

## 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
$V_{DRM}$	<b>Peak Off-state Voltage</b> — maximum voltage that can be applied while maintaining off state
$V_S$	<b>Switching Voltage</b> — maximum voltage prior to switching to on state
$I_H$	<b>Holding Current</b> — minimum current required to maintain on state
$I_S$	<b>Switching Current</b> — maximum current required to switch to on state
$I_T$	<b>On-state Current</b> — maximum rated continuous on-state current
$V_T$	<b>On-state Voltage</b> — maximum voltage measured at rated on-state current
Capacitance	<b>Off-state Capacitance</b> — typical capacitance measured in off state
$I_{DRM}$	<b>Leakage Current</b> — maximum peak off-state current measured at $V_{DRM}$
$I_{PP}$	<b>Peak Pulse Current</b> — maximum rated peak impulse current
$I_{TSM}$	<b>Peak One-cycle Surge Current</b> — maximum rated one-cycle AC current
di/dt	<b>Rate of Rise of Current</b> — maximum rated value of the acceptable rate of rise in current over time

### Electrical Characteristics



Part Number	Marking	V <sub>DRM</sub> @I <sub>DRM</sub> =5 μ A	V <sub>s</sub> @100V/μs	I <sub>H</sub>	I <sub>s</sub>	I <sub>T</sub>	V <sub>T</sub> @I <sub>T</sub> =2.2Amps	Capacitance @1MHz,2V bias
		V <sub>min</sub>	V <sub>max</sub>	mA <sub>min</sub>	mA <sub>max</sub>	A <sub>max</sub>	V <sub>max</sub>	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 <sub>DRM</sub> @I <sub>DRM</sub> =5 μ A	V <sub>S</sub> @100V/μs	I <sub>H</sub>	I <sub>S</sub>	I <sub>T</sub>	V <sub>T</sub> @I <sub>T</sub> =2.2Amps	Capacitance @1MHz,2V bias
		V <sub>min</sub>	V <sub>max</sub>	mA <sub>min</sub>	mA <sub>max</sub>	A <sub>max</sub>	V <sub>max</sub>	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<sub>pp</sub> applies to -40°C through +85°C temperature range .

-Off-state capacitance(C<sub>o</sub>) is typical value.


\*For surge ratings,see next page.

Surge Ratings

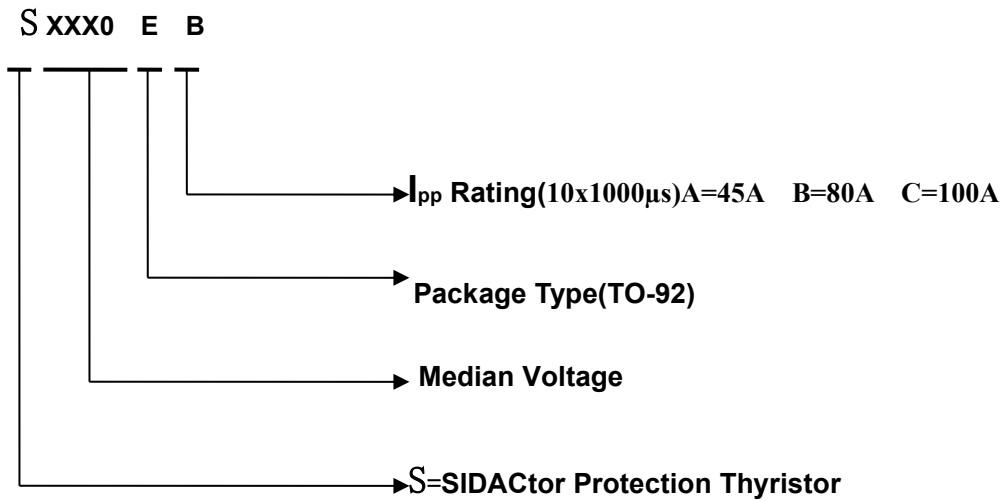


Series	$I_{pp}$ 2x10 $\mu$ s	$I_{pp}$ 8x20 $\mu$ s	$I_{pp}$ 10x160 $\mu$ s	$I_{pp}$ 10x560 $\mu$ s	$I_{pp}$ 10x1000 $\mu$ s	$I_{pp}$ 5x320 $\mu$ s	$I_{pp}$ 5x310 $\mu$ s	$I_{pp}$ 10x360 $\mu$ s	$I_{TSM}$ 50/60Hz	$di/dt$
	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps/ $\mu$ s
A	150	150	90	50	45	75	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

