD Protection Diode Array

Features

40Watts peak pulse power (tp = 8/20μs)

Tiny SOT143 package

Bidirectional configurations

Solid-state silicon-avalanche technology

Low clamping voltage

Low leakage current

Low capacitance (Cj=0.35pF typ I/O to I/O.)

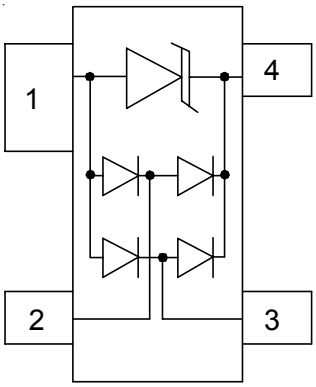
Protection one data/power line

IEC 61000-4-2 ±15kV contact ±20kV air

IEC 61000-4-4 (EFT) 40A (5/50ns)

IEC 61000-4-5 (Lightning) 3.5A (8/20μs)

SOT143



Applications

USB2.0,

Ethernet

Notebooks, Desktops, and Servers

Video Line Protection

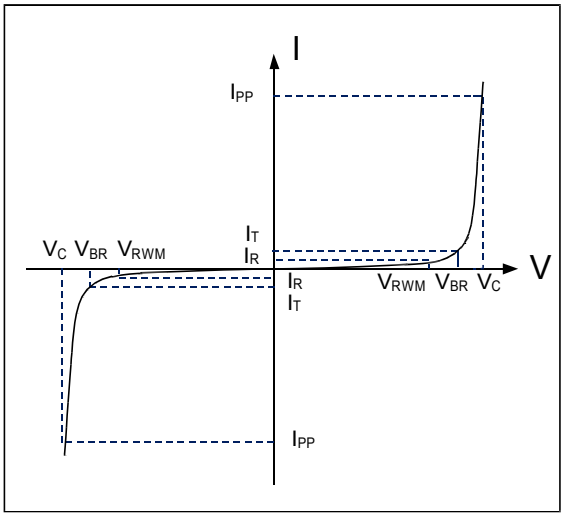
Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	40	Watts
Peak Pulse Current (t_p =8/20μs) (note1)	I_{pp}	3.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	20 15	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 125	℃

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

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6.0	7.2		V
Reverse Leakage Current	I_R	V_{RWM}=5V,T=25℃		50	500	nA
Clamping Voltage	V_C	I_{PP}=3.5A,t_p=8/20μs		10		V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz IO to IO		0.35		pF
		V_R = 0V, f = 1MHz IO to GND		0.65		

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 Performance Characteristics (T_A=25°C unless otherwise Specified)

