

1. Description

Ultra low capacitance double rail-to-rail Electro-Static Discharge (ESD) protection diode in a small SOT143B Surface-Mounted Device (SMD) plastic package. The device is designed to protect two high-speed data lines or high-frequency signal lines from the damage caused by ESD and other transients.

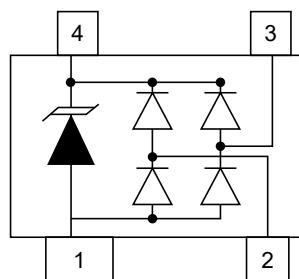
2. Features

- ESD protection of two high-speed data lines
- Ultra low capacitance: $C_d=1.8\text{ pF}$
- IEC 61000-4-2 up to 12 kV
- ISO 10605 (330 pF, 2 kΩ) up to 15 kV
- Very low reverse current

3. Applications

- Low-Voltage Differential Signaling (LVDS) automotive
- USB 2.0 automotive
- 100BASE-T1 / OPEN Alliance BroadR-Reach automotive Ethernet

4. Pinning information



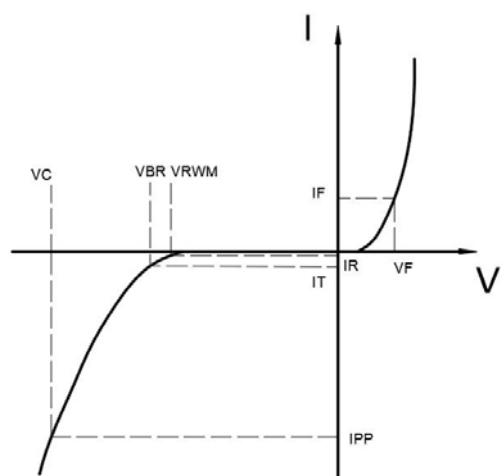
SOT-143



5. Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$		8	10	V
		$I_{PP} = 9\text{A}, t_p = 8/20\mu\text{s}$		15	18	V
Junction capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}, \text{I/O pin to I/O pin}$		0.6	0.8	pF
		$V_R = 0\text{V}, f = 1\text{MHz}, \text{I/O pin to GND}$		1.2	1.6	pF

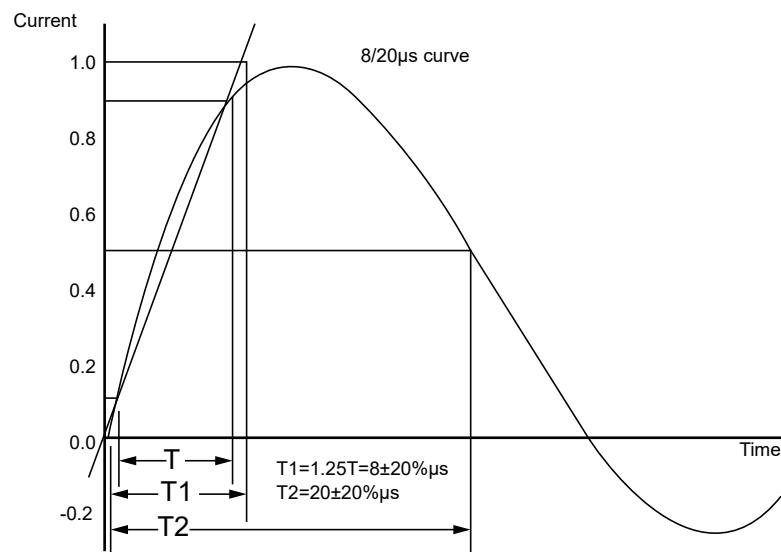
6. Electrical Parameters ($T_A = 25^\circ\text{C}$ unless otherwise noted)



