

Description

DO-214AC/SMA Series are low capacitance devices designed to protect broadband equipment such as VOIP, DSL modems and DSLAMs from damaging overvoltage transients.

The series provides a surface mount solution that enables equipment to comply with global regulatory standards while limiting the impact to broadband signals.

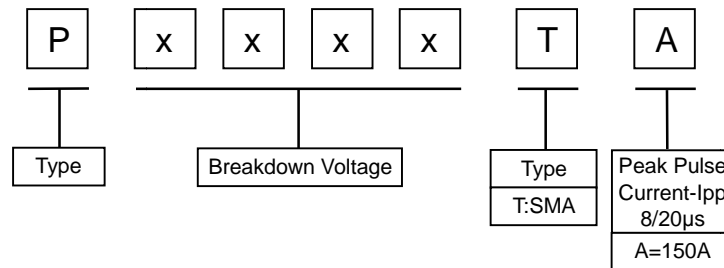


Features

Compared to surge suppression using other technologies, P Series devices offer absolute surge protection regardless of the surge current available and the rate of applied voltage (dv/dt). P Series devices:

- I Cannot be damaged by voltage
- I Eliminate hysteresis and heat dissipation typically found with clamping devices
- I Eliminate voltage overshoot caused by fast-rising transients
- I Are non-degenerative
- I Will not fatigue
- I Have low capacitance, making them ideal for high-speed transmission equipment


Part Number Code



Surge Ratings

Series	Peak Pulse Current-Ipp(A)	
	8/20µs	10/1000µs
A	150	45

Thermal Considerations

Package	Symbol	Parameter	Value	Unit
 DO-214AC/SMA	TJ	Operating Junction Temperature	-40 to +150	°C
	TS	Storage Temperature Range	-40 to +150	°C
	RθJA	Junction to Ambient on printed circuit	90	°C/W



Electrical Characteristics

Type Number	V_{DRM}	V_S	V_T	I_{DRM}	I_S	I_T	I_H	C_J
	V	V	V	μA	mA	A	mA	pF
P0080TA	6	25	4	5	800	2.2	50	45
P0300TA	25	40	4	5	800	2.2	50	45
P0640TA	58	77	4	5	800	2.2	150	35
P0720TA	65	88	4	5	800	2.2	150	50
P0900TA	75	98	4	5	800	2.2	150	40
P1100TA	90	130	4	5	800	2.2	150	45
P1300TA	120	160	4	5	800	2.2	150	45
P1500TA	140	180	4	5	800	2.2	150	40
P1800TA	170	220	4	5	800	2.2	150	40
P2000TA	180	220	4	5	800	2.2	150	40
P2300TA	190	260	4	5	800	2.2	150	45
P2600TA	220	300	4	5	800	2.2	150	35
P3100TA	275	350	4	5	800	2.2	150	35
P3500TA	320	400	4	5	800	2.2	150	30
P4000TA	360	460	4	5	800	2.2	150	20
P4500TA	400	540	4	5	800	2.2	150	20
P5000TA	440	600	4	5	800	2.2	150	20

Notes:

V_{DRM} : Peak Off-state Voltage – maximum voltage that can be applied while maintaining off state.

V_S : Switching Voltage – maximum voltage prior to switching to on state

V_T : On-state Voltage – maximum voltage measured at rated on-state current

I_{DRM} : Leakage Current – maximum peak off-state current measured at V_{DRM}

I_S : Switching Current – maximum current required to switch to on state

I_T : On-state Current – maximum rated continuous on-state current.

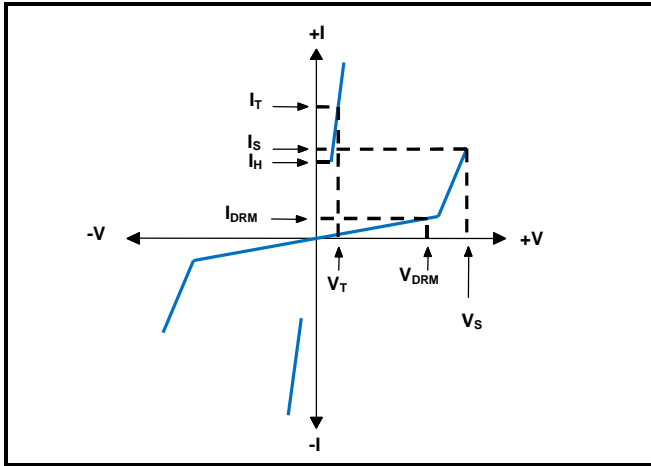
I_H : Holding Current – minimum current required to maintain on state.

