



# THSMCJ1018C and THSMCJ1022C

## FEATURES

- Bidirectional Transient Voltage Protection
- Initial Breakdown Voltage of 220 to 275 volts
- Positive Resistance Breakover Voltages of 300 to 350 volts maximum
- Clamping speeds of nanoseconds
- High Off-State Impedance (low leakage) and low on-state voltage (crowbar action)
- Encapsulating material meets UL94V-O requirements

## MAXIMUM RATINGS

- Operating Temperatures: -40°C to +150°C
- Storage Temperature: -65°C to +150°C
- Repetitive Off-State Voltage (both directions): See Electrical Characteristics for  $V_{DRM}$
- Non-Repetitive Peak Impulse Current ( $I_{PP}$ ): 100A @ 10/560µs or 250 A @ 8/20µs (see Note 1 for derating)
- Non-Repetitive Peak On-State Current ( $I_{TSM}$ ): @ 8.3 ms (one-half cycle); 50 Amps (see Figure 5 and Note 1 for derating)

## MECHANICAL

- Soldering temperature 260°C (10 sec maximum)
- Weight: .525 grams (approximate)
- Marked with logo and marking code

## PACKAGING

- Tape & Reel EIA Standard 481-1-A
- 13 inch reel 2,500 pieces

## Electrical Characteristics @ 25°C

Rated Peak Pulse Current 100Amps @ 10/1000 µs (see note 1)	Product Marking	Rated Repetitive Off-State Voltage	Off-State Leakage Current @ $V_{DRM}$	Breakdown Voltage @ $I_{BR}$ = 1mA (see note 2)	Breakover Voltage (see note 1)	On-State Voltage @ $I_T$ = 1A (pulsed)	Holding Current		Capacitance (1 MHz)	
							$I_H$ mA MIN	$I_H$ mA MAX	$C_o$ @ 0v pF MAX	$C_o$ @ 50v pF MAX
Part Number	Marking	$V_{DRM}$ Volts MAX	$I_{DRM}$ µA MAX	$V_{(BR)}$ Volts MIN	$V_{(BO)}$ Volts MAX	$V_T$ Volts MAX	$I_H$ mA MIN	$I_H$ mA MAX	$C_o$ @ 0v pF MAX	$C_o$ @ 50v pF MAX
THSMCJ1018C	TH1018C	180	5	220	300	3.5	150	750	200	100
THSMCJ1022C	TH1022C	220	5	275	350	3.5	150	750	200	100

## Surge Rating

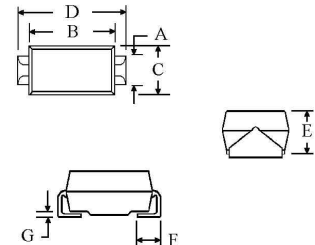
$I_{PP}$ 8x20µs Amps	$I_{PP}$ 10x160µs Amps	$I_{PP}$ 10x560µs Amps
250	150	100

## NOTES:

1. Above 70°C, derate linearly to zero @ 150°C lead temperature.
2. Breakdown voltage  $V_{(BR)}$  has a positive temperature coefficient of + 0.1%/°C.

## Bi-Directional 100 AMP Thyristor Surge Protective Devices (TSPD)

## MECHANICAL CHARACTERISTICS



	DIMENSIONS			
	INCH		MM	
	MIN	MAX	MIN	MAX
A	.165	.238	4.20	6.05
B	.239	.243	6.08	6.18
C	.234	.238	5.95	6.05
D	.309	.322	7.85	8.18
E	.202	.207	5.12	5.25
F	.047	.056	1.20	1.42
G	.010 TYP		.25 TYP	

## PAD DIMENSIONS

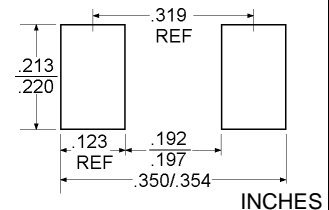


Figure 1  
Pulse Wave Form  
(10/1000µs)

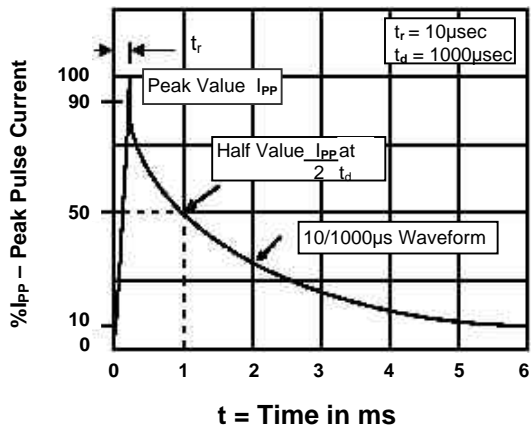


Figure 2  
Pulse Wave Form  
(8/20µs)

