

Thyristor Surge Suppressors - TO-92

Description

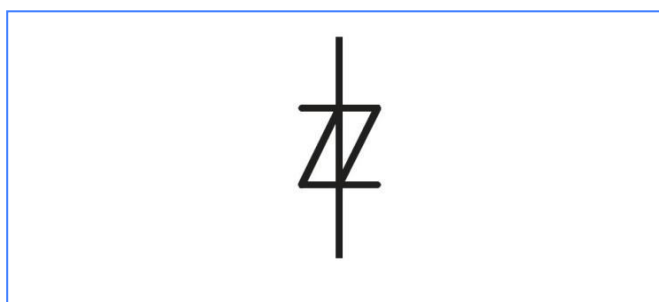
PxxxxE series thyristors are a type of semi—conduct component. They are designed to protect baseband equipment from damaging overvoltage transients. such as modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.



Features

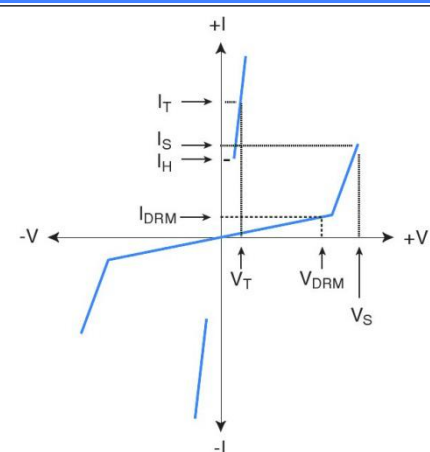
- Excellent capability of absorbing transient surge
- Quick response to surge voltage (ns Level)
- Eliminates overvoltage caused by fast rising transients
- Moisture sensitivity level: Level 1
- Fails short circuit when surged in excess of ratings
- Non degenerative

Device Symbol



Typical Applications

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
V_T	On-state Voltage – maximum voltage measured at rated on-state current
I_{DRM}	Leakage Current – maximum peak off-state current measured at V_{DRM}
I_S	Switching Current – maximum current required to switch to on state
I_T	On-state Current – maximum rated continuous on-state current
I_H	Holding Current – minimum current required to maintain on state
C_o	Off-state Capacitance – typical capacitance measured in off state
I_{PP}	Peak Pulse Current – maximum rated peak impulse current



Thermal Consideration

Parameter	Symbol	Value	Unit
Operating Temperature	T_J	-40 to +150	$^{\circ}C$
Storage Temperature	T_{STG}	-40 to +150	$^{\circ}C$
Junction to free air thermal resistance	$R_{\theta JA}$	90	$W/^{\circ}C$

Summary Electrical Characteristics, T a = 25 ° C (Unless Otherwise Noted)

Parameter Description		I _{DRM} @V _{DRM}		V _s ^① @I _s		V _T @ I _T		I _H	C _o ^②		
									A	B	C
Unit		μA	V	V	mA	V	A	mA	pF		
Type	ENV	max	min	max	max	max	max	min	max		
P0080E	L	5	6	25	800	4	2.2	50	80	130	130
P0220E	L	5	18	30	800	4	2.2	50	60	120	120
P0300E	L	5	25	40	800	4	2.2	50	60	120	100
P0640E	L	5	58	77	800	4	2.2	150	50	80	200
P0720E	L	5	66	87	800	4	2.2	150	50	75	150
P0900E	L	5	75	98	800	4	2.2	150	50	70	140
P1100E	L	5	90	130	800	4	2.2	150	45	70	110
P1300E	L	5	120	160	800	4	2.2	150	45	60	100
P1500E	L	5	140	180	800	4	2.2	150	45	55	90
P1800E	L	5	170	220	800	4	2.2	150	35	50	90
P2300E	L	5	190	260	800	4	2.2	150	35	50	80
P2600E	L	5	220	300	800	4	2.2	150	35	45	80
P3100E	L	5	275	350	800	4	2.2	150	35	45	75
P3500E	L	5	320	400	800	4	2.2	150	35	40	60

For individual "EA" "EB" "EC" Surge ratings, see table above

L : Lead-free

①V_s is measured at 100KV/s

②Off-state capacitance is measured in VDC=2V, VRMS=1V, f=1MHz

Surge Ratings

Series	I _{pp} 2/10μS Amps	I _{pp} 8/20μS Amps	I _{pp} 10/160μS Amps	I _{pp} 10/560μS Amps	I _{pp} 10/1000μS Amps	I _{TSM} 60HZ Amps	Di/Dt Amps /μS
A	150	150	90	50	45	20	500
B	250	250	150	100	80	30	500
C	500	400	200	150	100	50	500

Rating & Characteristic Curves

Figure 1- Reflow Soldering

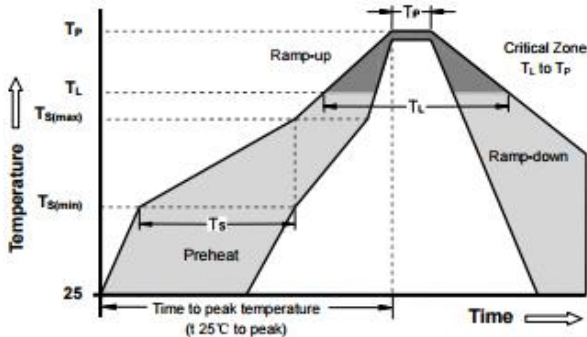


Figure 2- PEAK PULSE CURVE

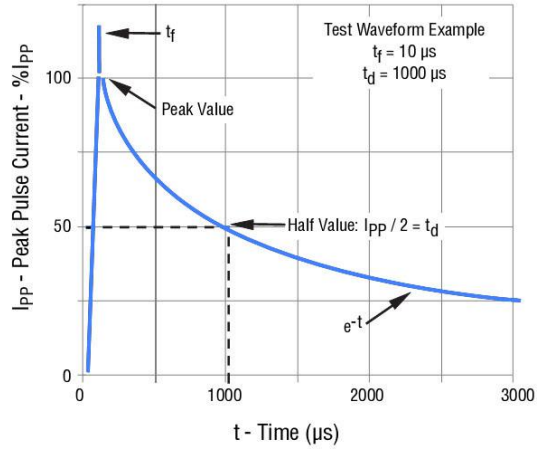


Figure 3-Normalized DC Holding Current versus Case Temperature

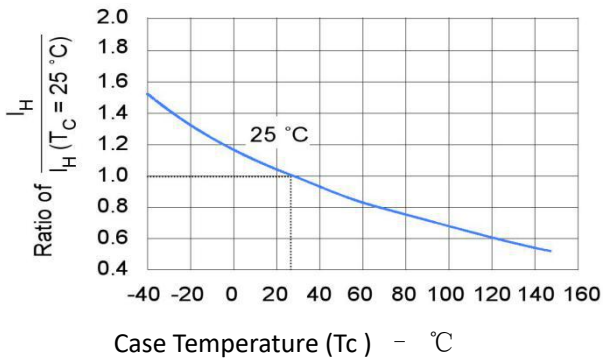


Figure 4-Normalized vs change versus Junction Temp