C_J : Off-state Capacitance – typical capacitance measured in off state.

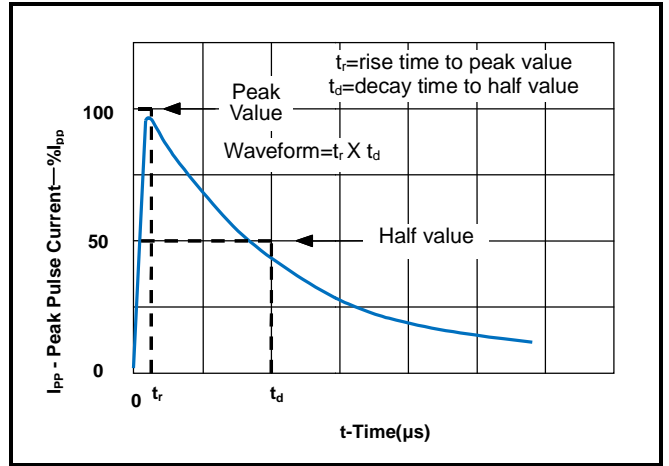


Characteristics Curves

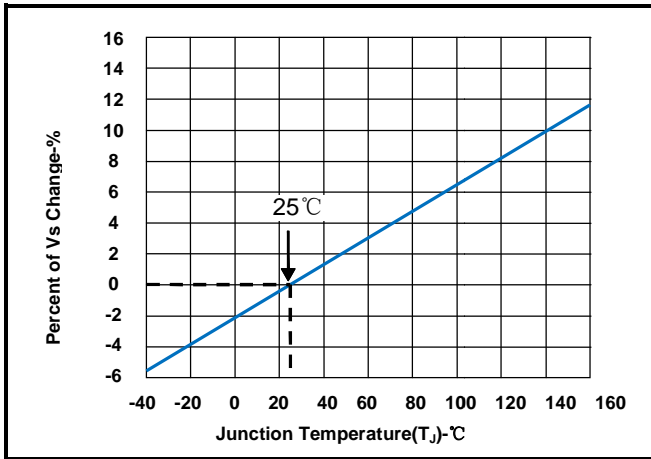
V-1 Characteristics



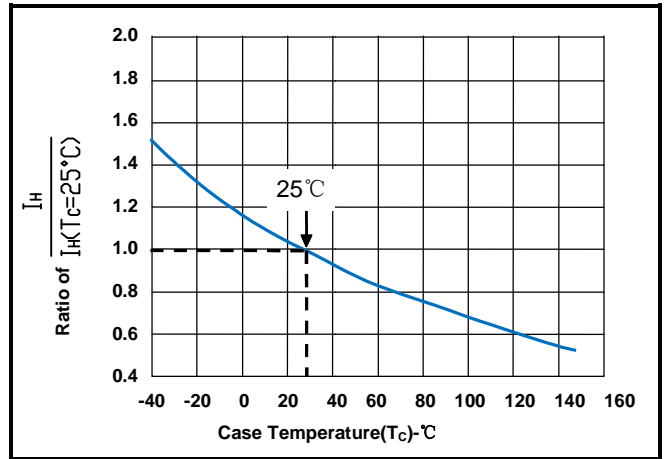
$t_r \times t_d$ Pulse Waveform



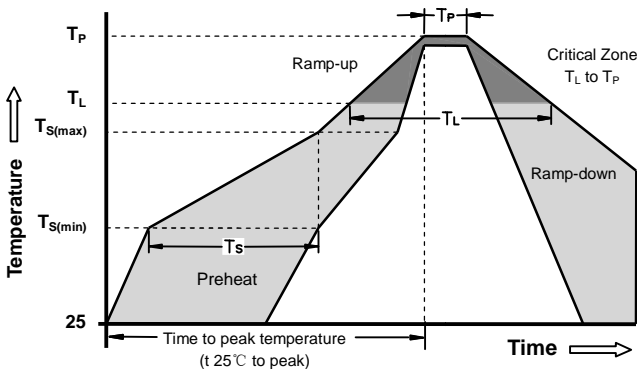
Normalized V_s Change vs. Junction Temperature