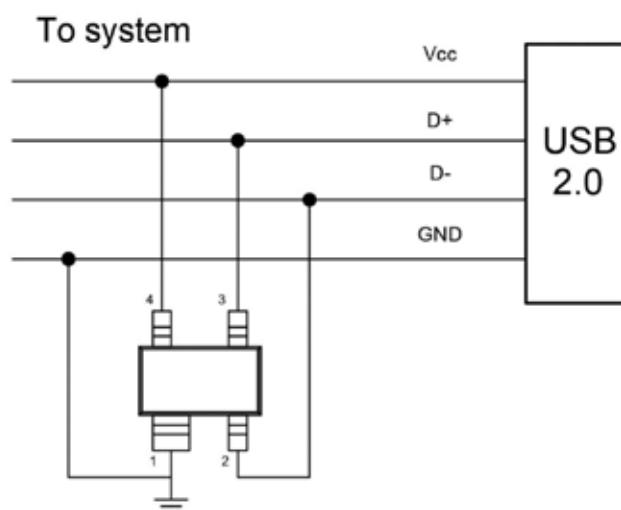
Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_F	Forward Current
V_F	Forward Voltage @ I_F



7.Typical Characteristic



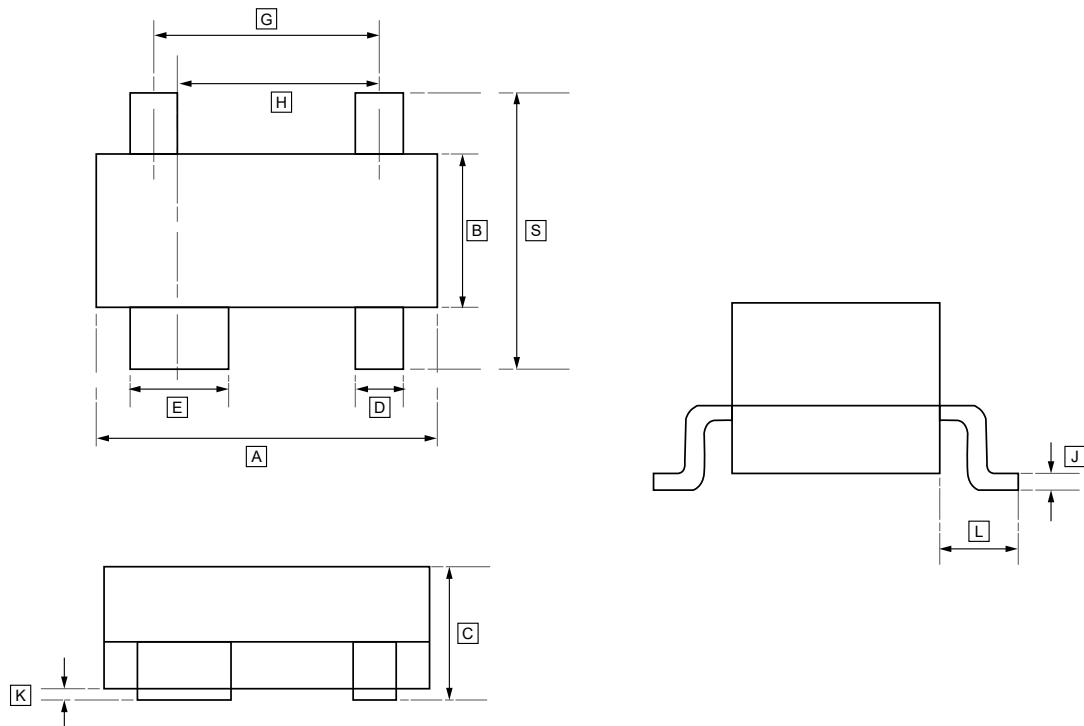
8.Typical Application



Typical Interface Application



9.SOT-143 Package Outline Dimensions

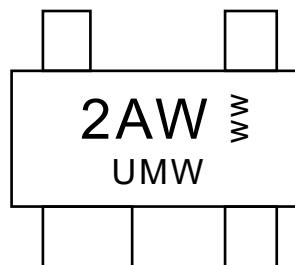


DIMENSIONS (mm are the original dimensions)

Symbol	A	B	C	D	E	G	H	J	K	L	S
Min	2.80	1.20	0.80	0.37	0.76	1.92	1.72	0.085	0.013	0.254	2.10
Max	3.04	1.40	1.20	0.510	0.940	BSC	BSC	0.180	0.10	0.55	2.64



10.Ordering information



ww: Batch Code

Order Code	Package	Base QTY	Delivery Mode
UMW PESD2ETH-AXR	SOT-143	3000	Tape and reel



11. Disclaimer

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