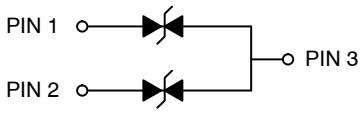
The ESDONCAN1L has been designed to protect the CAN transceiver from ESD and other harmful transient voltage events. This device provides bidirectional protection for each data line with a single compact SOT−23 package, giving the system designer a low cost option for improving system reliability and meeting stringent EMI requirements.



Features

- 200 W Peak Power Dissipation per Line (8 x 20 sec Waveform)
- Diode Capacitance Matching
- Low Reverse Leakage Current (< 100 nA)
- Low Capacitance High−Speed FlexRay Data Rates
- IEC Compatibility: − IEC 61000−4−2 (ESD): Level 4
  − IEC 61000−4−4 (EFT): 50 A – 5/50 ns
  − IEC 61000−4−5 (Lighting) 3.0 A (8/20 s)
- ISO 7637−1, Nonrepetitive EMI Surge Pulse 2, 8.0 A (1 x 50 s)
- ISO 7637−3, Repetitive Electrical Fast Transient (EFT) EMI Surge Pulses, 50 A (5 x 50 ns)
- Flammability Rating UL 94 V−0
- These are Pb−Free Devices

Typical Applications

- Industrial
  - Smart Distribution Systems (SDS)
  - DeviceNet

MAXIMUM RATINGS (T_J = 25°C, unless otherwise specified)

Symbol	Rating	Value	Unit
PPK	Peak Power Dissipation, 8 x 20 μs Double Exponential Waveform (Note 1)	200	W
T_J	Operating Junction Temperature Range	−55 to 150	°C
T_J	Storage Temperature Range	−55 to 150	°C
T_L	Lead Solder Temperature (10 s)	260	°C
ESD	Human Body Model (HBM) Machine Model (MM) IEC 61000−4−2 Specification (Contact)	8.0 400 23	kV V kV

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. Non−repetitive current pulse per Figure 1.

ELECTRICAL CHARACTERISTICS (T_J = 25°C, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{RWM}	Reverse Working Voltage	(Note 2)	24	–	–	V
V_{BR}	Breakdown Voltage	I_T = 1 mA (Note 3)	26.2	–	32	V
I_R	Reverse Leakage Current	V_{RWM} = 24 V	–	15	100	nA
V_C	Clamping Voltage	I_{PP} = 1 A (8 x 20 μs Waveform) (Note 4)	–	33.4	36.6	V
V_C	Clamping Voltage	I_{PP} = 3 A (8 x 20 μs Waveform) (Note 4)	–	44	50	V
I_{PP}	Maximum Peak Pulse Current	8 x 20 μs Waveform (Note 4)	–	–	3.0	A
C_J	Capacitance	V_R = 0 V, f = 1 MHz (Line to GND)	–	–	10	pF
ΔC	Diode Capacitance Matching	V_R = 0 V, 5 MHz (Note 5)	–	0.26	2	%

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

2. Surge protection devices are normally selected according to the working peak reverse voltage (V_{RWM}), which should be equal or greater than the DC or continuous peak operating voltage level.
3. V_{BR} is measured at pulse test current I_T.
4. Pulse waveform per Figure 1.
5. ΔC is the percentage difference between C_J of lines 1 and 2 measured according to the test conditions given in the electrical characteristics table.

TYPICAL PERFORMANCE CURVES

(T_J = 25°C unless otherwise noted)

