PulseTake Devices

Thyistor Surge Protector

PTXXX0SC Series

Features

- Bi-directional crowbar transient voltage protection
- High surge capability
- High off-state impedance
- Low leakage current
- Low on-state voltage
- Short-circuit failure mode

DO-214AA(SMB)

Main Application

PulseTake's thyristor surge protector devices are designed to help protect sensitive telecommunication equipment from the hazards caused by lighning ,power contact,and power induction. These devices enable equipment to comply with various regulatory requirements including GR 1089,ITU K.20,K.21and K.45,IEC 60950,UL 60950,and TIA-968-A(formerly known as FCC Part 68).

Typical application including:

- Central office switching equipment. Analog and digital linecards(xDSL,T1/E1,ISDN……)
- Customer Premises Equipment(CPE)such as phones, fax machines,modems,POS terminals, PBX systems and caller ID adjunct boxes.
- Primary protection modules including Main Distribution Frames(MDF),building entrance equipment and station protection modules.
- Access network equipment such as remote terminals,line repeaters,multiplexers,cross-connects,WAN equipment,Network Interface Devices(NID).
- Data lines and security systems.
- CATV line amplifiers and power inserters.
- Sprinkler systems.

Electrcal Parameters (Tamb=25℃)

Part Number	V_{DRM}	I_{DRM}	V_{BO}	I_{BO}	V_T	I_T	C_O	$`I_H$
	Min.	Max.	Max.	Max.	Max.	Max.	Typ.	Min.
	V	uA	V	mA	V	A	pF	mA
PT0080SC	6	5	20	800	4	2.2	80	25
PT0300SC	25	5	40	800	4	2.2	80	50
PT0640SC	58	5	77	800	4	2.2	65	120
PT0720SC	65	5	88	800	4	2.2	65	120
PT0900SC	75	5	98	800	4	2.2	65	120
PT1100SC	90	5	130	800	4	2.2	65	120

Part Number	V_{DRM}	I_{DRM}	V_{BO}	I_{BO}	V_T	I_T	C_O	I_H
	Min.	Max.	Max.	Max.	Max.	Max.	Max.	Min.
	V	uA	V	mA	V	A	pF	mA
PT1300SC	120	5	160	800	4	2.2	65	120
PT1500SC	140	5	180	800	4	2.2	65	120
PT1800SC	170	5	220	800	4	2.2	60	120
PT2000SC	180	5	220	800	4	2.2	60	120
PT2300SC	190	5	260	800	4	2.2	60	120
PT2600SC	220	5	300	800	4	2.2	55	120
PT3100SC	275	5	350	800	4	2.2	50	120
PT3500SC	320	5	400	800	4	2.2	50	120
PT3800SC	360	5	460	800	4	2.2	50	120
PT4200SC	400	5	540	800	4	2.2	45	120

Eletrical Characteristics

V_{DRM} Stand-off voltage,is measured at IDRM

V_{BO} Breakover voltage,is measured at 100V/μs.

C_O Off-state capacitance ismeasured in V_{DC}=2V@1MHz.

I_{DRM} Leakage current,is measured at VDRM.

I_H Holding current.

I_{BO} Breadover current.

I_T ON-state current

V_T On-state voltage.

Part Numbering System

PT XXX S C

(A) (B) (C) (D)

(A) PulseTake's Semiconductor Surge Arrester.
(B) Series：0060,0300,0640.....3500,3800,4200 etc.
(C) T：Package：DO-214AA(SMB)
(D) Rating Sure Voltage：C：≧ 6KV(10/700μs)

