

Description

P0080TVB thyristors are a type of semi-conduct component. They are designed in applications, modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more. This series can be used to provide protection in accordance with industry standards such as FCC Part 68, ANSI C62.41, UL 1459, GR-1089-CORE, IEC 61000-2, IEC 61000-4 and IEC 61000-4-5 requirements

Features

- Cannot be damaged by voltage
- Eliminate hysteresis and heat dissipation typically found with clamping devices
- Eliminate voltage overshoot caused by fast-rising transients
- Are non-degenerative
- Will not fatigue
- Meets MSL level 1, per J-STD-020

Mechanical characteristics

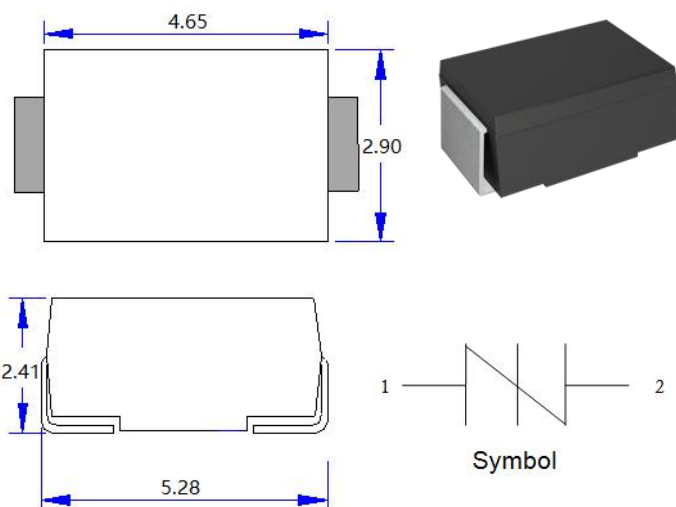
Package: SMA

- Case Material: "Green" Molding Compound.
- Lead Finish: Matte Tin
- UL Flammability Classification Rating 94V-0
- Standard Packaging: 12mm tape (EIA STD RS-481)
- Weight: 0.07g
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

- SLIC Line Card
- T1/E1 Trunk & Line Card
- DBX Branch Exchange Switches
- FCC Part 68 Customer Premise Equipment
- Line Interface Modem
- xDSL Architecture Interface

Dimensions & Symbol (Unit: mm Max)



Marking information



Ordering information

Out line	Reel (pcs)	Per carton (pcs)	Reel diameters (mm)
Taping	5K	80K	330

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

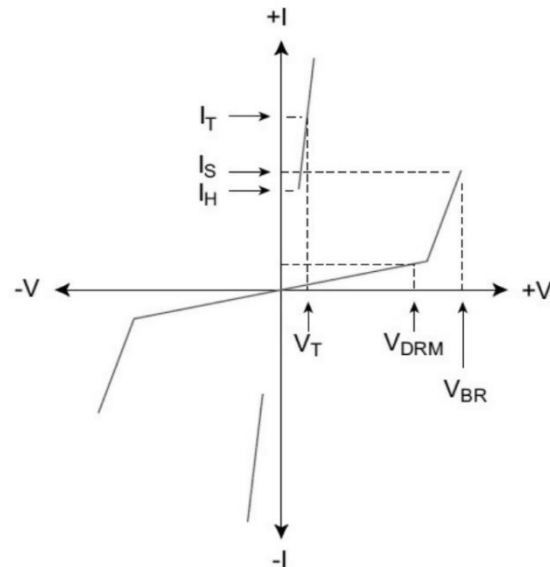
Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-60 to +150	$^{\circ}\text{C}$
Operating junction temperature range	T_j	-40 to +150	$^{\circ}\text{C}$
Repetitive peak pulse current	I_{PP}	50	A

Electrical Characteristics ($T_A=25^{\circ}\text{C}$)

Part Number	V_{RM}	I_{RM}	V_{BO}	I_{BO}	V_{T}	I_{T}	C_{O}	I_{H}
	Min.	Max.	Max.		Max.		Typ.	Typ.
	V	μA	V	mA	V	A	pF	mA
P0080TVB	6.5	5	25	800	4	2.2	8	25

Electrical Parameters & V-I Curve

Symbol	Parameter
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state current
V_{S}	Switching voltage
I_{S}	Switching current
V_{T}	On-state voltage
I_{T}	On-state current
I_{H}	Holding current
C_{O}	Off-state capacitance



Surge ratings

Series	I_{PP} (A) min			
	2×10 μs	8×20 μs	5×320 μs	10×1000 μs
A	100	90	50	35

Ratings and V-I Characteristics Curves ($T_A=25^\circ\text{C}$, unless otherwise noted)

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ($T_{s(\min)}$)	+150°C
	-Temperature Max($T_{s(\max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(\max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

