

**LIN-bus ESD Protection Diode**

**DESCRIPTION**

TEP1524V in a very small SOD323 Surface Mounted Device (SMD) plastic package designed to protect one automotive Local Interconnect Network (LIN) bus line from the damage caused by ElectroStatic Discharge (ESD) and other transients.

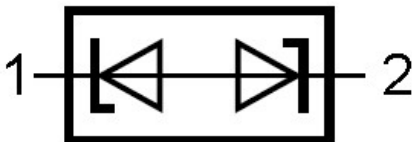
**ORDERING INFORMATION**

- ✧ Device: TEP1524V
- ✧ Package: SOD-323
- ✧ Marking: **24**
- ✧ Material: Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

**APPLICATIONS**

- ✧ LIN-bus protection
- ✧ Automotive applications

**PIN CONFIGURATION**



**Pin 1** : cathode 1 (15 V)

**Pin 2** : cathode 2 (24 V)



**Simplified outline**

**FEATURES**

- ✧ IEC61000-4-2 (ESD)  $\pm 30\text{Kv}$  (Contact)  
 $\pm 30\text{kV}$  (Air)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ 160 Watts Peak Pulse Power ( $t_p=8/20\mu\text{s}$ )
- ✧ Low clamping voltage
- ✧ Ultra low leakage current
- ✧ Working voltages : 15V 24V
- ✧ P/N suffix V means AEC-Q101qualified, e.g:TEP1524V

**MACHANICAL DATA**

- ✧ SOD-323 package
- ✧ Flammability Rating: UL 94V-0
- ✧ High temperature soldering guaranteed:  
260°C/10s
- ✧ Packaging: Tape and Reel
- ✧ Reel size: 7 inch
- ✧ MSL 1

**PACKAGE OUTLINE**



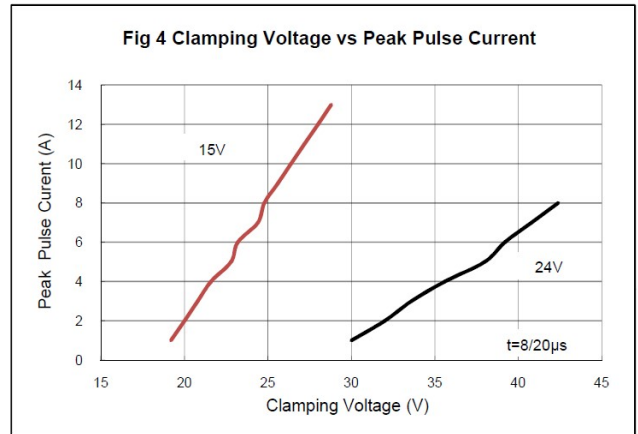
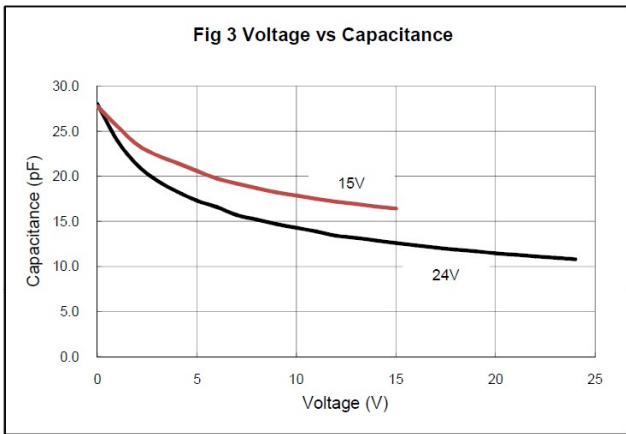
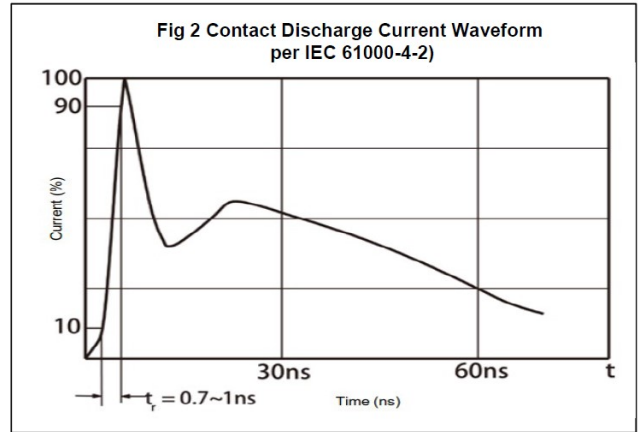
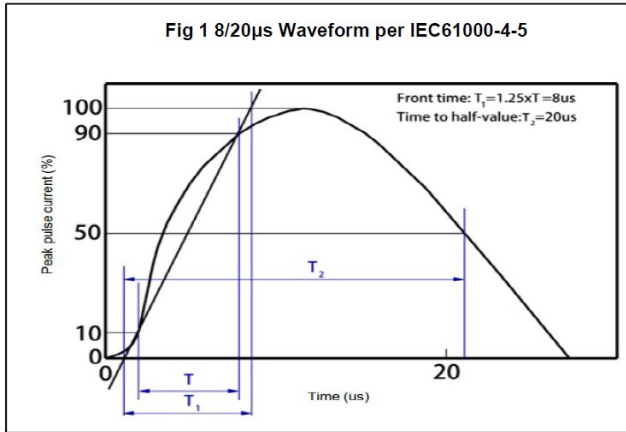
## ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
$V_{ESD}$	ESD per IEC 61000-4-2 (Contact)	$\pm 30$	kV
	ESD per IEC 61000-4-2 (Air)	$\pm 30$	
$P_{PP}$	Peak Pulse Power (8/20 $\mu$ s)	160	W
$I_{PP}$	peak pulse current (8/20 $\mu$ s)	3	A
$T_j$	junction temperature	150	$^{\circ}$ C
$T_{OPT}$	ambient temperature	-65~150	$^{\circ}$ C
$T_{STG}$	Storage Temperature	-65~150	$^{\circ}$ C

