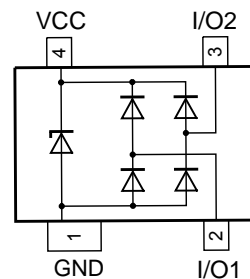


Description

Ultra low capacitance double rail-to-rail ElectroStatic 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.

The device integrates two ultra low capacitance rail-to-rail diodes and one additional ESD protection diode to ensure signal line protection even if no supply voltage is available.



Pin Configuration

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 k Ω) up to 15 kV
- Very low reverse current

Applications

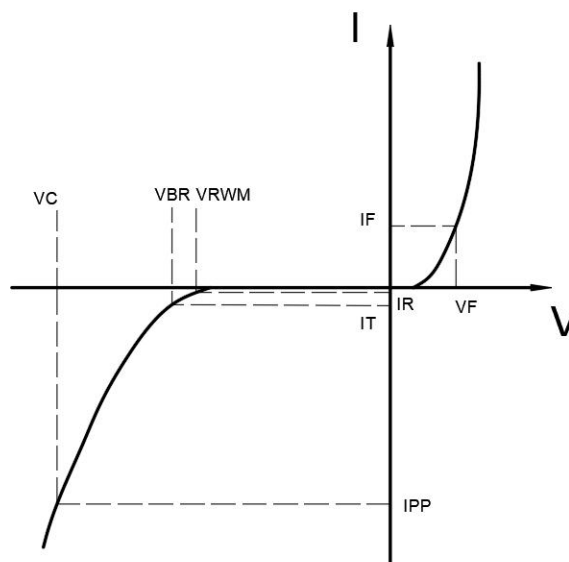
- 100BASE-T1 / OPEN Alliance BroadR-Reach automotive Ethernet
- Low-Voltage Differential Signaling (LVDS) automotive
- USB 2.0 automotive

At TA = 25°C unless otherwise noted

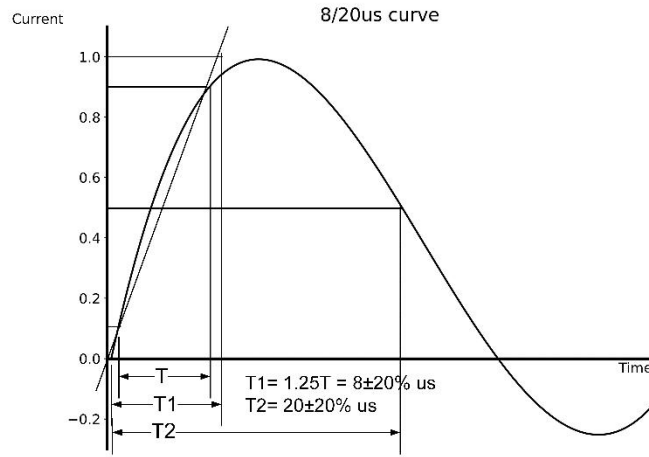
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM}=5V$			1.0	uA
Clamping Voltage	V_C	$I_{PP}=1A$; $t_p=8/20us$		8.0	10.0	V
Clamping Voltage	V_C	$I_{PP}=9A$; $t_p=8/20us$		15.0	18.0	V
Junction Capacitance	C_J	$V_R=0V$; $f=1MHz$ I/O pin to I/O pin		0.6	0.8	pF
Junction Capacitance	C_J	$V_R=0V$; $f=1MHz$ I/O pin to GND		1.2	1.6	pF

