



DO-214AA (SMB)



DO-214AC (SMA)

## Bidirectional Surface Mount THYZORB® Thyristor Overvoltage Protectors

Symbol



**Stand-off Voltage** 58 to 320V  
**Breakover Voltage** 70 to 395V  
**Holding Current** 150mA minimum

### Mechanical Data

**Case:** JEDEC DO-214AA molded plastic body over passivated junction

**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

High temperature soldering guaranteed:  
250°C/10 seconds at terminals

**Mounting Position:** Any

**Weight:** 0.003 ounces, 0.093 gram

### Features

- Bidirectional crowbar protection
- Complies with Bellcore TR-NWT-001089, and IEC-1000-4-5 standards
- Series is designed to protect telecommunication equipment against lightning and AC induced transients
- Plastic package has UL Flammability Classification 94V-0
- Low profile package with built-in strain relief for surface mounted applications
- 50 Amp (10/1000µs) available in SMA package

### Maximum Ratings and Thermal Characteristics T<sub>A</sub>= 25°C unless otherwise noted.

Parameter	Symbol	AA	A	C	Unit
Case outline	–	SMA	SMB		–
Peak Pulse Current	$I_{PP}$	50 200	50 200	100 300	A
Non-repetitive surge peak on-state current at 60Hz	$I_{TSM}$	20	20	60	A
Critical rate of rise of off-state voltage ( $V_{RM}$ )	$dV/dt$	5			KV/µs
Storage temperature range	$T_{stg}$	-55 to +150			°C
Junction temperature range	$T_j$	-40 to 150			°C
Thermal resistance junction to leads	$R_{\theta JL}$	30	20		°C/W
Thermal resistance junction to ambient on P.C.B. with recommended pad layout	$R_{\theta JA}$	120	90		°C/W

### I<sub>PP</sub> Ratings for the Following Surge Standards

Standard	Waveform	I <sub>PP</sub> (A, AA)	I <sub>PP</sub> (C)
GR-1089-CORE	2/10µs	300A <sup>+</sup>	500A
IEC61000-4-5	8/20µs	200A <sup>+</sup>	300A
FCC Part 68	10/160µs	120A <sup>+</sup>	250A <sup>+</sup>
ITU-TK20/21	10/700µs	100A	200A
FCC Part 68	10/560µs	75A <sup>+</sup>	160A <sup>+</sup>
GR-1089-CORE	10/1000µs	50A <sup>+</sup>	100A

Values with <sup>+</sup> have improved I<sub>PP</sub> specs over equivalent competitor part numbers

## Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

Type	Stand-off Voltage V <sub>DRM</sub> (V)	Max. Reverse Leakage at V <sub>DRM</sub> I <sub>DRM</sub> (μA)	Maximum Breakover Voltage V <sub>BO</sub> (V) <sup>(1)(3)</sup>	Maximum Breakover Current I <sub>BO</sub> (mA) <sup>(1)</sup>	Max. On-State Voltage at I <sub>T</sub> = 1 A V <sub>T</sub> (V)	Minimum Holding Current I <sub>H</sub> (mA)	Typical Capacitance C (pF) <sup>(2)</sup>	
							AA, A	C
P0640S_	58	5	70*	800	3.0	150	75	115
P0720S_	65	5	80*	800	3.0	150	70	115
P0900S_	75	5	95*	800	3.0	150	66	115
P1100S_	90	5	115*	800	3.0	150	60	75
P1300S_	120	5	145*	800	3.0	150	50	70
P1500S_	140	5	180	800	3.0	150	45	65
P1800S_	160	5	220	800	3.0	150	45	65
P2300S_	190	5	250*	800	3.0	150	45	65
P2600S_	220	5	290*	800	3.0	150	40	65
P3100S_	275	5	350	800	3.0	150	40	60
P3500S_	320	5	395*	800	3.0	150	35	60

