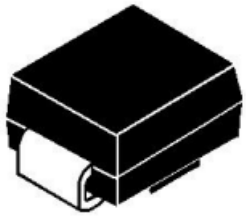
Features

- SMA or SMB Package
- Bi-directional Configurations
- Low Leakage < 5 uA
- Quick Response to Surge Voltage
- RoHS Compliant in Lead-Free Versions

Mechanical Characteristics

- T1/E1 Trunk & Line Card
- RS-485/RS-232/RS-422
- Video/audio line



Absolute Maximum Ratings

Parameter	Symbols	Value	Unit
Surge Ratings (10/700us)		See surge ratings	V
Operating Junction Temperature Range	T_J	-40 to +125	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃

Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified)

Device	V_{RWM}(V)	V_S(V)@I_S	V_T(V) @ I_T	I_{DRM} (uA) @ V_{RWM}	I_S (mA)	IT(mA)	IH(mA)	Co(pF) @VR=2V F = 1 MHz
	Max	Max	Max	Max				Max
P0080S_	6	25	4	5.0	800	2.2	30	100
P0220S_	15	32	4	5.0	800	2.2	30	100
P0300S_	25	40	4	5.0	800	2.2	30	110
P0640S_	58	77	4	5.0	800	2.2	50	50
P0720S_	65	88	4	5.0	800	2.2	150	50
P1300S_	120	160	4	5.0	800	2.2	150	40
P1800S_	160	220	4	5.0	800	2.2	150	40
P2300S_	190	260	4	5.0	800	2.2	150	30
P2600S_	220	300	4	5.0	800	2.2	150	30
P3100S_	275	350	4	5.0	800	2.2	150	30
P3500S_	320	400	4	5.0	800	2.2	150	30
P4200S_	390	500	4	5.0	800	2.2	150	30

1)For individual “SA”,”SB”,”SC” surge ratings, see table below.
2)”Co” is a typical value for “SA” and “SB” product. “SC” capacitance is approximately 2x the listed value. “Co” of P0080SB is equal to the “SC” device.

Surge Ratings

Series	IPP(A) 2x10us	IPP(A) 8x20us	IPP(A) 10x160us	IPP(A) 10x560us	IPP(A) 10x1000us	ITSM(A) 60Hz	di/dt (A/us)
A	150	150	90	50	45	20	500
B	250	250	150	100	80	30	500
C	500	400	200	150	100	30	500

Package

Series	Package	Example
A	SMA (M) or SMB (H)	P0080SA(M)
B	SMA (M) or SMB (H)	P0080SB(H)
C	SMB (H)	P0080SC(H)

Marking

P XXX X

Type
P = Thyristor Surge Protection Devices

Median Volage:
08 = 0080
02 = 0220
03 = 0300
064 = 0640
07 = 0720
13 = 1300
18 = 1800
23 = 2300
26 = 2600
310 = 3100
35 = 3500
42 = 4200

IPP Rating

Characteristics

Symbol	Parameter
I_{DRM}	Off State Leakage Current
V_{DRM}	Off State Blocking Voltage
V_S	Switching Voltage
I_S	Switching Current
I_H	Holding Current
V_T	On State Voltage
I_T	On State Currrent

