

SIDACtor Protection Thyristors

Package TO-92



Description

Fast Delivery Time

Sxxx0EA,SXXX0EB,SXXX0EC Series SIDACtor Protection Thyristor protect telecommunications equipment such as ADSL Modems,Router, , Telephone, CCTV Camera,Digital Video Record,Video Capture Card,Twisted-pair video transmitter,CATV Splitter.....Etc.

Sxxx0EA,SXXX0EB,SXXX0EC Series SIDACtor Protection Thyristor 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



Features

Compared to surge suppression using other technologies, Sxxx0EA,SXXX0EB,SXXX0EC Series devices offer absolute surge protection regardless of the surge current available and the rate of applied voltage (dv/dt).

Sxxx0EA,SXXX0EB,SXXX0EC Series 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	Marking	V _{DRM} @I _{DRM} =5 μ A	V _S @100V/μs	I _H	I _S	I _T	V _T @I _T =2.2Amps	Capacitance @1MHz,2V bias
		V _{min}	V _{max}	mA _{min}	mA _{max}	A _{max}	V _{max}	pF
S0080EA	S0080EA	6	25	50	800	2.2	4	45
S0300EA	S0300EA	25	40	50	800	2.2	4	45
S0640EA	S0640EA	58	77	150	800	2.2	4	35
S0720EA	S0720EA	65	88	150	800	2.2	4	50
S0900EA	S0900EA	75	98	150	800	2.2	4	40
S1100EA	S1100EA	90	130	150	800	2.2	4	35
S1300EA	S1300EA	120	160	150	800	2.2	4	35
S1500EA	S1500EA	140	180	150	800	2.2	4	40
S1800EA	S1800EA	170	220	150	800	2.2	4	40
S2100EA	S2100EA	180	240	150	800	2.2	4	40
S2300EA	S2300EA	190	260	150	800	2.2	4	45
S2600EA	S2600EA	220	300	150	800	2.2	4	35
S3100EA	S3100EA	275	350	150	800	2.2	4	35
S3500EA	S3500EA	320	400	150	800	2.2	4	30
S0080EB	S0080EB	6	25	50	800	2.2	4	60
S0300EB	S0300EB	25	40	50	800	2.2	4	65
S0640EB	S0640EB	58	77	150	800	2.2	4	45
S0720EB	S0720EB	65	88	150	800	2.2	4	45
S0900EB	S0900EB	75	98	150	800	2.2	4	40
S1100EB	S1100EB	90	130	150	800	2.2	4	40
S1300EB	S1300EB	120	160	150	800	2.2	4	40
S1500EB	S1500EB	140	180	150	800	2.2	4	35
S1800EB	S1800EB	170	220	150	800	2.2	4	65
S2100EB	S2100EB	180	240	150	800	2.2	4	60

Electrical Characteristics

continued



Part Number	Marking	V _{DRM} @I _{DRM} =5 μ A	V _S @100V/μs	I _H	I _S	I _T	V _T @I _T =2.2Amps	Capacitance @1MHz,2V bias
		V _{min}	V _{max}	mA _{min}	mA _{max}	A _{max}	V _{max}	pF
S2300EB	S2300EB	190	260	150	800	2.2	4	50
S2600EB	S2600EB	220	300	150	800	2.2	4	45
S3100EB	S3100EB	275	350	150	800	2.2	4	45
S3500EB	S3500EB	320	400	150	800	2.2	4	40
S0080EC	S0080EC	6	25	50	800	2.2	4	70
S0300EC	S0300EC	25	40	50	800	2.2	4	65
S0640EC	S0640EC	58	77	150	800	2.2	4	55
S0720EC	S0720EC	65	88	150	800	2.2	4	60
S0900EC	S0900EC	75	98	150	800	2.2	4	65
S1100EC	S1100EC	90	130	150	800	2.2	4	55
S1300EC	S1300EC	120	160	150	800	2.2	4	60
S1500EC	S1500EC	140	180	150	800	2.2	4	50
S1800EC	S1800EC	170	220	150	800	2.2	4	55
S2100EC	S2100EC	180	240	150	800	2.2	4	85
S2300EC	S2300EC	190	260	150	800	2.2	4	65
S2600EC	S2600EC	220	300	150	800	2.2	4	65
S3100EC	S3100EC	275	350	150	800	2.2	4	55
S3500EC	S3500EC	320	400	150	800	2.2	4	50

Notes:

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

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

*For surge ratings,see next page.