FIG.1: $t_r \times t_d$ pulse waveform

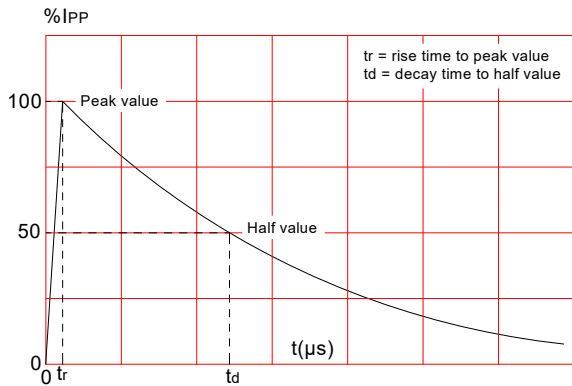


FIG.2: Reflow condition

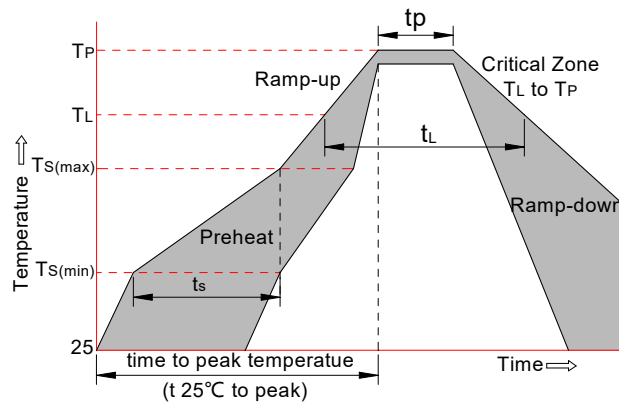


FIG.3: Normalized V_s change vs. junction temperature

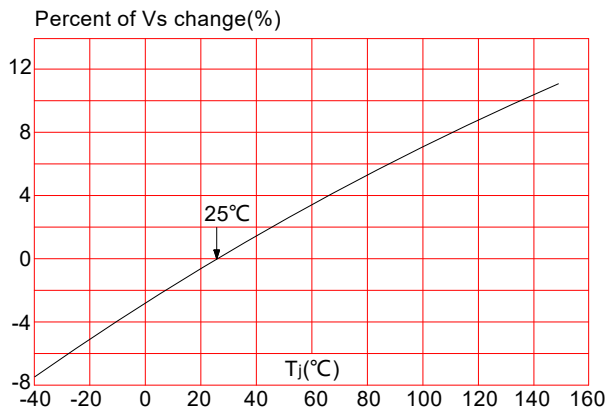
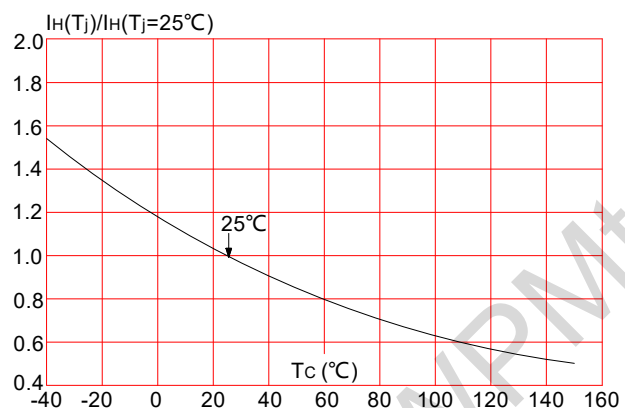
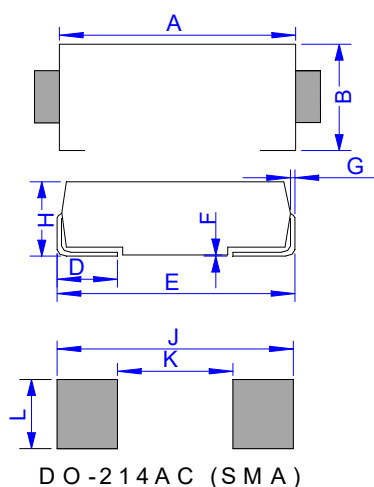


FIG.4: Normalized DC holding current vs. case temperature



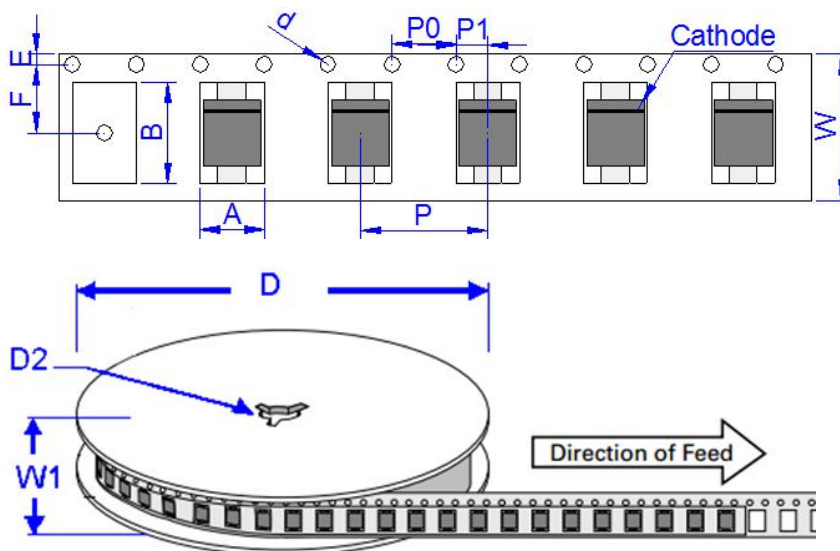
Package Mechanical Data



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.65	0.167	0.183
B	2.50	2.90	0.098	0.114
C	1.35	1.65	0.053	0.065
D	0.76	1.52	0.030	0.060
E	4.93	5.28	0.194	0.208
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	1.98	2.41	0.078	0.095
J	6.50		0.256	
K		2.30		0.090
L	1.70		0.067	

Tape & Reel Specification (SMA)

Ref.	Dimensions	
	Millimeters	Inches
A	2.79 ± 0.3	0.110 ± 0.012
B	5.33 ± 0.3	0.210 ± 0.012
d	1.5 ± 0.1	0.059 ± 0.004
D	330.0	13.0
D2	13 ± 1	0.512 ± 0.039
E	1.5 ± 0.2	0.059 ± 0.008
F	5.65 ± 0.2	0.222 ± 0.008
P	4.0 ± 0.2	0.157 ± 0.008
P0	4.0 ± 0.2	0.157 ± 0.008
P1	2.0 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.2	0.472 ± 0.008
W1	16.8 ± 2.0	0.661 ± 0.079



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