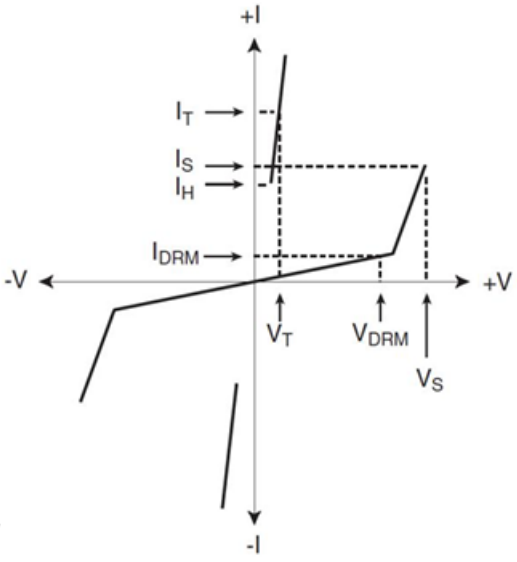


Fig1. V-I Characteristics

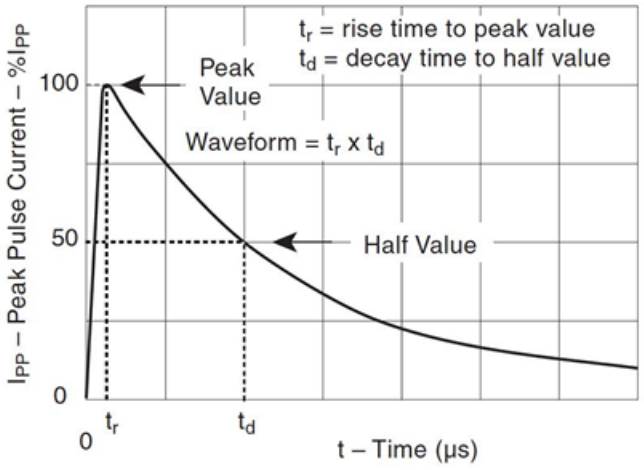


Fig2. t_r x t_d Pulse Waveform

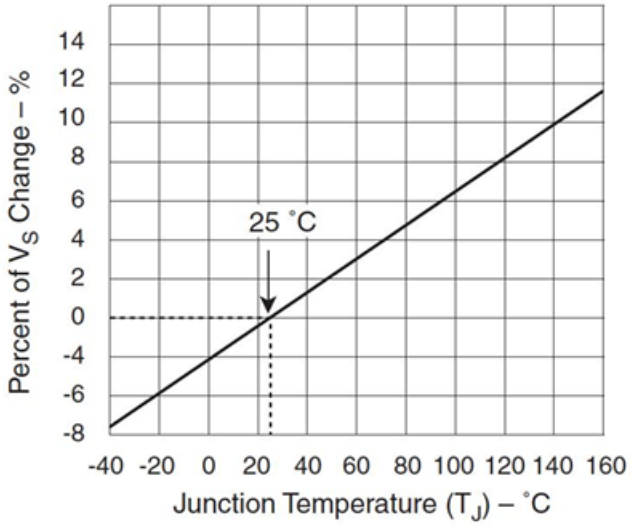


Fig3. Normalized Vs Change versus Junction Temperature

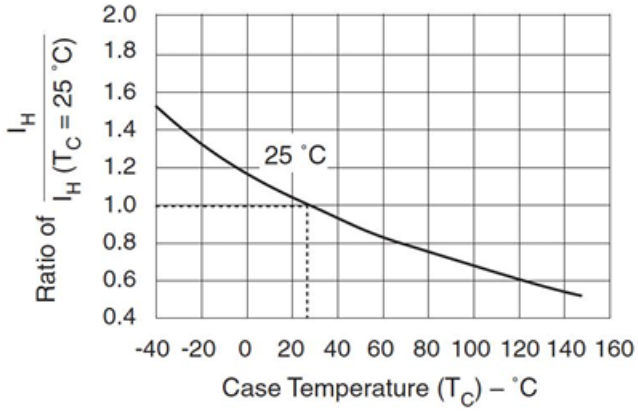
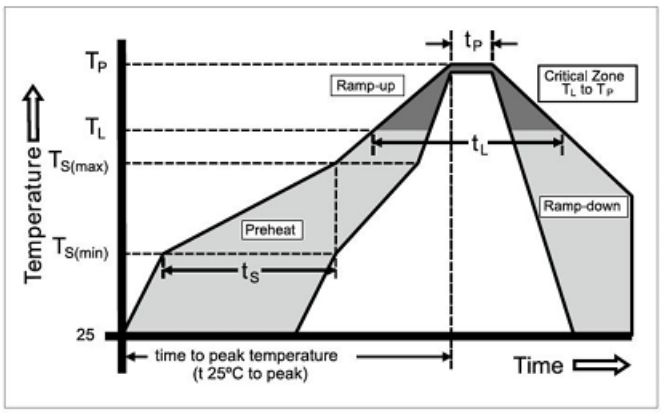


Fig4. Normalized DC Holding Current versus Temperature

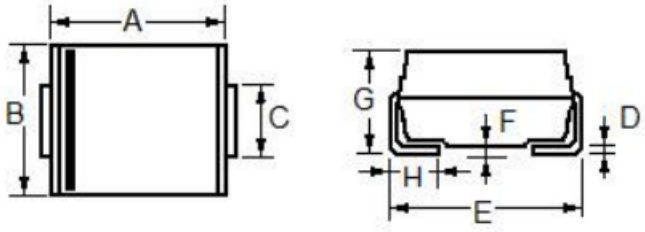
Soldering parameters reflow soldering

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 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		5°C/second max
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		10 – 30 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8minutes Max.
Do not exceed		260°C



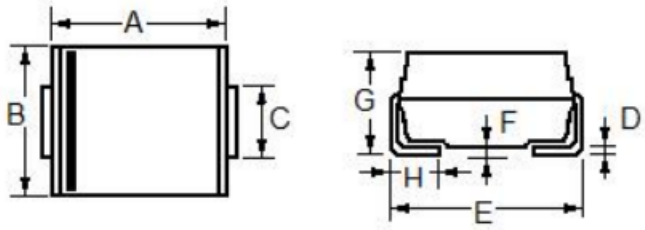
Package Outline Drawing

DO-214AC(SMA)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	3.85	4.50	0.151	0.177
B	2.40	2.90	0.094	0.114
C	1.30	1.70	0.051	0.067
D	0.152	0.305	0.006	0.012
E	4.80	5.31	0.188	0.209
F	----	0.203	----	0.008
G	1.70	2.50	0.067	0.098
H	0.76	1.52	0.030	0.060

DO-214AA (SMB)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	4.06	4.57	0.160	0.180
B	3.30	3.94	0.130	0.155
C	1.78	2.20	0.070	0.086
D	0.13	0.31	0.006	0.012
E	5.08	5.59	0.200	0.220
F	----	0.20	----	0.008
G	1.80	2.62	0.071	0.103
H	0.76	1.52	0.030	0.060