Electrical Characteristics Curves

Figure1 V-I Characteristics

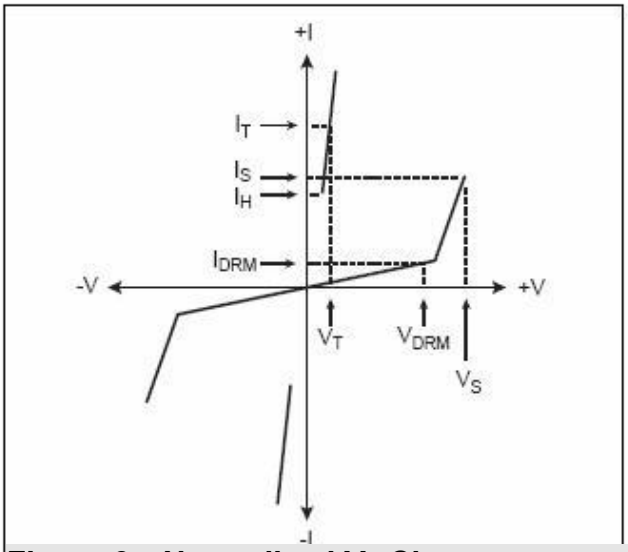


Figure2 tr x td Pulse Wave-form

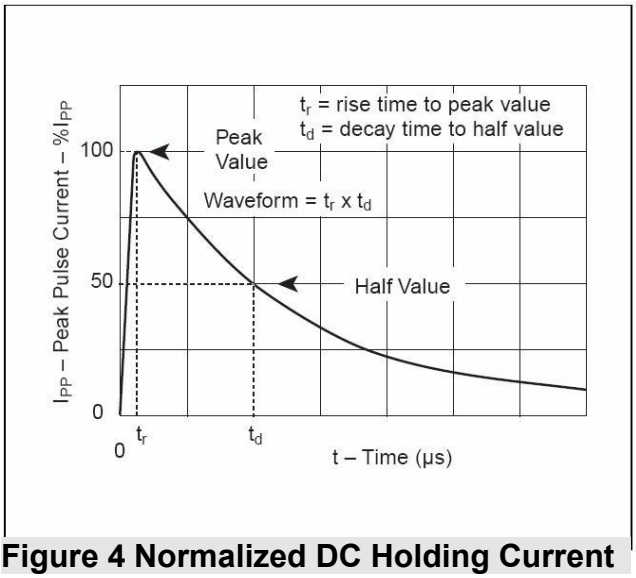


Figure 3 Normalized V_S Change versus Junction Temperature

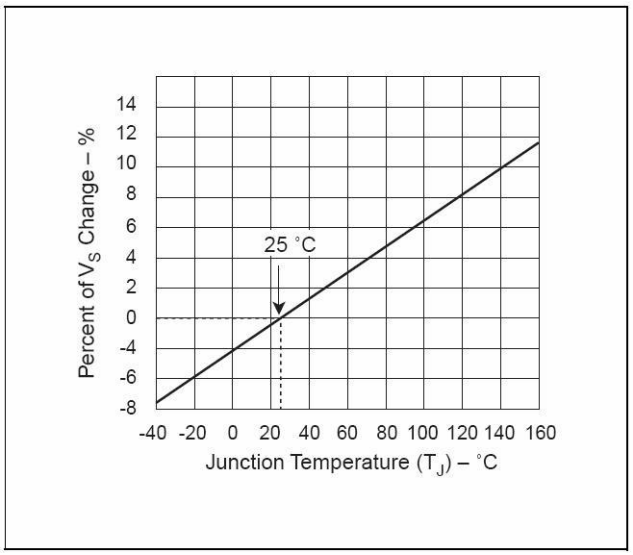
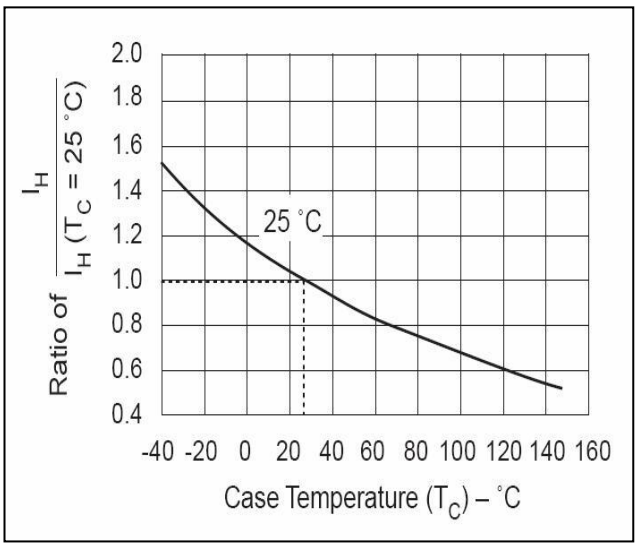


