

<b>TEP21</b>	05L\	/
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### DESCRIPTION

The TEP2105L 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.

### ORDERING INFORMATION

- ♦Device: TEP2105L
- ♦Package: SOT-23
- ♦Material: Halogen free
- ♦Packing: Tape & Reel
- $\diamond$ Quantity per reel: 3,000pcs
- ♦ Marking:27E

### FEATURES

- ♦IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◇IEC61000-4-4 (EFT) 40A (5/50ηs)
- ♦IEC61000-4-5 (Lighting) 8.0A (8/20µs)
- $\diamond$ 350 Watts Peak Pulse Power per (tp=8/20µs)
- ♦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 guaranted:260°C/10s
- ♦Reel size: 7 inch

### APPLICATIONS

- ♦Industrial Control Networks
  - Smart Distribution Systems

♦Automotive Networks

- Low and High-Speed CAN
- Fault Tolerant CAN
- $\diamond$  P/N suffix V means AEC-Q101 qualified, e.g:TEP2105LV
- $\diamond$  P/N suffix V means Halogen-free

### **PIN CONFIGURATION**



### PACKAGE OUTLINE



2018-05/01 REV:C

### ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units	
Vrop	ESD per IEC 61000-4-2 (Air)	±30	kV	
▼ESD	ESD per IEC 61000-4-2 (Contact)	±30		
P <sub>PP</sub>	P <sub>PP</sub> Peak Pulse Power (8/20µs)		350 W	
T <sub>OPT</sub>	Operating Temperature	-55/+150	°C	
T <sub>STG</sub>	T <sub>STG</sub> Storage Temperature		°C	
TL	T <sub>L</sub> Lead Soldering Temperature		°C	

# **ELECTRICAL CHARACTERISTICS** (Ta=25 °C)

Symbol	Parameter	Test Condition	Min	Тур	Max	Units
V <sub>RWM</sub>	Reverse Working Voltage	Pin 1,2 to Pin3			24	V
V <sub>BR</sub>	Reverse Breakdown Voltage	I <sub>T</sub> = 1mA Pin 1,2 to Pin3	26.2		32	V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 24V Pin 1,2 to Pin3		15	100	nA
V <sub>C1</sub>	Clamping Voltage 1	I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs Pin 1,2 to Pin3			36	V
V <sub>C2</sub>	Clamping Voltage 2	I <sub>PP</sub> = 5A, t <sub>p</sub> = 8/20µs Pin 1,2 to Pin3			46	V
CJ	Junction Capacitance	V <sub>R</sub> = 0V, f = 1MHz Pin 1,2 to Pin3		25	30	pF





# **RATING AND CHARACTERISTICS CURVES (TEP2105LV)**

**Pulse Waveform** 

Non-Repetitive Peak Pulse Power vs. Pulse Time

# SOT-23 PACKAGE OOUTLINE DIMENSIONS



	MILLIMETERS			INCHES		
DIM	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
С	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
е	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





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