

Bidirectional TVS Diodes

DESCRIPTION

The TEPxxC Series is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

This series has been specifically designed to protect sensitive components which are connected to power, data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

ORDERING INFORMATION

- ◇ Device: TEPxxC
- ◇ Package: SOD-323
- ◇ Material: Halogen free
- ◇ Packing: Tape & Reel
- ◇ Quantity per reel: 3,000pcs

PIN CONFIGURATION



FEATURES

- ◇ IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◇ 350 Watts Peak Pulse Power per (tp=8/20 μ s)
- ◇ Protects one I/O line (bidirectional)
- ◇ Low clamping voltage
- ◇ Working voltages :3V,5V,8V,12V,15V,18V,24V, 36V
- ◇ Low leakage current
- ◇ P/N suffix V means Halogen-free
- ◇ P/N suffix V means AEC-Q101 qualified, eg:TEP05CV

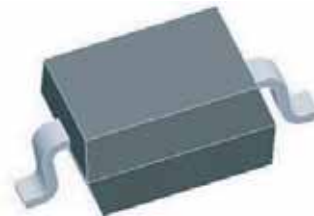
MACHANICAL DATA

- ◇ SOD-323 package
- ◇ Flammability Rating: UL 94V-0
- ◇ Packaging: Tape and Reel
- ◇ High temperature soldering guaranteed:260 $^{\circ}\text{C}$ /10s
- ◇ Reel size: 7 inch

APPLICATIONS

- ◇ Cell Phone Handsets and Accessories
- ◇ Microprocessor based equipment
- ◇ Personal Digital Assistants (PDA's)
- ◇ Notebooks, Desktops, and Servers
- ◇ Portable Instrumentation
- ◇ Networking and Telecom
- ◇ Serial and Parallel Ports.
- ◇ Peripherals

PACKAGE OUTLINE



2018-04/01
REV:A

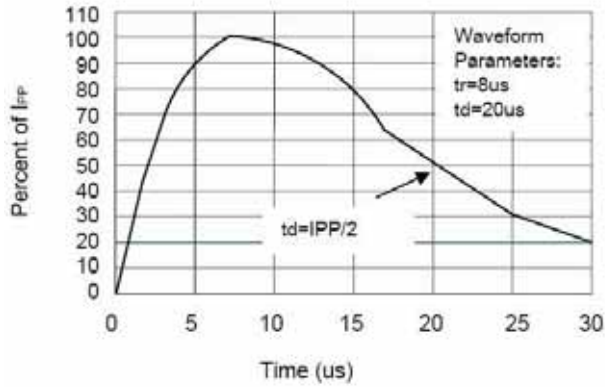
ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	± 15 ± 8	kV
P_{PP}	Peak Pulse Power (8/20 μ s)	350	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

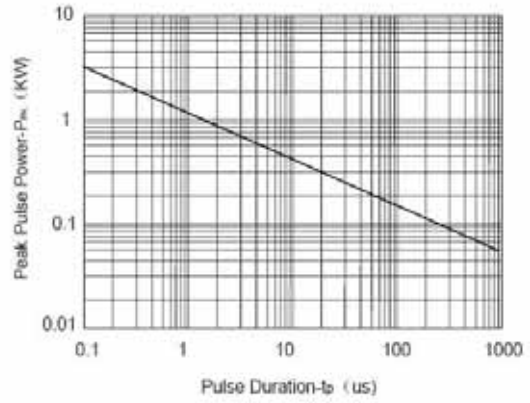
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}$ C)

PART NUMBER	DEVICE MARKING	V_{RWM}	V_B	I_T	$V_C@1A$	V_C		I_R	C_T
		(V) (max.)	(V) (min.)	(mA)	(V) (max.)	(V) (max.)	(@A)	(μ A) (max.)	(pF) (max.)
TEP03C	2A	3.3	4.0	1	7.5	13.0	20	40	450
TEP05C	2B	5.0	6.0	1	9.8	18.0	17	10	200
TEP08C	2C	8.0	8.5	1	13.4	24.0	15	2	120
TEP12C	2D	12.0	13.3	1	19.0	32.0	11	1	75
TEP15C	2J	15.0	16.7	1	24.0	38.0	10	1	68
TEP18C	2K	18.0	20.0	1	29.0	45.0	9	1	57
TEP24C	2H	24.0	26.7	1	43.0	52.0	7	1	50
TEP36C	2N	36.0	40.0	1	60.0	75.0	5	1	35

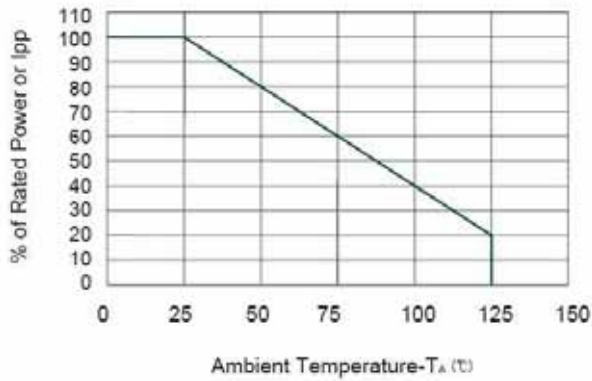
RATING AND CHARACTERISTICS CURVES (TEPxxCV Series)



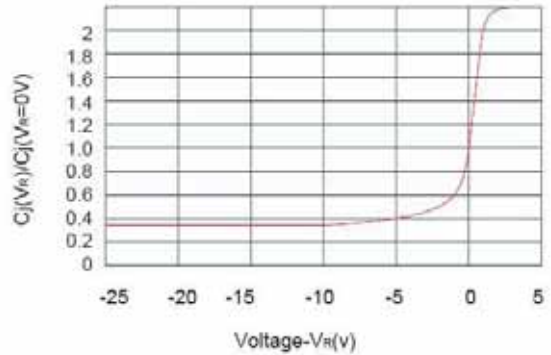
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time

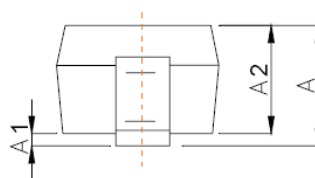
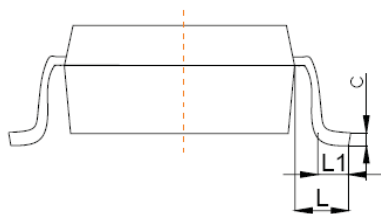
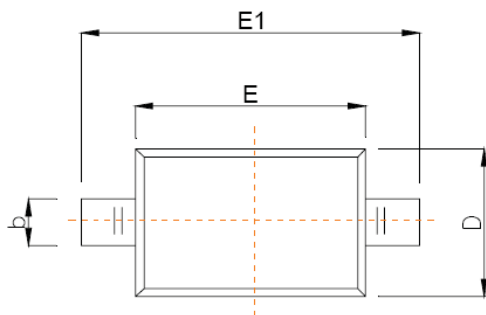


Power Derating Curve

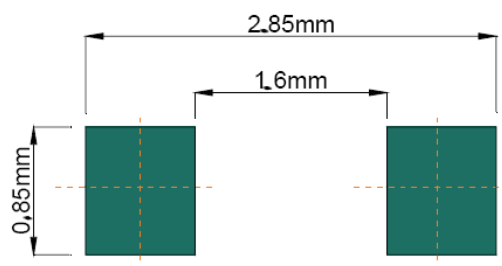


Junction Capacitance vs. Reverse Voltage

SOD-323 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters	
	Min	Max
A		1.00
A1	0.000	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
e	1.800	2.040
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°



Recommended Pad outline

DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.