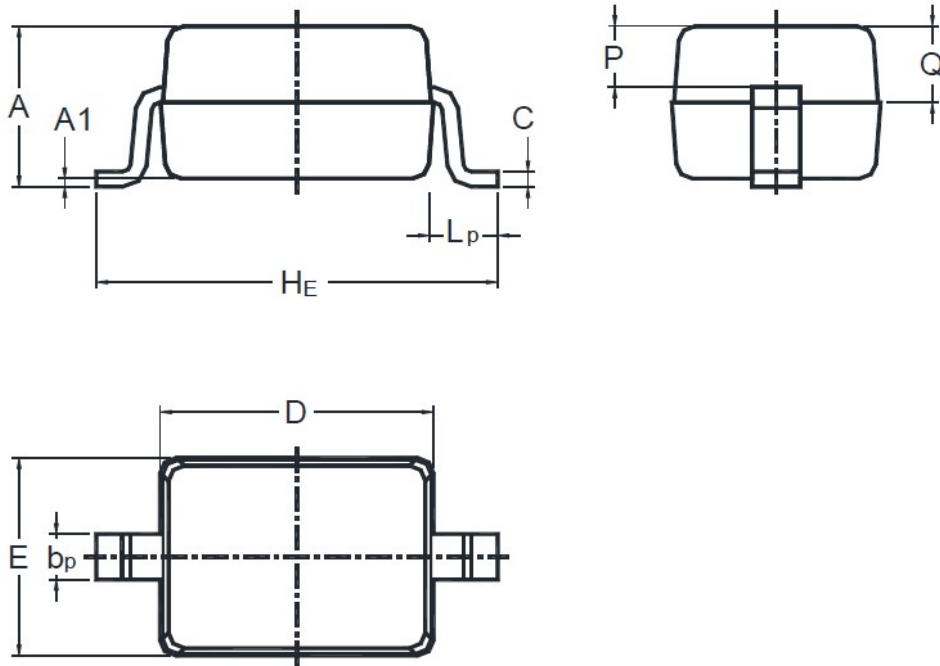
## ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}$ C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
$V_{RWM}$	Reverse Working Voltage (PIN 1 to PIN 2)				15	V
	Reverse Working Voltage (PIN 2 to PIN 1)				24	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T = 5mA$ (PIN 1 to PIN 2)	17.1		20.5	V
		$I_T = 5mA$ (PIN 2 to PIN 1)	25.4		30.5	V
$I_R$	Reverse Leakage Current	$V_{RWM} = 15V$ (PIN 1 to PIN 2)			50	nA
		$V_{RWM} = 24V$ (PIN 2 to PIN 1)			50	nA
$V_C$	Clamping Voltage	$I_{PP} = 1A, t_p = 8/20\mu s$ (PIN 1 to PIN 2)			25	V
		$I_{PP} = 5A, t_p = 8/20\mu s$ (PIN 1 to PIN 2)			44	V
		$I_{PP} = 1A, t_p = 8/20\mu s$ (PIN 2 to PIN 1)			40	V
		$I_{PP} = 3A, t_p = 8/20\mu s$ (PIN 2 to PIN 1)			70	V
$C_J$	Junction Capacitance	$V_R = 0V, f = 1MHz$			30	pF
$r_{dif}$	Differential Resistance	$I_T = 5mA$ (PIN 1 to PIN 2)			225	$\Omega$
		$I_T = 5mA$ (PIN 2 to PIN 1)			300	$\Omega$

## RATING AND CHARACTERISTICS CURVES (TEP1524V)



## SOD323 PACKAGE OUTLINE DIMENSIONS



UNIT	A	A <sub>1</sub>	b <sub>p</sub>	C	D	E	H <sub>E</sub>	L <sub>p</sub>	Q	P
mm	1.1 0.8	0.1 0	0.4 0.25	0.18 0.09	1.8 1.6	1.35 1.15	2.8 2.3	0.5 0.1	0.5 0.3	0.4 0.3

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