

**DESCRIPTION**

The PESD1CAN has been designed to protect the CAN transceiver in high-speed and fault tolerant networks 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**

- ◇ IEC61000-4-2 (ESD)  $\pm 15\text{kV}$  (air),  $\pm 8\text{kV}$  (contact)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◇ IEC61000-4-5 (Lighting) 3A (8/20 $\mu\text{s}$ )
- ◇ 200 Watts Peak Pulse Power per (tp=8/20 $\mu\text{s}$ )
- ◇ Working voltages : 24V
- ◇ Low clamping voltage
- ◇ Low leakage current

**MACHANICAL DATA**

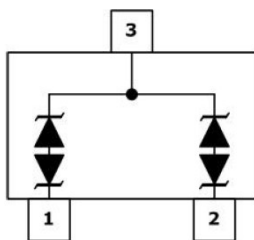
- ◇ SOT-23 package
- ◇ Flammability Rating: UL 94V-0
- ◇ Packaging: Tape and Reel
- ◇ High temperature soldering guaranteed: 260°C/10s
- ◇ Reel size: 7 inch

**ORDERING INFORMATION**

- ◇ Package: SOT-23
- ◇ Marking: C24
- ◇ Material: Halogen free
- ◇ Packing: Tape & Reel
- ◇ Quantity per reel: 3,000pcs

**APPLICATIONS**

- ◇ Industrial Control Networks
- ◇ Smart Distribution Systems
- ◇ Automotive Networks
- ◇ Low and High-Speed CAN
- ◇ Fault Tolerant CAN

**PIN CONFIGURATION****PACKAGE OUTLINE**

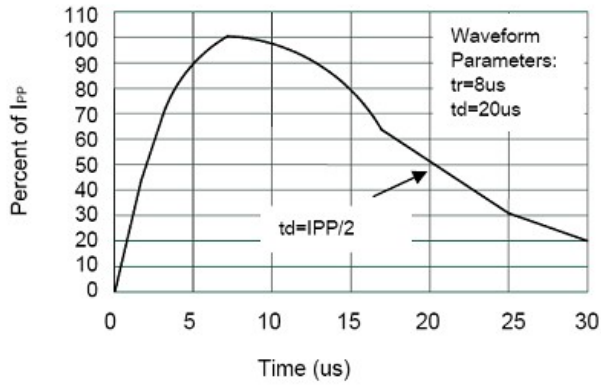
**ABSOLUTE MAXIMUM RATING**

Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Air)	$\pm 30$	kV
	ESD per IEC 61000-4-2 (Contact)	$\pm 20$	
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ s)	200	W
$T_{OPT}$	Operating Temperature	-55/+150	$^{\circ}$ C
$T_{STG}$	Storage Temperature	-55/+150	$^{\circ}$ C
$T_L$	Lead Soldering Temperature	260 (10 sec.)	$^{\circ}$ C

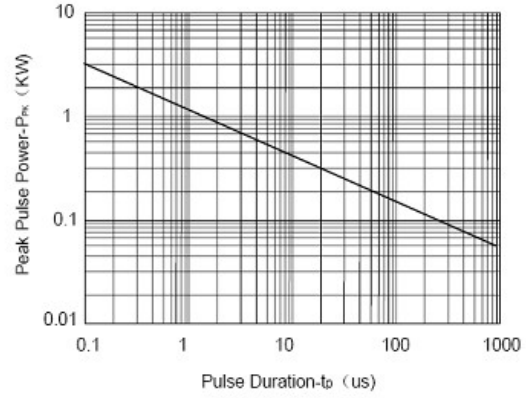
**ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}$ C)**

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage	Pin 1,2 to Pin3			24	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 1mA$ Pin 1,2 to Pin3	26		32	V
$I_R$	Reverse Leakage Current	$V_{RWM} = 24V$ Pin 1,2 to Pin3			1	$\mu A$
$V_{C1}$	Clamping Voltage 1	$I_{PP} = 1A, t_p = 8/20\mu s$ Pin 1,2 to Pin3			36	V
$V_{C2}$	Clamping Voltage 2	$I_{PP} = 3A, t_p = 8/20\mu s$ Pin 1,2 to Pin3			50	V
$C_J$	Junction Capacitance	$V_R = 0V, f = 1MHz$ Pin 1,2 to Pin3		13	17	pF

**ELECTRICAL CHARACTERISTICS CURVE**

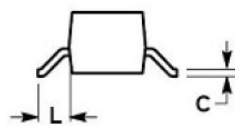
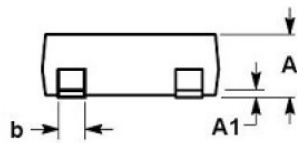
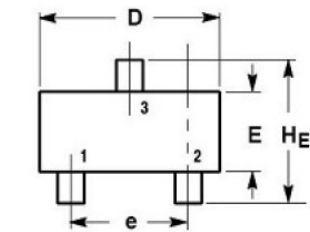


**Pulse Waveform**



**Non-Repetitive Peak Pulse Power vs. Pulse Time**

**SOT-23 PACKAGE OUTLINE DIMENSIONS**



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104