Electrical Characteristics

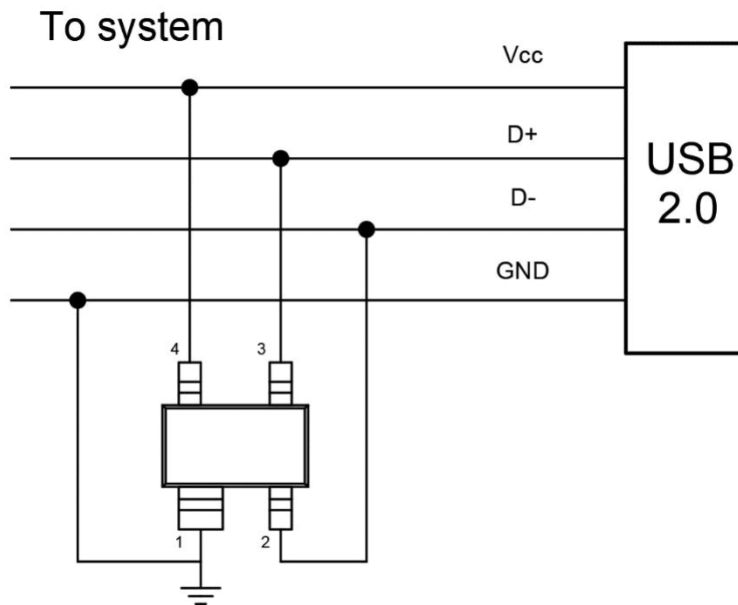
Symbol	Parameters
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_F	Forward Current
V_F	Forward Voltage @ I_F



Typical Characteristic

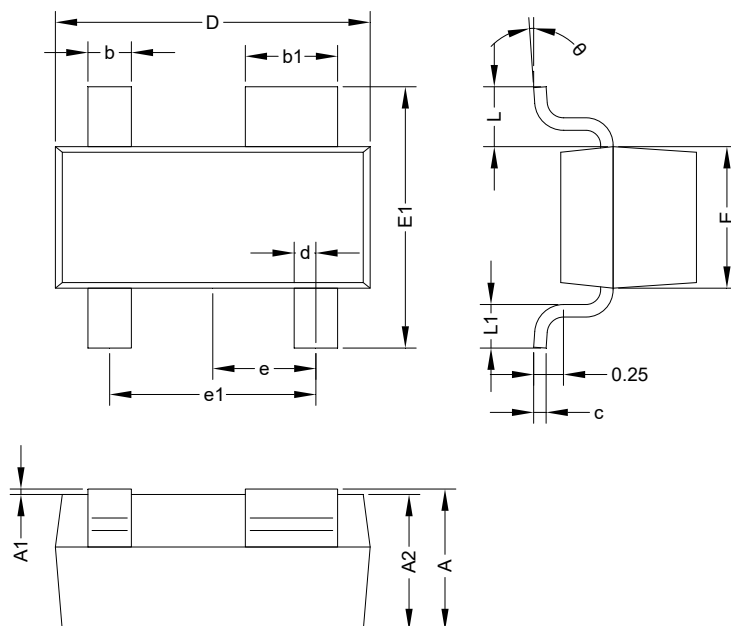


Typical Application



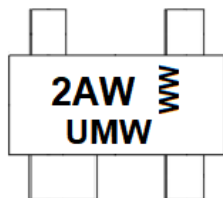
Typical Interface Application

Package Mechanical Data SOT-143



COMMON DIMENSIONS CUNITS MEASURE=MILLIMETER							
SYMBOL	MIN	TYP	MAX	SYMBOL	MIN	TYP	MAX
A	0.95	1.125	1.300	E	1.200	1.300	1.400
A1	0.00	0.050	0.100	E1	2.250	2.400	2.550
A2	0.900	1.050	1.200	e	0.950 TYP		
b	0.300	0.400	0.500	e1	1.800	1.900	2.000
b1	0.750	0.850	0.950	L	0.550 TYP		
c	0.080	0.115	0.150	L1	0.300	0.400	0.500
D	2.800	2.900	3000	θ	0°	4°	8°
d	0.200 TYP						

Marking



- WW stands for period

Ordering information

Order code	Package	Baseqty	Deliverymode
UMW PESD2ETH-AXR	SOT-143	3000	Tape and reel