Figure 1: Peak Pulse Power vs. Pulse Time

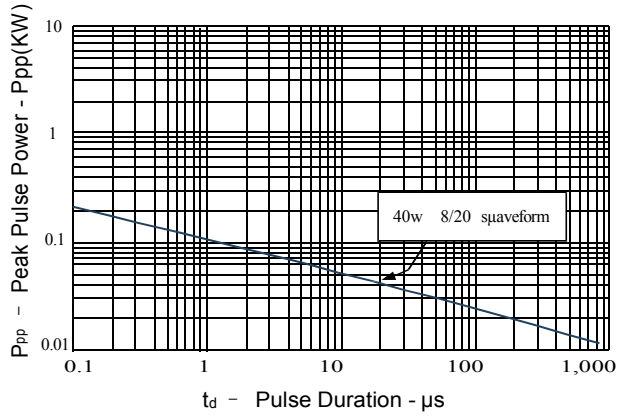


Figure 2: Power Derating Curve

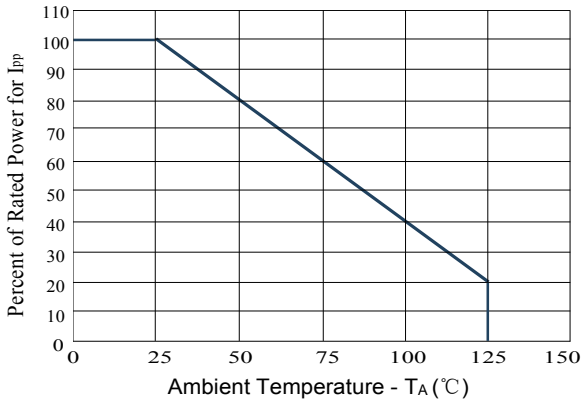


Figure3: Pulse Waveform

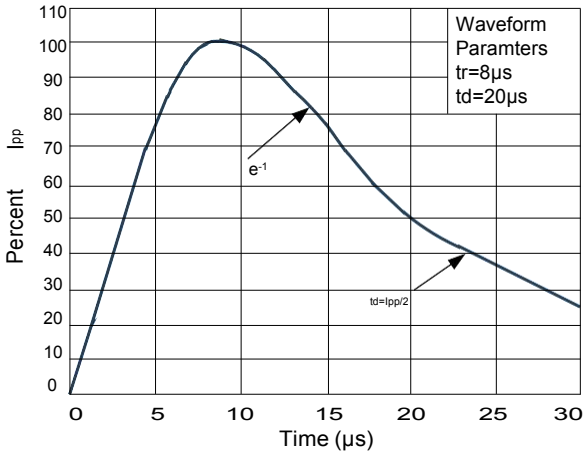
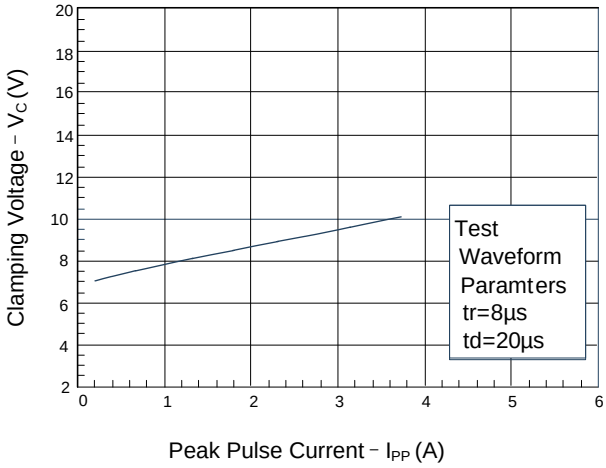
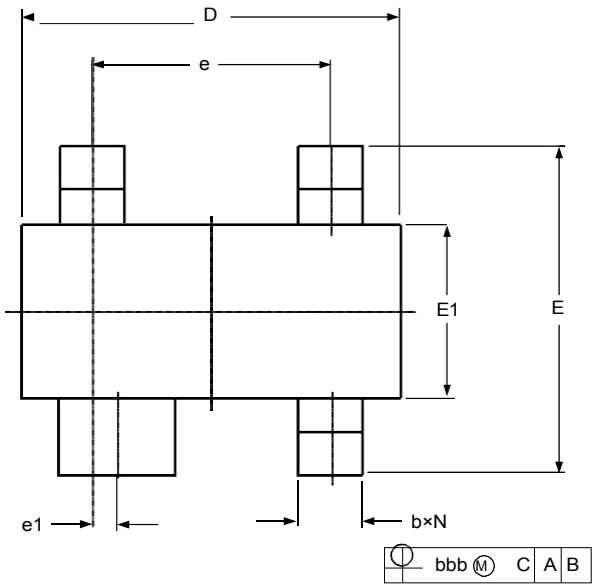


Figure 4: Clamping Voltage vs.Ipp



Outline Drawing – SOT143



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
b	0.300	0.500	0.012	0.020
b1	0.750	0.900	0.030	0.035
D	2.800	3.000	0.110	0.118
e	1.800	2.000	0.071	0.079
e1	0.200TYP		0.008TYP	
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
θ	0°	8°	0°	8°
aaa	.006		0.15	
bbb	.008		0.20	
ccc	.004		0.10