

Thyristor Surge Suppressors

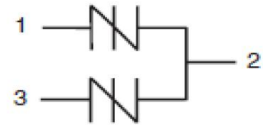
Package DO-214AA/SMB



Description

P0080C2 Thyristor Surge Suppressors protect telecommunications equipment such as ADSL Modems, Router, Telephone, CCTV Camera, Digital Video Record, Video Capture Card, Twisted-pair video transmitter, CATV Splitter.....Etc.

P0080C2 Thyristor Surge Suppressors are used to enable equipment to meet various regulatory requirements including GR 1089, ITU K.20/21, IEC 61000-4-5, YD/T 1082, YD/T 993, YD/T 950, TIA-968-A, TIA-968-B



Schematic Symbol

Features

Compared to surge suppression using other technologies, P0080C2 devices offer absolute surge protection regardless of the surge available and the rate of applied voltage (dv/dt). P0080C2 devices:

- 100% Lead-Free (RoHS Compliant)
- 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
- Have low capacitance, making them ideal for high-speed transmission equipment



Electrical Characteristics

Parameter	Definition
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
I_H	Holding Current — minimum current required to maintain on state
I_S	Switching Current — maximum current required to switch to on state
I_T	On-state Current — maximum rated continuous on-state current
V_T	On-state Voltage — maximum voltage measured at rated on-state current
Capacitance	Off-state Capacitance — typical capacitance measured in off state
I_{DRM}	Leakage Current — maximum peak off-state current measured at V_{DRM}
I_{PP}	Peak Pulse Current — maximum rated peak impulse current
I_{TSM}	Peak One-cycle Surge Current — maximum rated one-cycle AC current
di/dt	Rate of Rise of Current — maximum rated value of the acceptable rate of rise in current over time

Electrical Characteristics


Part Number	V_{DRM} @ $I_{DRM}=5\mu A$	V_S @100V/ μs	I_H	I_S	I_T	V_T @ $I_T=2.2A$ ps	Capacitance @1MHz,2V bias	IPP 10/700us
	V_{min}	V_{max}	mA min	mA max	A max	V_{max}	pF	V
P0080C2	6	25	50	800	2.2	4	120	6000
P0300C2	25	40	50	800	2.2	4	120	6000
P0640C2	58	77	50	800	2.2	4	120	6000

Notes:

-All measurements are made at an ambient temperature of 25°C .Ipp applies to -40°C through +85°C temperature range .

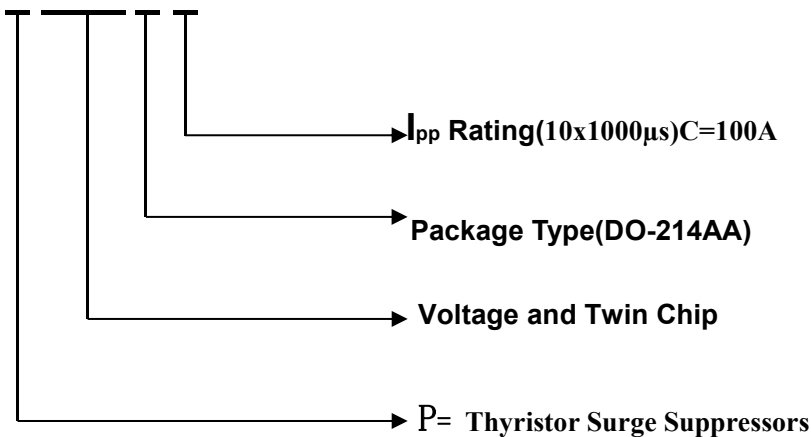
-Off-state capacitance(Co) is typical value.

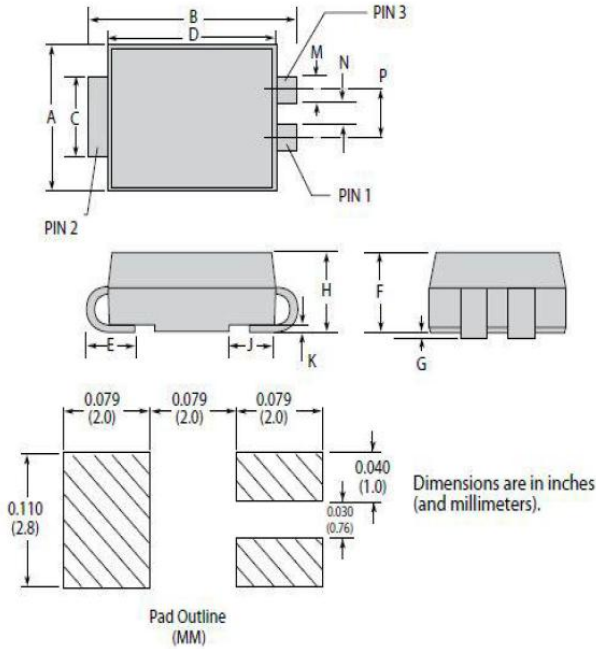
Series	I_{pp} 2x10 μs	I_{pp} 8x20 μs	I_{pp} 10x160 μs	I_{pp} 10x1000 μs	I_{pp} 5x320 μs	I_{pp} 10x360 μs
	Amps	Amps	Amps	Amps	Amps	Amps
C	500	400	200	100	150	75

