Features

- 100Watts peak pulse power(tp=8/20μs)
- Tiny SOT143 package
- Bidirectional configurations
- Solid-state silicon-avalanche technolog
- Low clamping voltage
- Low leakage current
- Low capacitance(Cj=0.3pFtypI/OtoI/O.)
- Protection one data/power line to:
- IEC61000-4-2±15kV contact±20kV air
- IEC61000-4-4(EFT)40A(5/50ns)
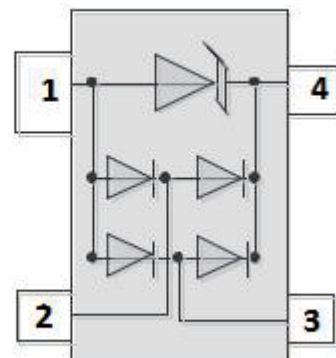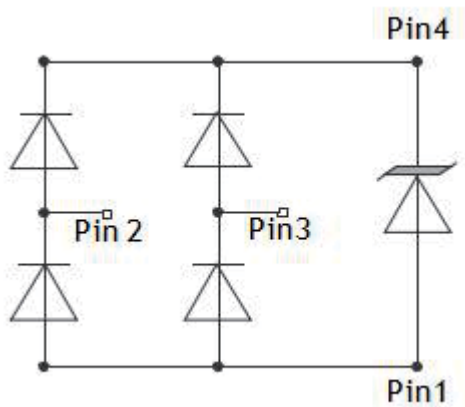- IEC61000-4-5(Lightning)6A(8/20μs)

Applications

- USB2.0,
- Ethernet
- Notebooks,Desktops,and Servers
- Video Line Protection

MechanicalData

- SOT143 package
- Molding compound flammability rating:UL94V-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}	100	Watts
Peak Pulse Current (t $_p$ =8/20μs)(note1)	I_{pp}	6	A
ESDperIEC61000-4-2(Air) ESDperIEC61000-4-2(Contact)	V_{ESD}	20 15	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55to+125	℃
Storage Temperature	T_{stg}	-55to+125	℃

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Break down Voltage	V_{BR}	I_T=1mA	6.0	6.8	8.5	V
Reverse Leakage Current	I_R	V_{RWM}=5V,T=25℃		50	500	nA
Clamping Voltage	V_C	I_{PP}=6A,t_p=8/20μs		14	16	V
Junction Capacitance	C_j	V_R =0V,f=1MHz IOtoIO		0.3	0.4	pF
		V_R =0V,f=1MHz IOtoGND		0.6	0.8	

Electrical Parameters(TA=25°C unless otherwise noted)

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}	Break down Voltage @I_T
I_T	Test Current
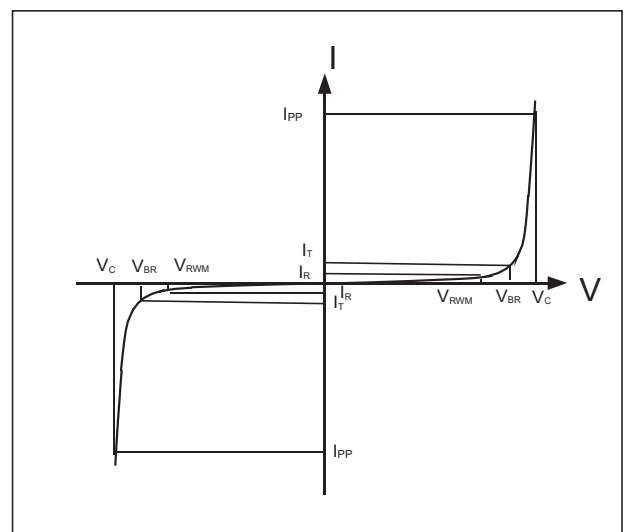
Note:. 8/20μs pulse wave form.

