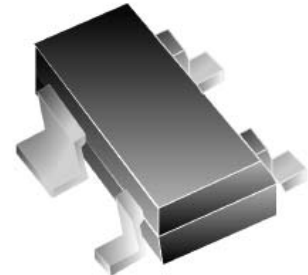


FEATURES

- ✧ Uni-directional ESD protection of two lines
- ✧ Working voltage: VRWM= 5V
- ✧ Low leakage current
- ✧ Ultra low capacitance
- ✧ Compliant to Halogen-free
- ✧ Suffic "-Q1" for AEC-Q101



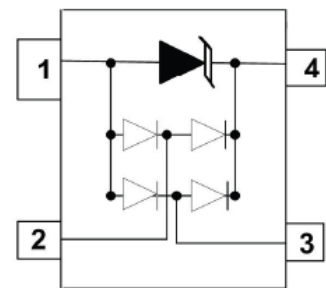
SOT-143

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) $\pm 25\text{kV}$ (air), $\pm 25\text{kV}$ (contact)

MAIN APPLICATIONS

- ✧ 100BASE-T1 / OPEN Alliance BroadR-Reach automotive Ethernet



PIN Configuration

MECHANICAL CHARACTERISTICS

- ✧ SOT-143 package
- ✧ Molding compound flammability rating : UL 94V-0
- ✧ Terminals: Matte tin-plated leads; solderability-per MIL -STD-202, Method 208
- ✧ Marking code : S5

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
IEC 61000-4-2; ESD (Air)	V _{ESD-A}	±25	kV
IEC 61000-4-2; ESD (Contact)	V _{ESD-C}	±25	kV
Peak Pulse Power (t _p = 8/20μs)	P _{PP}	90	W
Peak Pulse Current (t _p = 8/20μs)	I _{PP}	3.5	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air ¹⁾	R _{θJA}	250	°C/W
Thermal Resistance Junction-to-Case ¹⁾	R _{θJC}	120	°C/W
Thermal Resistance Junction-to-Lead ¹⁾	R _{θJL}	150	°C/W
Operating Temperature	T _J	-55 ~ +150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

1): The data tested by surface mounted on a 1 inch² FR-4 board with 20Z copper

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	V _{RWM}		-	-	5	V
Reverse Breakdown Voltage	V _(BR)	I _T = 1mA	6	-	10	V
Reverse Leakage Current	I _R	V _{RWM} = 5V	-	-	1	μA
Clamping Voltage	V _C	I _{PP} = 1A (I/O to GND, t _p = 8/20μs)	-	-	10	V
		I _{PP} = 3.5A (I/O to GND, t _p = 8/20μs)	-	-	25	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHZ (I/O to I/O)	-	0.3	0.4	pF
		V _R = 0V, f = 1MHZ (I/O to GND)	-	0.5	0.8	pF

RATINGS AND CHARACTERISTICS CURVES ($T_A=25^\circ\text{C}$, unless otherwise noted)

