

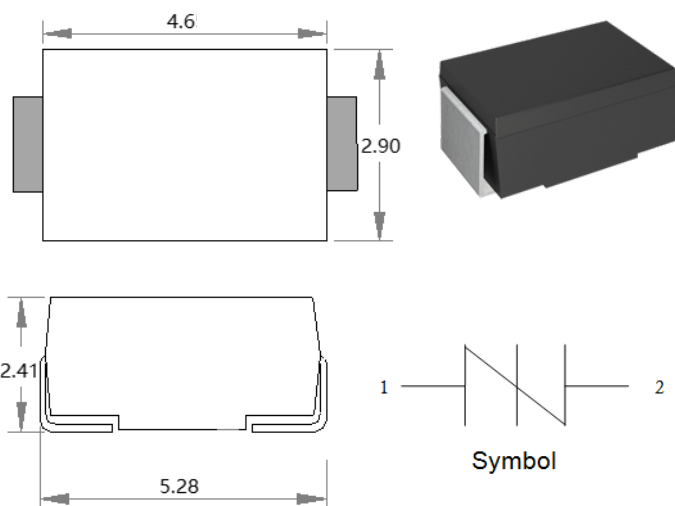
## Description

WP0080TA 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

## Dimensions & Symbol (Unit: mm Max)



## Mechanical Characteristics

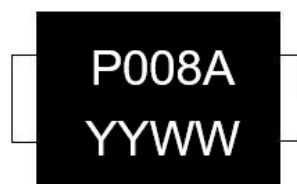
### Package: SMA/DO-214AC

- Case Material: "Green" Molding Compound.
- Lead Finish: Matte Tin
- 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

## 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)

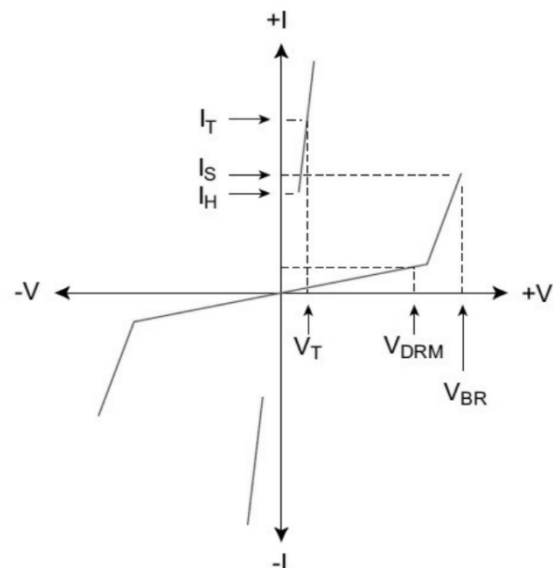
Parameter	Symbol	Value	Unit
Storage temperature range	$T_{\text{stg}}$	-60 to +150	$^{\circ}\text{C}$
Operating junction temperature range	$T_j$	-40 to +150	$^{\circ}\text{C}$
Repetitive peak pulse current	$I_{\text{PP}}$	60	A

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

Part Number	$V_{\text{RM}}$	$I_{\text{RM}}$	$V_{\text{BO}}$	$I_{\text{BO}}$	$V_{\text{T}}$	$I_{\text{T}}$	$C_{\text{O}}$	$I_{\text{H}}$
	Min.	Max.	Max.		Max.		Max.	Typ.
	V	$\mu\text{A}$	V	mA	V	A	pF	mA
WP0080TA	6	3	15	800	4	2.2	8	25

**Electrical Parameters & V-I Curve**

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



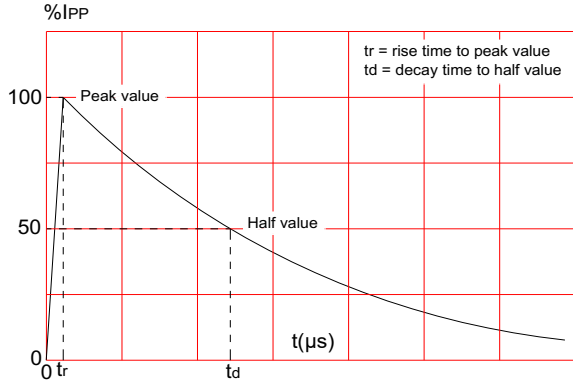
**Surge Ratings**

Series	$I_{\text{PP}}$ (A) min			
	2×10 $\mu\text{s}$	8×20 $\mu\text{s}$	5×320 $\mu\text{s}$	10×1000 $\mu\text{s}$
A	100	90	60	35

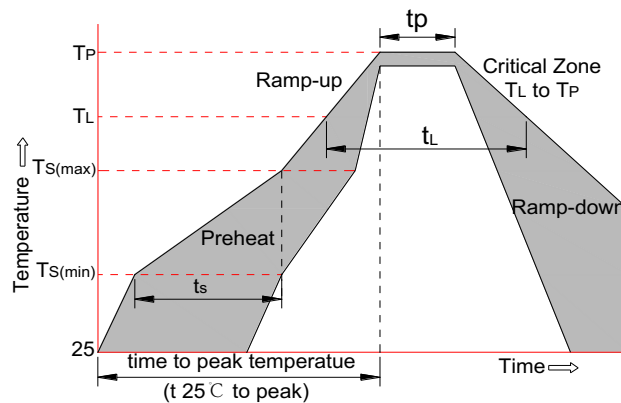
**Ratings And V-I Characteristics Curves** ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