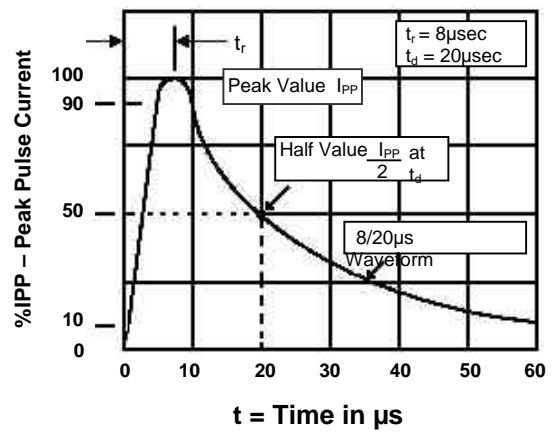
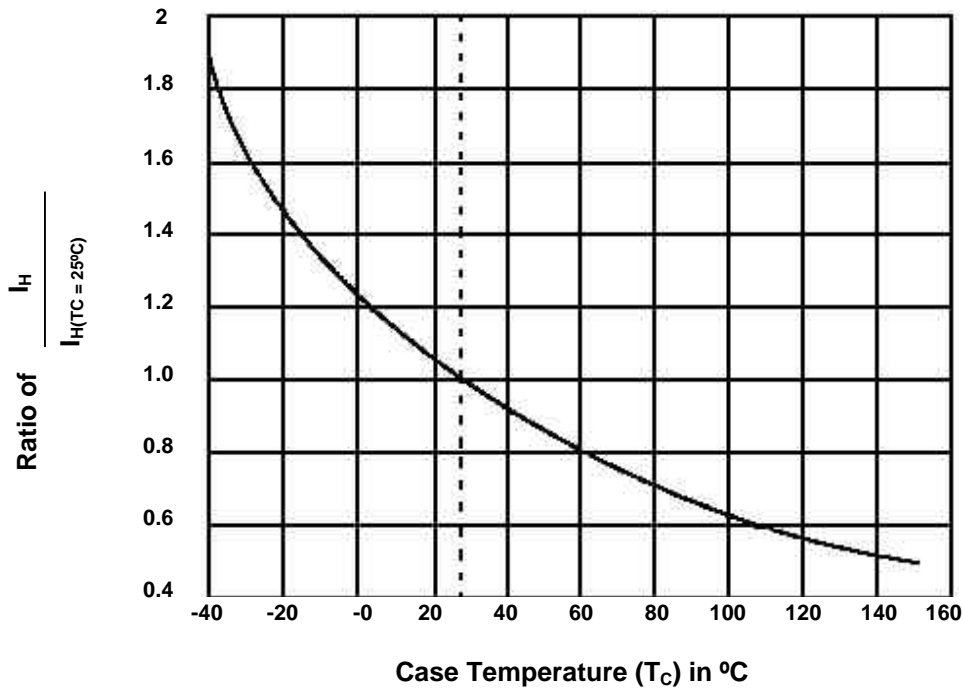
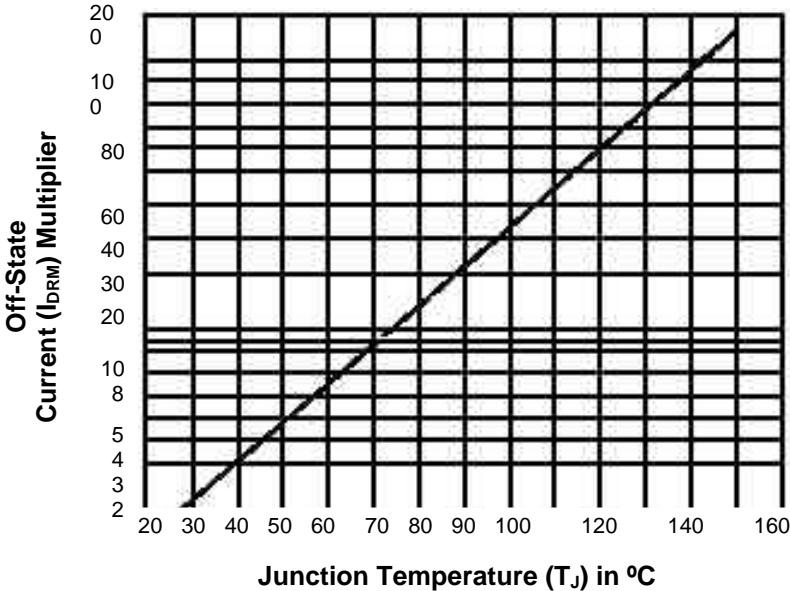


Figure 3  
Typical normalized dc Holding Current  
vs. Case Temperature



**Figure 4**  
**Normalized Off-State Current**  
**vs. Junction Temperature**



**Figure 5**  
**Peak Surge On-State Current vs.**  
**Number of Full Cycles at T<sub>C</sub> = 25°C**