Surge Ratings

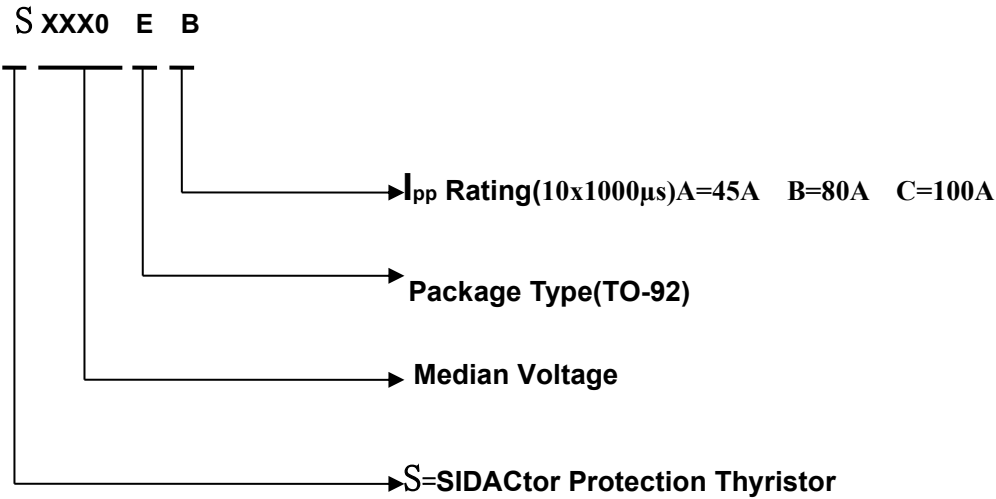
SGS
RoHS

	I _{pp} 2x10μs	I _{pp} 8x20μs	I _{pp} 10x160μs	I _{pp} 10x560μs	I _{pp} 10x1000μs	I _{pp} 5x320μs	I _{pp} 5x310μs	I _{pp} 10x360μs	I _{TSM} 50/60Hz	di/dt
Series	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps/μs
A	150	150	90	50	45	75	75	75	20	500
B	250	250	150	100	80	100	100	125	25	500
C	500	400	200	150	100	200	200	175	30	500

Thermal Considerations

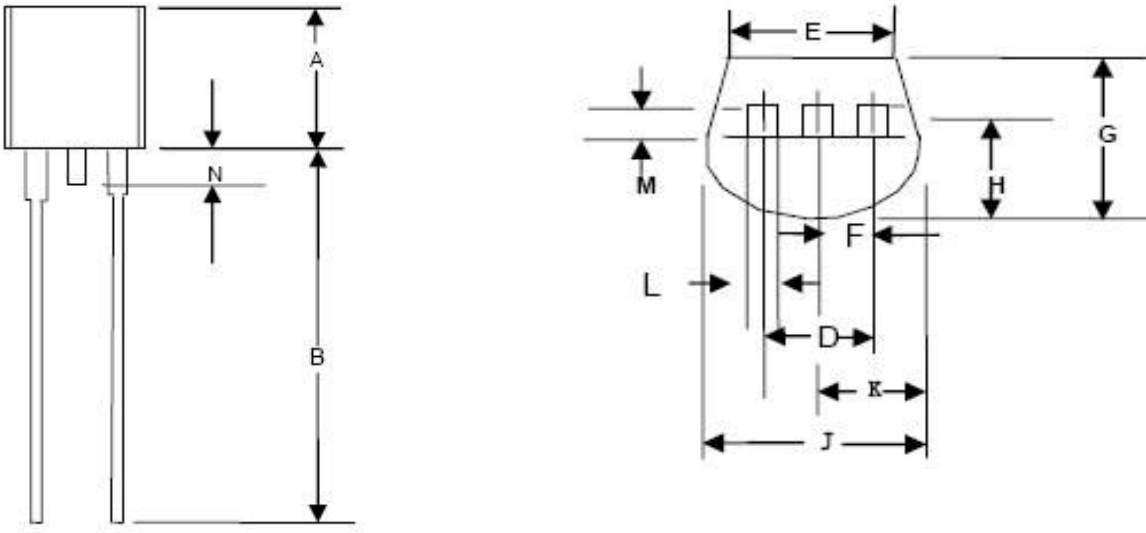
Package	TO-92	Symbol	Parameter	Value	Unit
		T _J	Operating Junction Temperature Range	-40 to +150	°C
		T _S	Storage Temperature Range	-65 to +150	°C
		R _{θJA}	Junction to Ambient on prited circuit	90	°C /W