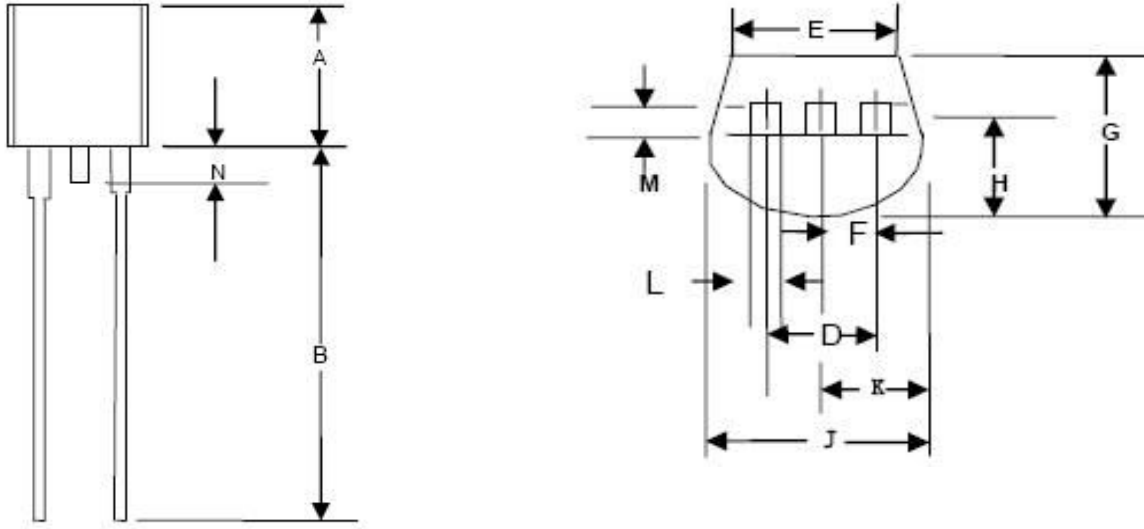
Thermal Considerations

Package	TO-92	Symbol	Parameter	Value	Unit
		$T_J$	Operating Junction Temperature Range	-40 to +150	$^{\circ}C$
		$T_S$	Storage Temperature Range	-65 to +150	$^{\circ}C$
		$R_{\theta JA}$	Junction to Ambient on prited circuit	90	$^{\circ}C/W$

Description of Part Number



Dimensions - TO-92



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

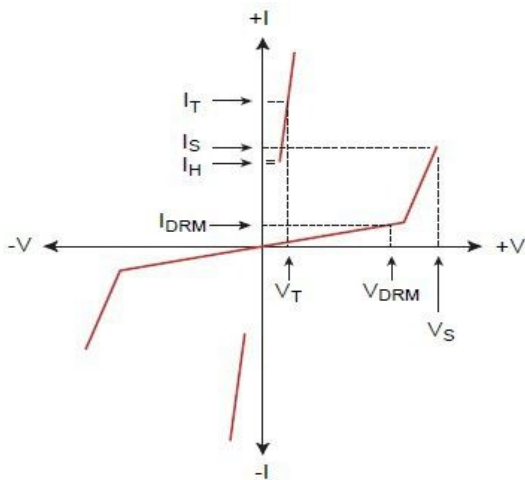
## Packing Options



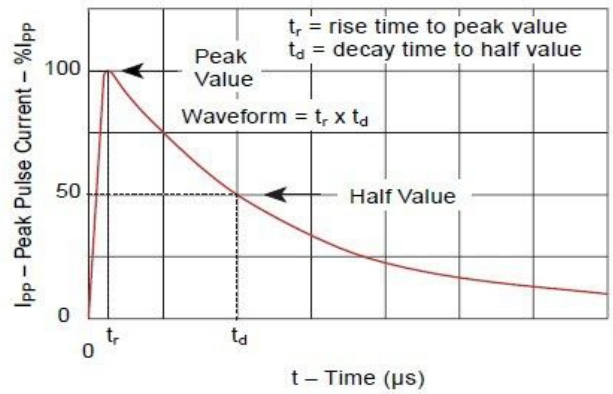
Package Type	Description	Packing Quantity	Industry Standard
E	TO-92 Bulk Pack	1000 PCS	N/A

## Characteristics Curve

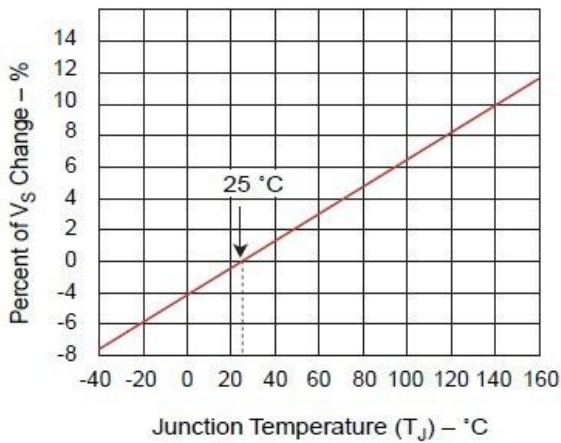
### V-I Characteristics



### Tr x Td Pulse Waveform



### Normalized Vs Change Versus Junction Temperature



### Normalized DC Holding Current Versus Case Temperature