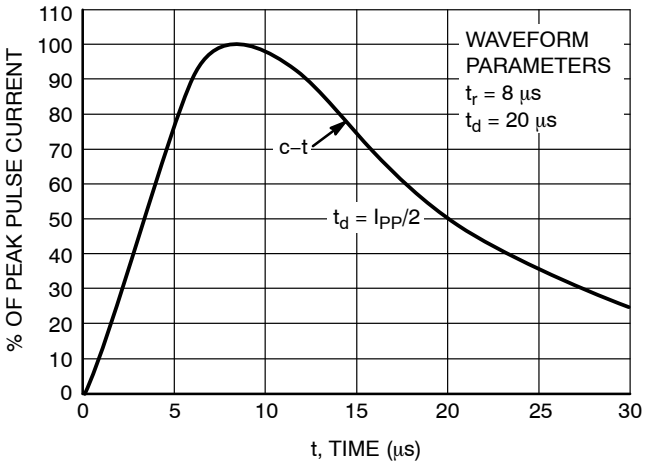


Figure 1. Pulse Waveform, 8 × 20 μs

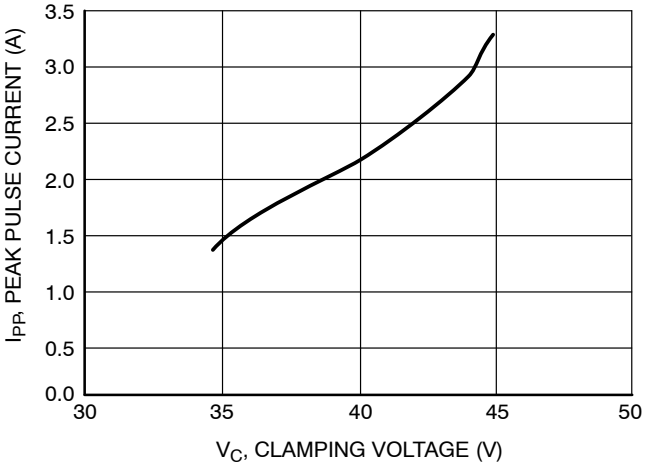


Figure 2. Clamping Voltage vs Peak Pulse Current

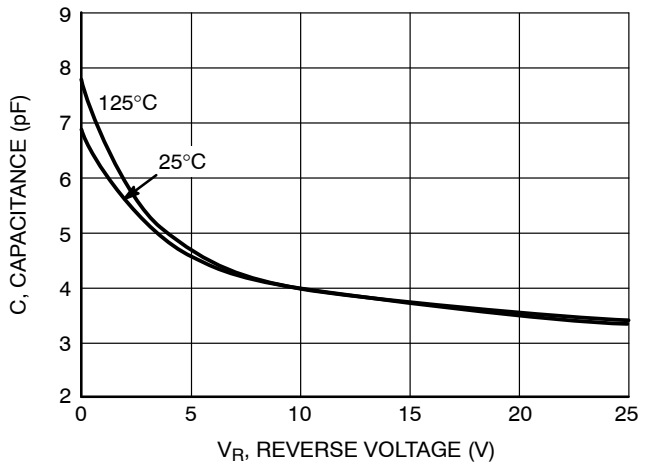


Figure 3. Typical Junction Capacitance vs Reverse Voltage

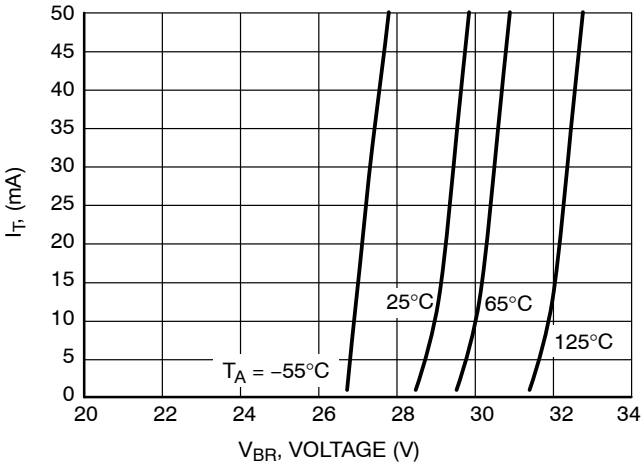


Figure 4. V_{BR} versus I_T Characteristics

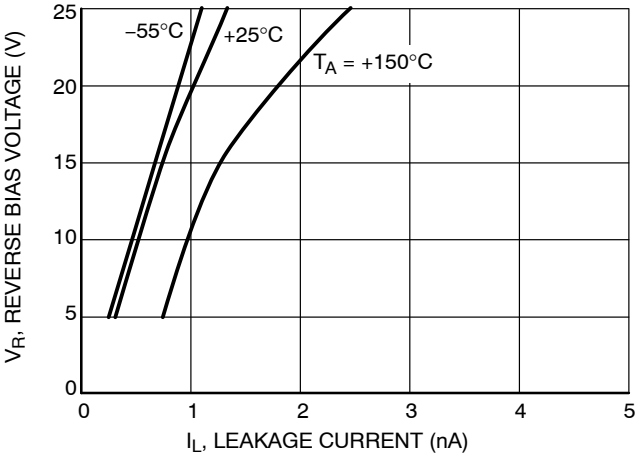


Figure 5. I_R versus Temperature Characteristics

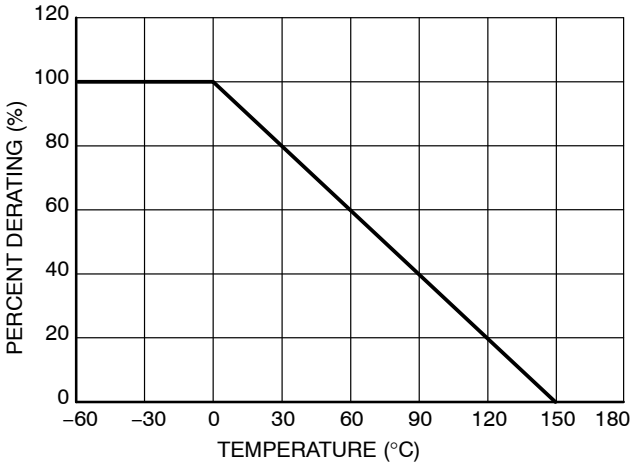
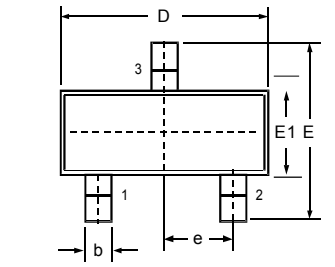
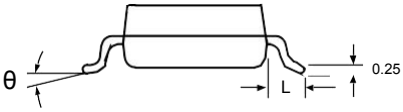
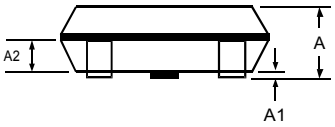


Figure 6. Temperature Power Dissipation Derating

Outline Drawing – SOT-23

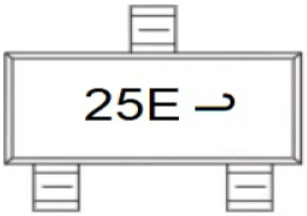






DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.500	0.675	0.020	0.027
θ	0	8°	0	8°

Marking



Ordering information

Order code	Package	Baseqty	Delivery mode