Notes: (1) dv/dt = 100V/μs

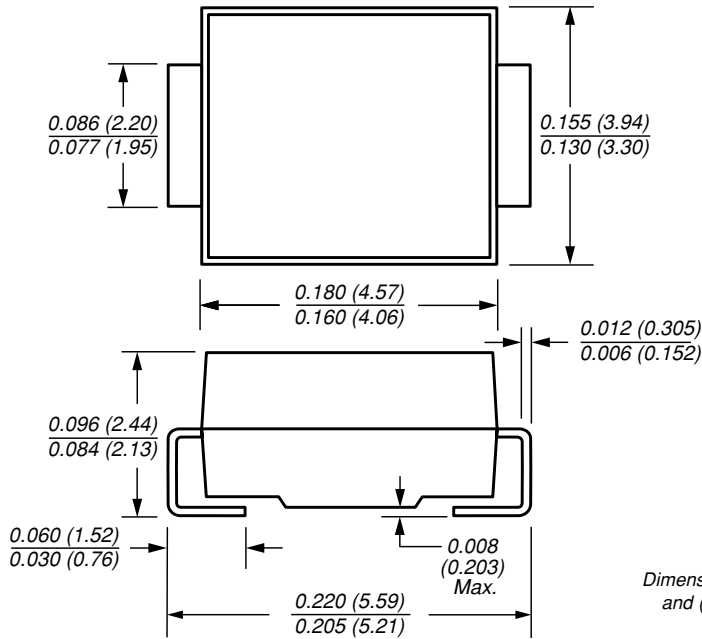
(2) V<sub>R</sub> = 2V, f = 1MHz

(3) Values with \* have improved VBO specs over equivalent competitor part numbers

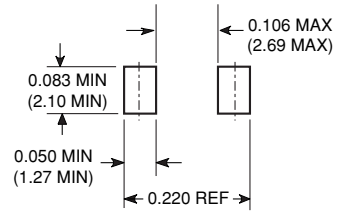
## Device Marking

Type	Suffix		
	AA	A	C
P0640S_	06A	P06A	P06C
P0720S_	07A	P07A	P07C
P0900S_	09A	P09A	P09C
P1100S_	11A	P11A	P11C
P1300S_	13A	P13A	P13C
P1500S_	15A	P15A	P15C
P1800S_	18A	P18A	P18C
P2300S_	23A	P23A	P23B
P2600S_	26A	P26A	P26B
P3100S_	31A	P31A	P31C
P3500S_	35A	P35A	P35C

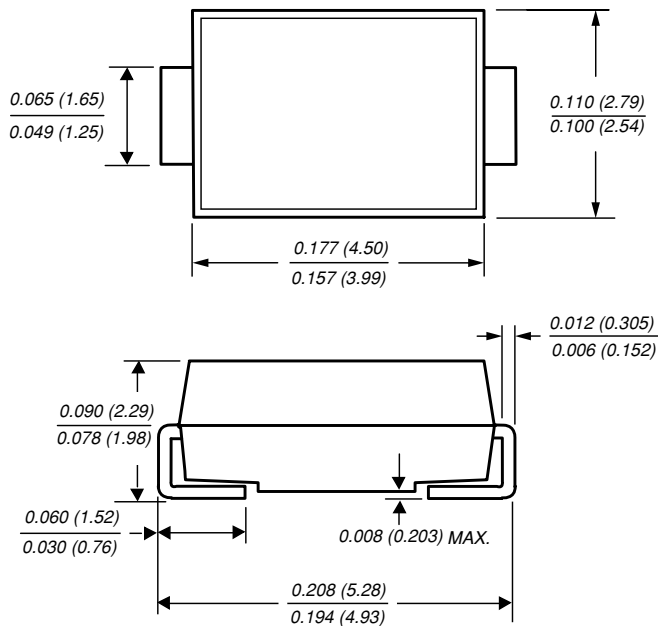
**DO-214AA (SMB)**



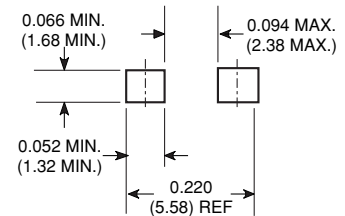
**SMB Mounting Pad Layout**



**DO-214AC (SMA)**



**SMA Mounting Pad Layout**





## Disclaimer

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