Package	DO-214AA/SMB	Symbol	Parameter	Value	Unit
		T_J	Operating Junction Temperature Range	-40 to +150	°C
		T_S	Storage Temperature Range	-65 to +150	°C
		$R_{\theta JA}$	Junction to Ambient on prited circuit	90	°C /W

Description of Part Number

P 0080 C 2 - TWIN CHIP





	Inches		Millimeters	
	Min	Max	Min	Max
A	0.130	0.155	3.30	3.94
B	0.201	0.22	5.10	5.60
C	0.077	0.083	1.95	2.11
D	0.166	0.185	4.22	4.70
E	0.030	0.063	0.75	1.60
F	0.075	0.103	1.90	2.55
G	0.002	0.008	0.05	0.20
H	0.077	0.104	1.95	2.65
M	0.018	0.028	0.46	0.71
K	0.008	0.014	0.20	0.35
N	0.018	0.028	0.46	0.71
P	0.036	0.058	0.92	1.47

Ratings And V-I Characteristics Curves (TA=25°C, unless otherwise noted)

FIG.1: tr × td pulse waveform

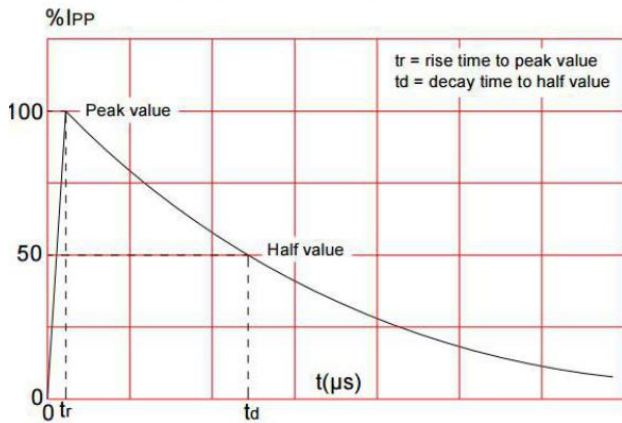
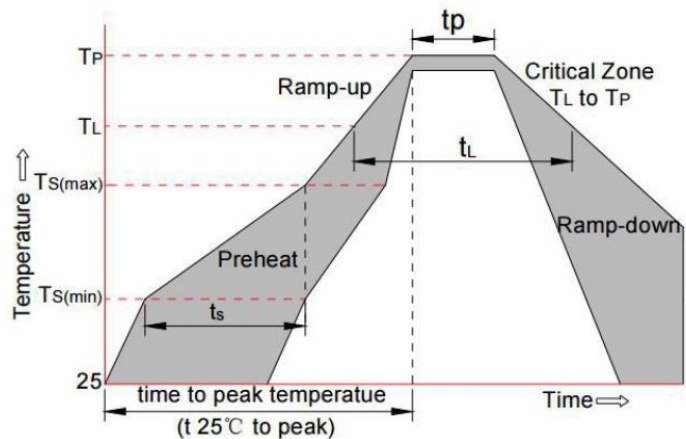


FIG.2: Reflow condition



Packing Options



Package Type	Description	Packing Quantity	Industry Standard
S	DO-214AA Reel Pack	3000 PCS	EIA-481-D

Characteristics Curve

FIG.3: Normalized V_s change vs. junction temperature

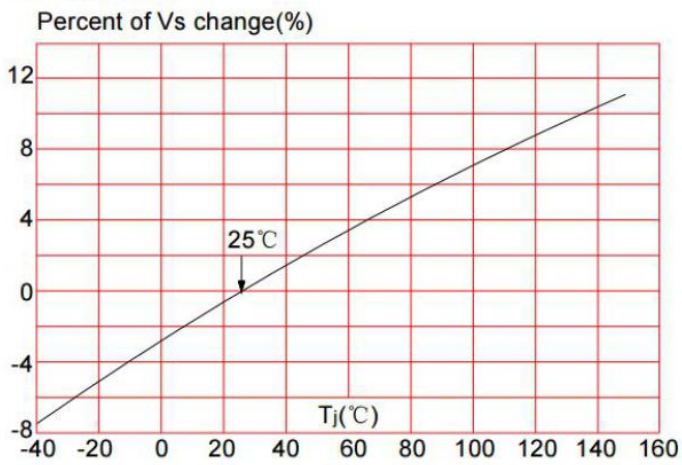


FIG.4: Normalized DC holding current vs. case temperature