Normalized DC Holding Current vs. Case Temperature



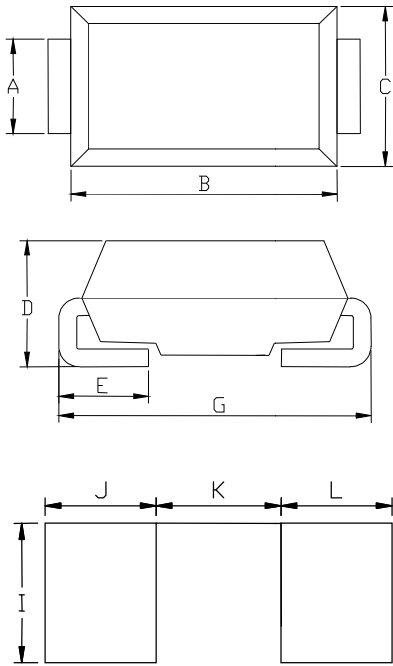
Soldering Parameters - Reflow Soldering (Surface Mount Devices)



Reflow Condition		Pb - Free assembly
Pre Heat	-Temperature Min ($T_{S(min)}$)	150 $^{\circ}C$
	-Temperature Max ($T_{S(max)}$)	200 $^{\circ}C$
	- Time (min to max) (t_s)	60 -180 Seconds
Average ramp up rate (Liquids Temp T_L to peak)		3 $^{\circ}C$ /second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3 $^{\circ}C$ /second max
Reflow	- Temperature (T_L) (Liquids)	217 $^{\circ}C$
	- Time (min to max) (t_s)	60 -150 Seconds
Peak Temperature (T_P)		260 +0/-5 $^{\circ}C$
Time within 5 $^{\circ}C$ of actual peak Temperature (t_p)		20 - 40 Seconds
Ramp-down Rate		6 $^{\circ}C$ /second max
Time 25 $^{\circ}C$ to peak Temperature (T_P)		8 minutes Max
Do not exceed		260 $^{\circ}C$

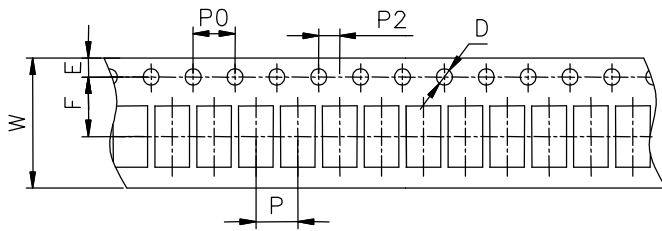


Dimensions

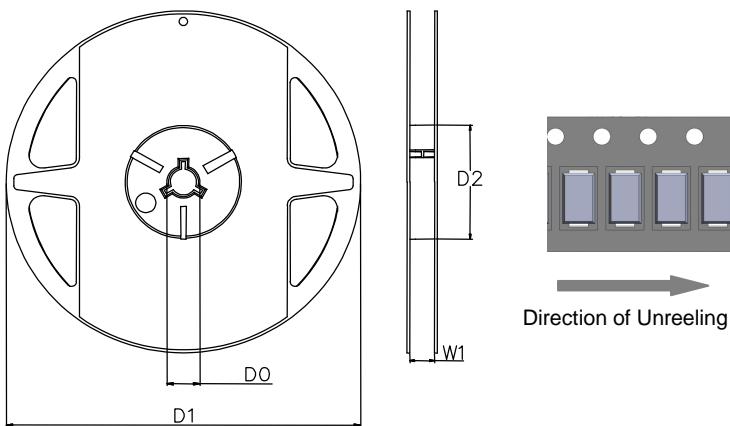


DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	1.40	1.60	0.055	0.062
B	4.00	4.60	0.157	0.181
C	2.50	2.90	0.098	0.114
D	2.051	2.643	0.080	0.104
E	0.76	1.52	0.03	0.060
G	4.80	5.28	0.188	0.208
I	2.16		0.085	
J	1.78		0.070	
K	2.00		0.079	
L	1.78		0.070	

Taping and Reel Specifications



Symbol	Millimeters	Inches
W	12±0.2	0.472±0.008
P	4±0.1	0.157±0.004
F	5.5±0.1	0.217±0.004
E	1.75±0.1	0.069±0.004
D	Φ1.5±0.1	0.059±0.004
P0	4±0.1	0.157±0.004
P2	2±0.1	0.079±0.004
D0	13.5±0.5	0.531±0.02
D1	Φ330±2.0	12.99±0.079
W1	16.0±1.0	0.63±0.039



Part Number	Component package	Quantity	Packaging option	Industry Standard
PxxxxTX	DO-214AC/SMA	5000	Tape&Reel	EIA-481-1