Description of Part Number



Dimensions - TO-92

SGS



Dimension	Inches		Millimeters	
	Min	Max	Min	Max
A	0.176	0.196	4.40	4.98
B	0.500		12.1	
D	0.095	0.105	2.14	2.67
E	0.150		3.81	
F	0.046	0.054	1.16	1.37
G	0.135	0.145	3.43	3.68
H	0.088	0.096	2.23	2.44
J	0.176	0.186	4.47	4.70
K	0.088	0.096	2.23	2.44
L	0.013	0.019	0.33	0.48
M	0.013	0.017	0.33	0.43
N		0.060		1.60

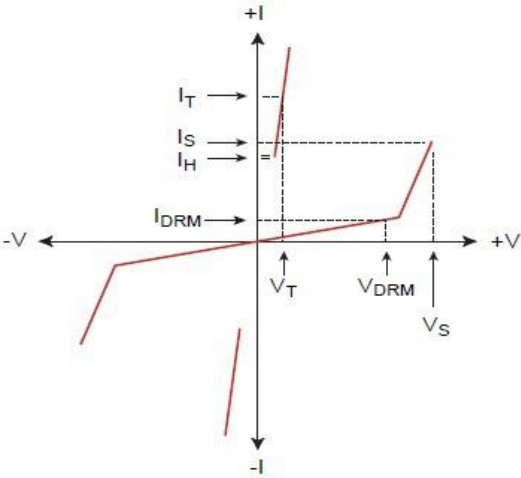
Packing Options

SGS
RoHS

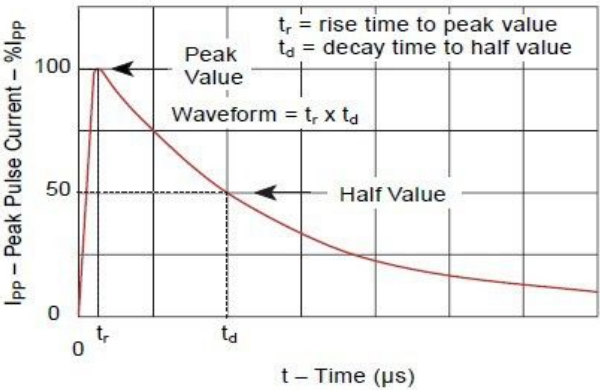
Package Type	Description	Packing Quantity	Industry Standard
E	TO-92 Bulk Pack	1000 PCS	N/A

Characteristics Curve

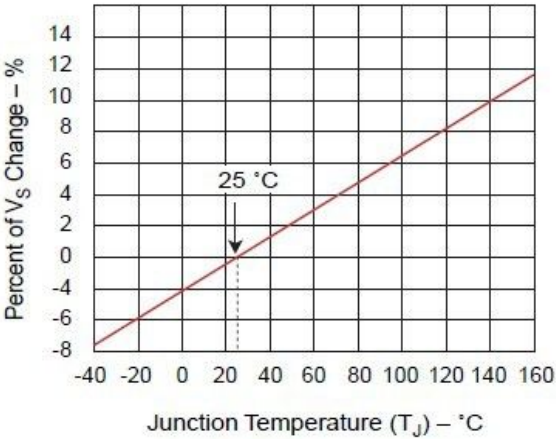
V-I Characteristics



Tr x Td Pulse Waveform



Normalized Vs Change Versus Junction Temperature



Normalized DC Holding Current Versus Case Temperature

