

Thyristor Surge Suppressors P****R Series

Description

DO-214AC *P* solid state protection devices protect telecommunications equipment such as modems, line cards, fax machines, and other CPE.

P devices are used to enable equipment to meet various regulatory requirements including GR 1089, ITU K.20, K.21 and K.45, IEC 60950, UL 60950, and TIA-968 (formerly known as FCC Part 68).



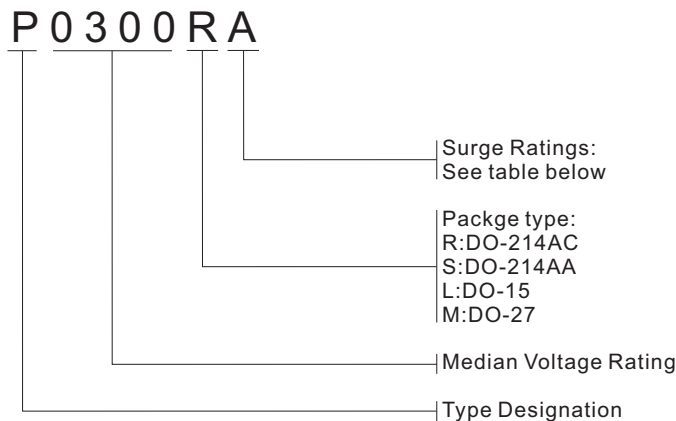
Applications

When protecting telecommunication circuits, *P* devices are connected across Tip and Ring for metallic protection and across Tip and Ground and Ring and Ground for longitudinal protection. They typically are placed behind some type of current-limiting device.

Common applications include:

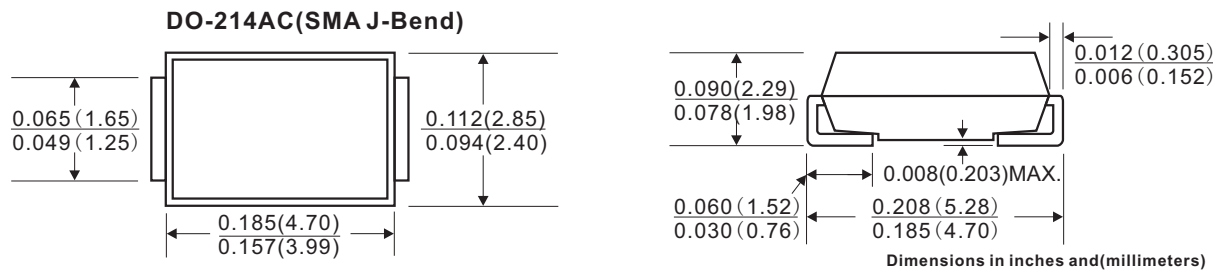
- Central office line cards (SLICs)
- T-1/E-1, ISDN, and xDSL transmission equipment
- Customer Premises Equipment (CPE) such as phones, modems, and caller ID adjunct boxes
- PBXs, KSUs, and other switches
- Primary protection including main distribution frames, five-pin modules, building entrance equipment, and station protection modules
- Data lines and security systems
- CATV line amplifiers and power inserters
- Sprinkler systems

Product Name



Maximum Ratings($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Rating	Symbol	Value	Units
Thermal Resistance: Junction to Ambient	$R_{\theta JA}$	90	$^{\circ}\text{C}/\text{W}$
Operating junction	T_J	-40 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_S	-65 to +150	$^{\circ}\text{C}$

Dimensions (DO-214AC)

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

P****R Part Number	Device Marking Code	V_{DRM} @ I_{DRM}	V_S @100V/ μs	I_H	I_S	I_T	V_T @ I_T	I_{DRM}	Capacitance @1MHz, 2V bias
		V(min.)	V(max.)	mA(min.)	mA(max.)	A(max.)	V(max.)	μA	pF(max.)
P0300RA	P03A	25	40	50	800	2.2	4	5	175
P0640RA	P06A	58	77	120	800	2.2	4	5	140
P0720RA	P07A	65	88	120	800	2.2	4	5	140
P0900RA	P09A	75	98	120	800	2.2	4	5	140
P2300RA	P23A	190	260	120	800	2.2	4	5	115
P2600RA	P26A	220	300	120	800	2.2	4	5	100
P3100RA	P31A	275	350	120	800	2.2	4	5	90
P3500RA	P35A	320	400	120	800	2.2	4	5	75
P0300RB	P03B	25	40	50	800	2.2	4	5	175
P0640RB	P06B	58	77	120	800	2.2	4	5	140
P0720RB	P07B	65	88	120	800	2.2	4	5	140
P0900RB	P09B	75	98	120	800	2.2	4	5	140
P2300RB	P23B	190	260	120	800	2.2	4	5	115
P2600RB	P26B	220	300	120	800	2.2	4	5	100
P3100RB	P31B	275	350	120	800	2.2	4	5	90
P3500RB	P35B	320	400	120	800	2.2	4	5	75

Surge Ratings

Series	I _{PP}						I _{TSM} 60Hz (A)	di/dt (A/μs)
	2×10μs (A)	8×20μs (A)	10×160μs (A)	10×560μs (A)	10×700μs (A)	10×1000μs (A)		
A	150	150	90	50	50	45	20	500
B	250	250	150	100	100	80	30	500

Notes :

1. Peak pulse current rating(I_{PP}) is repetitive and guaranteed for the life of the product
2. I_{PP} ratings applicable over temperature range of -40°C to +85°C
3. The device must initially be in thermal equilibrium with -40°C ≤ T_J ≤ +150°C