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

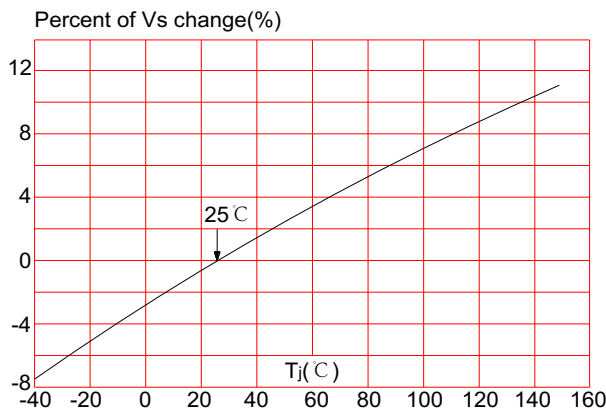
**FIG.1:** tr x td pulse waveform



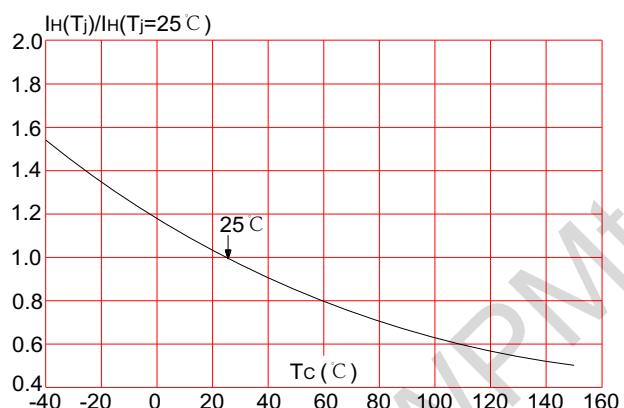
**FIG.2:** Reflow condition



**FIG.3:** Normalized  $V_s$  change vs. junction temperature

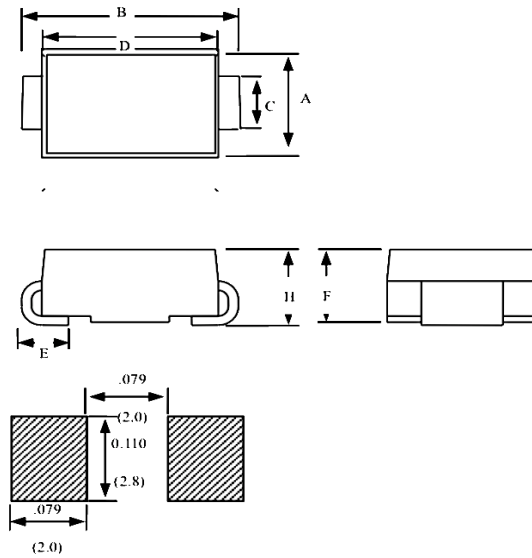


**FIG.4:** Normalized DC holding current vs. case temperature



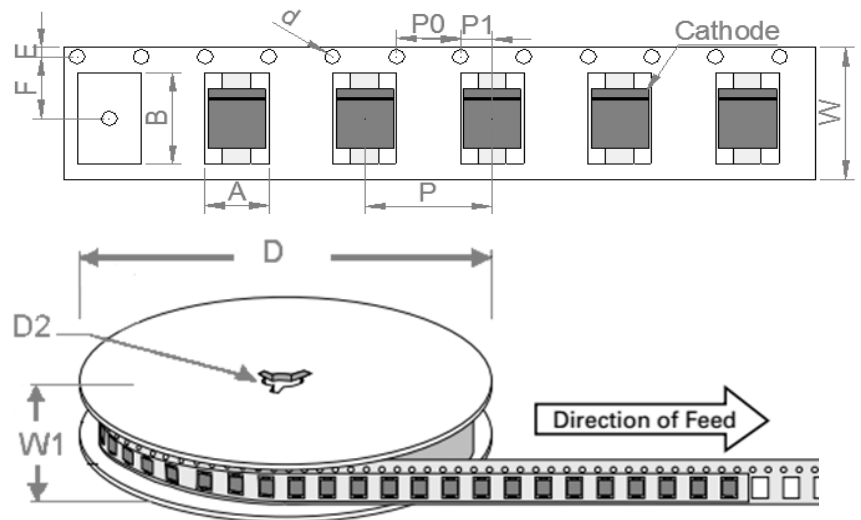
## Package Mechanical Data

Dimension	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.098	0.114	2.50	2.90
B	0.188	0.208	4.80	5.28
C	0.055	0.062	1.40	1.60
D	0.157	0.181	4.00	4.60
E	0.030	0.060	0.76	1.52
F	0.078	0.096	2.00	2.44
H	0.080	0.104	2.051	2.643



## 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



WPMtek reserves the right to make changes to the product specification and data in this document without notice. WPMtek makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does WPMtek assume any liability arising from the application or use of any products or circuits, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Any enquiry, please write to [sales@wpmtek.com](mailto:sales@wpmtek.com) for further information.