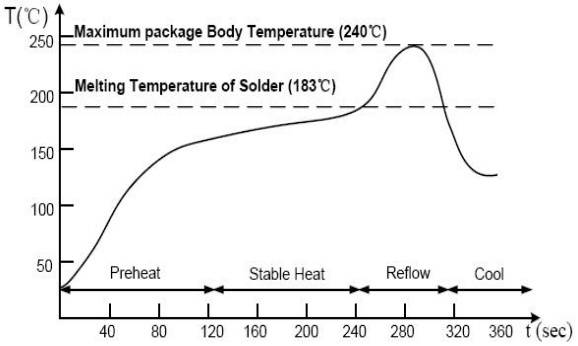
Figure 4 Normalized DC Holding Current



Thermal Considerations

Package DO-214AC/SMA	Symbol	Parameter	Value	Unit
	T_J	Operating Junction Temperature	-40 to +150	℃
	T_S	Storage Temperature Range	-40 to +150	℃
	$R_{\theta JA}$	Junction to Ambient on printed circuit	90	℃/W

Solder Reflow Recommendations

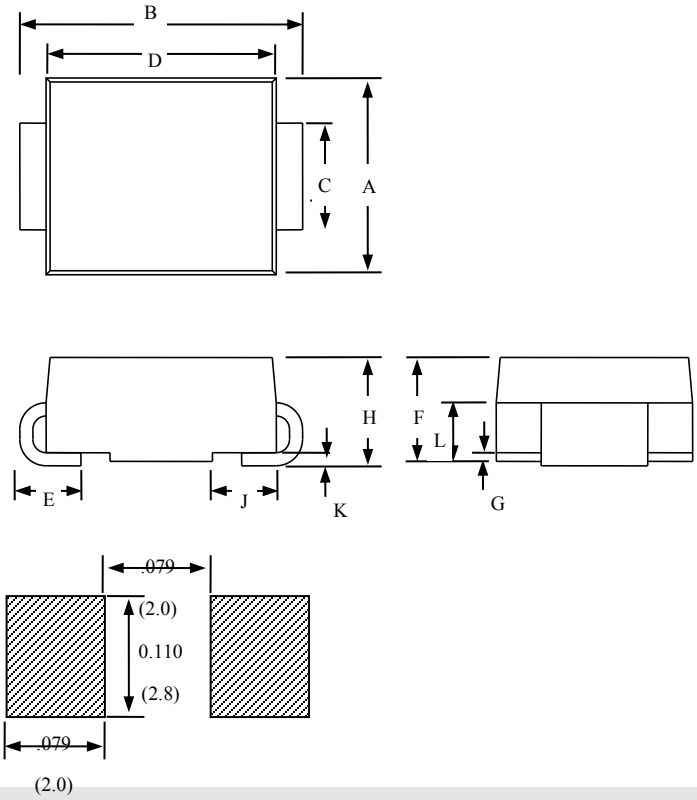


- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.

Notes: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Product Dimensions

Dimension	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.134	0.155	3.40	3.94
B	0.205	0.22	5.21	5.59
C	0.075	0.083	1.90	2.11
D	0.166	0.185	4.22	4.70
E	0.036	0.056	0.91	1.42
F	0.073	0.087	1.85	2.2
G	0.002	0.008	0.05	0.20
H	0.077	0.094	1.95	2.40
J	0.043	0.053	1.09	1.35
K	0.008	0.014	0.20	0.35
L	0.039	0.049	0.99	1.24



Summary of Packing Options

Package Type	Description	Packing Quantity	Industry Standard
DO-214AA(SMB) 	Embossed Carrier Reel Pack	3000PCS	EIA-481-D