Typical Characteristics Curves

Fig.1 V-I Characteristics

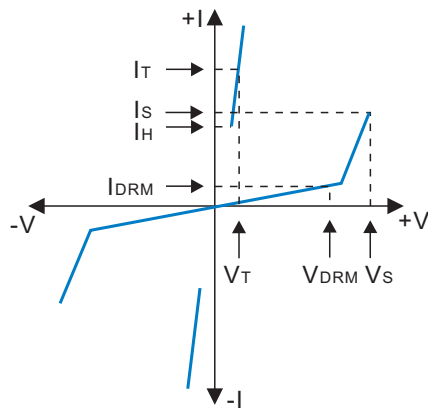


Fig.2 tr×td Pulse Wave-form

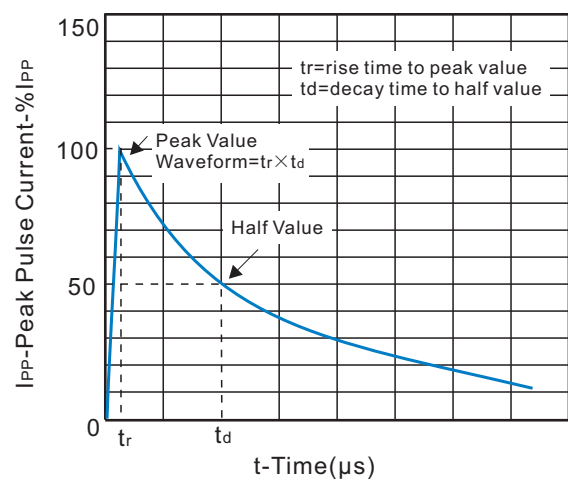


Fig.3 Normalized vs Change Versus Junction Temperature

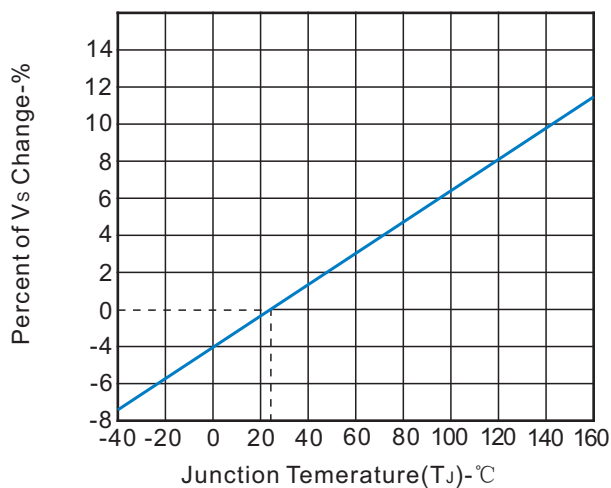
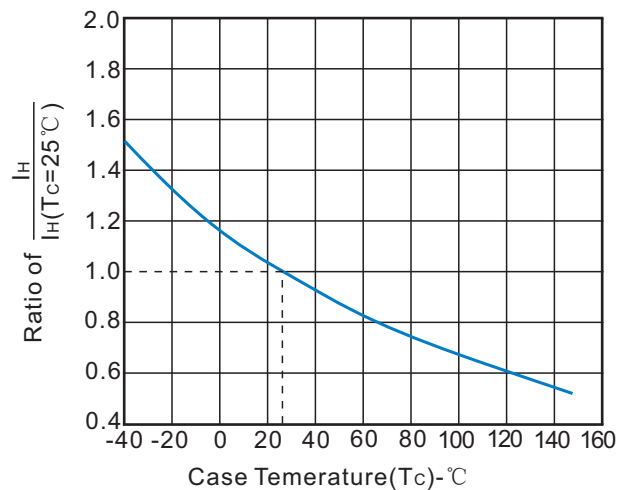
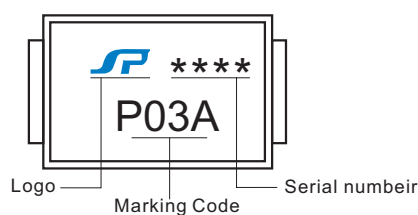


Fig.4 Normalized DC Holding Current



Marking Code

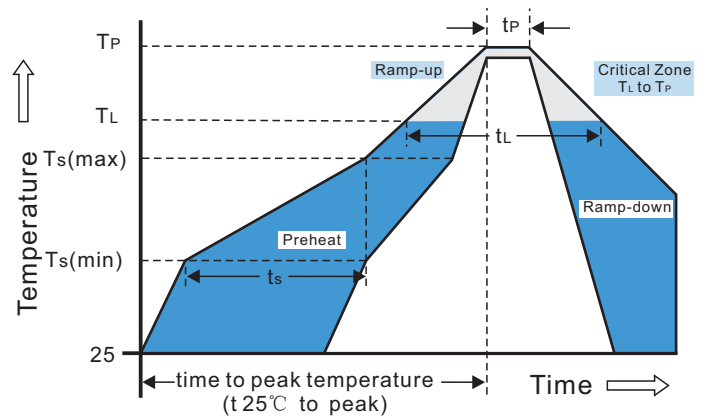


Recommended Soldering Conditions

Recommended Conditions

Reflow Condition		Pb-Free assembly
Pre Heat	-Temperature Min($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time(Min to Max)(t_s)	60-180secs
Average ramp up rate (Liquidus 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)(Liquidus)	+217°C
	-Temperature(t_L)	60-150secs
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

Reflow Soldering



Tape And Reel Specification

Symbol	Ea Per Reel	Reel Dia(mm)	Industry Standard
P****R	5000	330	EIA RS-481