Typical   Characteristics

Figure1:   PeakPulsePowervs.PulseTime

100w8/20 sμaveform

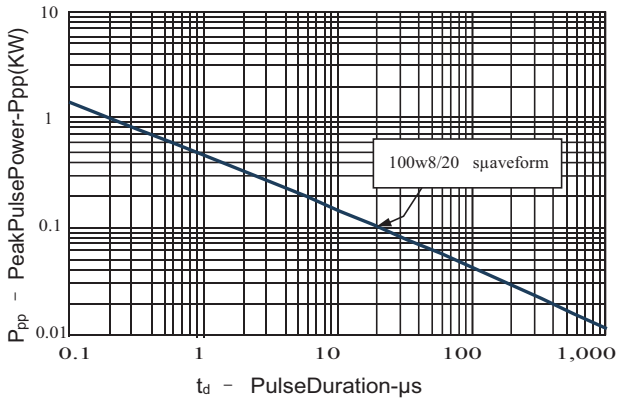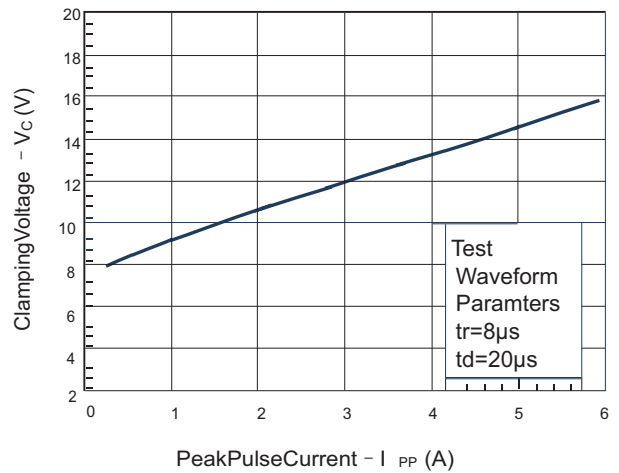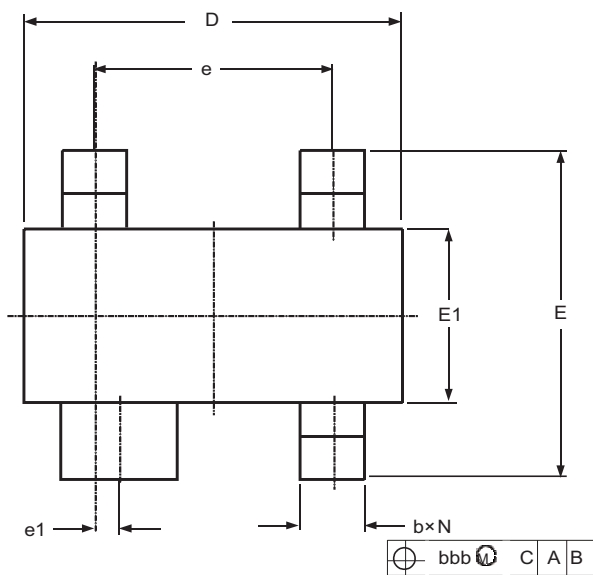**Figure2:   PowerDerating   Curve**

Figure3: Pulse Waveform

Waveform
Paramters
tr=8μs
td=20μs

e^{-1}

td=Ipp/2
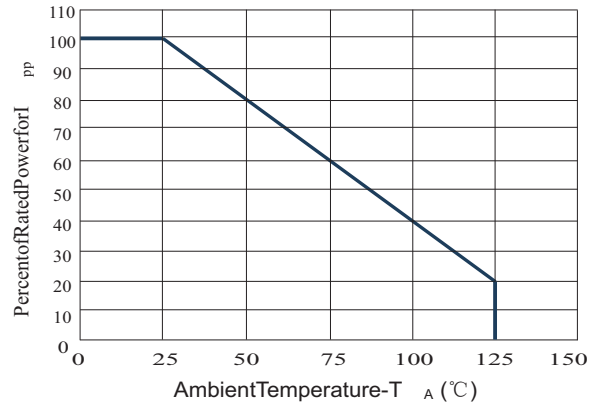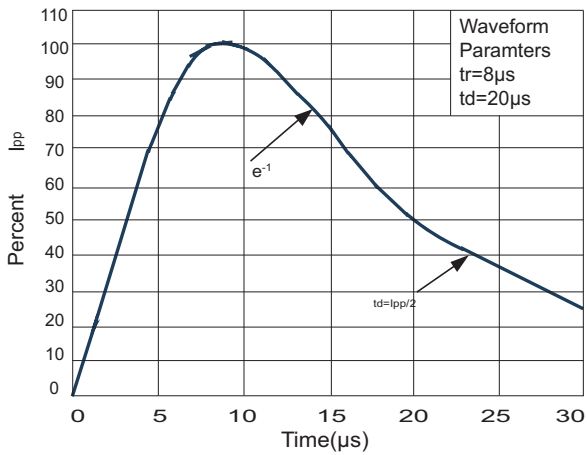
Figure4:   Clamping Voltage   vs.Ipp

Test
Waveform
Paramters
tr=8μs
td=20μs

OutlineDrawing–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	

Marking

5RA
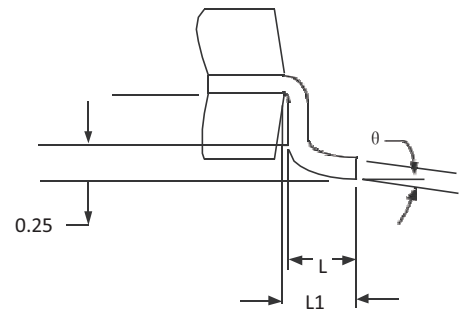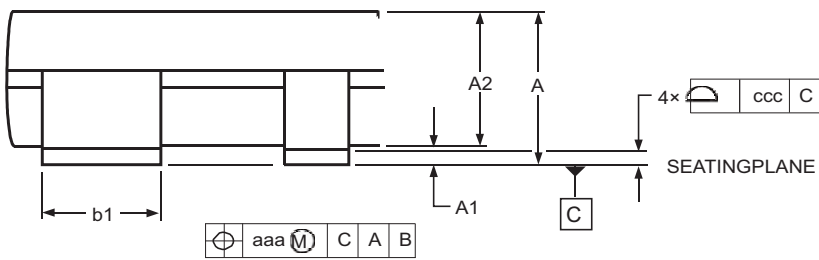
Orderinginformation

Ordercode	Package	Baseqty	Deliverymode
ESDT143A5V03R	SOT143	3k	Tapeandreel