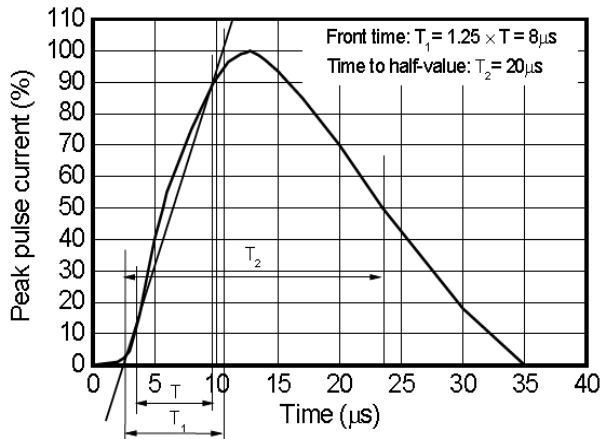


Fig 1 8/20μs waveform per IEC61000-4-5

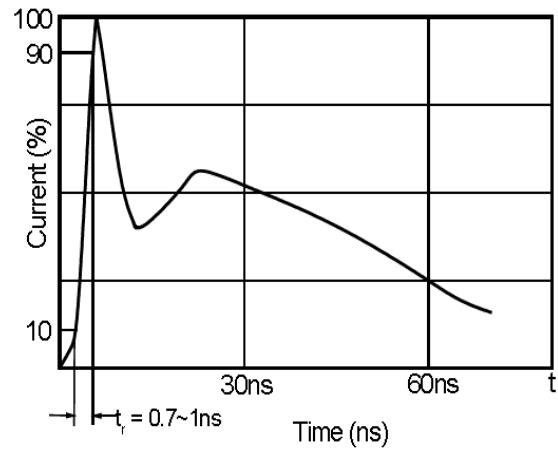


Fig 2 ESD pulse waveform according to IEC61000-4-2

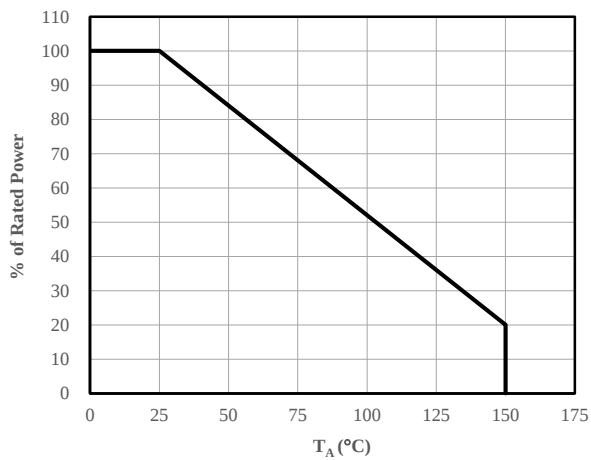


Fig 3 Power Derating Curve

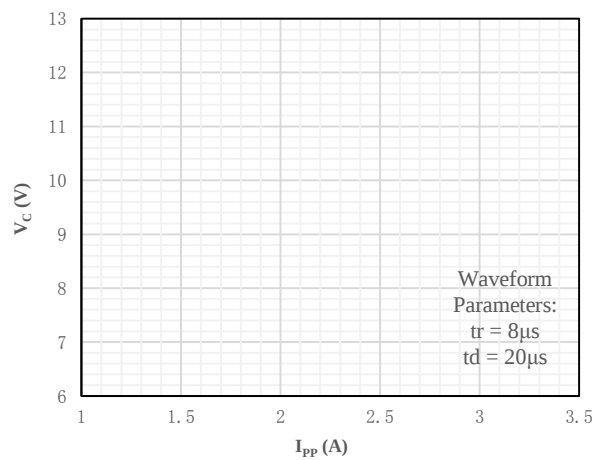
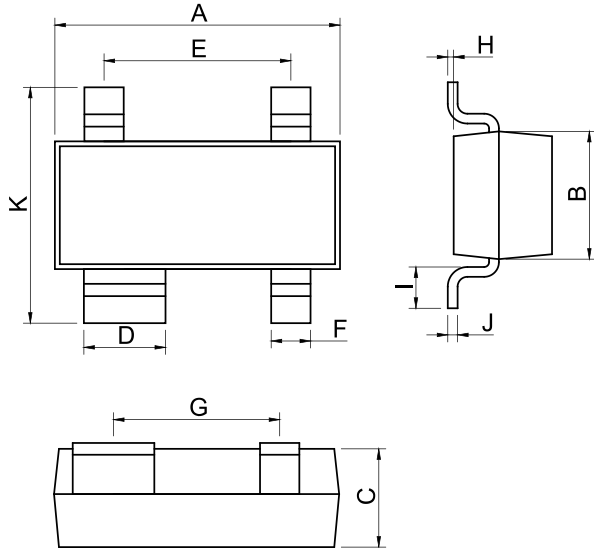


Fig 4 Clamping Voltage vs. Peak Pulse Current

SOT-143 PACKAGE MECHANICAL DATA



SOT-143		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.78	0.88
E	1.80	2.00
F	0.37	0.43
G	1.59	1.79
H	0.02	0.10
I	0.30	0.50
J	0.05	0.15
K	2.20	2.60

PACKAGE OUTLINE DIMENSIONS (Unit: mm)