UMW ESDONCAN1LT1G	SOT-23	3000	Tape and reel

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for ESD Suppressors / TVS Diodes ***category:***

Click to view products by Youtai ***manufacturer:***

Other Similar products are found below :

60KS200C D18V0L1B2LP-7B D5V0F4U5P5-7 NTE4902 P4KE27CA P6KE11CA P6KE39CA-TP P6KE8.2A JANTX1N6053A SA110CA SA60CA SA64CA SMBJ12CATR SMBJ33CATR SMBJ8.0A ESD101-B1-02ELS E6327 ESD105-B1-02EL E6327 ESD112-B1-02EL E6327 ESD119B1W01005E6327XTSA1 ESD5V0L1B02VH6327XTSA1 ESD7451N2T5G 19180-510 CPDT-5V0USP-HF 3.0SMCJ33CA-F 3.0SMCJ36A-F HSPC16701B02TP JANTX1N6126A JANTX1N6462 JANTX1N6465 USB50805e3/TR7 D3V3Q1B2DLP3-7 D55V0M1B2WS-7 DRTR5V0U4SL-7 SCM1293A-04SO ESD200-B1-CSP0201 E6327 SM12-7 SM1605E3/TR13 SMLJ45CA-TP CEN955 W/DATA 82350120560 VESD12A1A-HD1-GS08 CPDUR5V0R-HF CPDQC5V0U-HF CPDQC5V0USP-HF CPDQC5V0-HF D1213A-01LP4-7B ESD101-B1-02EL E6327 824500181 MMAD1108/TR13 5KP100A