

TISP4CxxxH3BJ Overvoltage Protector Series

BOURNS®

Absolute Maximum Ratings, $T_A = 25^\circ\text{C}$ (Unless Otherwise Noted)

Rating	Symbol	Value	Unit
Repetitive peak off-state voltage	'4C115H3BJ	± 90	V
	'4C125H3BJ	± 100	
	'4C145H3BJ	± 120	
	'4C165H3BJ	± 135	
	'4C180H3BJ	± 145	
	'4C220H3BJ	± 180	
	'4C250H3BJ	± 190	
	'4C290H3BJ	± 220	
	'4C350H3BJ	± 275	
Non-repetitive peak impulse current (see Notes 1 and 2)	'4C395H3BJ	± 320	A
		± 500	
		± 200	
		± 150	
		± 100	
		± 100	
Non-repetitive peak on-state current (see Notes 1, 2 and 3)		30	A
		2.1	
Junction temperature	T_J	-40 to +150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-65 to +150	$^\circ\text{C}$

- NOTES: 1. Initially the device must be in thermal equilibrium with $T_J = 25^\circ\text{C}$.
2. The surge may be repeated after the device returns to its initial conditions.
3. EIA/JESD51-2 environment and EIA/JESD51-3 PCB with standard footprint dimensions connected with 5 A rated printed wiring track widths.

Electrical Characteristics, $T_A = 25^\circ\text{C}$ (Unless Otherwise Noted)

Parameter	Test Conditions	Min	Typ	Max	Unit
I_{DRM} Repetitive peak off-state current	$V_D = V_{\text{DRM}}$ $T_A = 25^\circ\text{C}$ $T_A = 85^\circ\text{C}$			± 5 ± 10	μA
$V_{(\text{BO})}$ Breakover voltage	$dv/dt = \pm 250 \text{ V/ms}$, $R_{\text{SOURCE}} = 300 \Omega$			± 115 ± 125 ± 145 ± 165 ± 180 ± 220 ± 250 ± 290 ± 350 ± 395	V
$V_{(\text{BO})}$ Impulse breakover voltage	$dv/dt \leq \pm 1000 \text{ V}/\mu\text{s}$, Linear voltage ramp, Maximum ramp value = $\pm 500 \text{ V}$ $di/dt = \pm 10 \text{ A}/\mu\text{s}$, Linear current ramp, Maximum ramp value = $\pm 10 \text{ A}$			± 125 ± 135 ± 155 ± 175 ± 190 ± 230 ± 260 ± 300 ± 360 ± 405	V
$I_{(\text{BO})}$ Breakover current	$dv/dt = \pm 250 \text{ V/ms}$, $R_{\text{SOURCE}} = 300 \Omega$			± 600	mA
V_T On-state voltage	$I_T = \pm 5 \text{ A}$, $t_w = 100 \mu\text{s}$			± 3	V
I_H Holding current	$I_T = \pm 5 \text{ A}$, $di/dt = \pm 30 \text{ mA/ms}$	± 150		± 600	mA
C_O Off-state capacitance	$f = 1 \text{ MHz}$, $V_d = 1 \text{ V rms}$, $V_D = -2 \text{ V}$	'4C115H3BJ		50	pF
		'4C125H3BJ			
		'4C145H3BJ		45	
		'4C165H3BJ			
		'4C180H3BJ			
		'4C220H3BJ			
		'4C250H3BJ			
		'4C290H3BJ			
		'4C350H3BJ		40	
		'4C395H3BJ			

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Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

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Thermal Characteristics, $T_A = 25^\circ\text{C}$ (Unless Otherwise Noted)

Parameter	Test Conditions	Min	Typ	Max	Unit
$R_{\theta JA}$ Junction to ambient thermal resistance	EIA/JESD51-3 PCB, $I_T = I_{TSM(1000)}$ (see Note 4)			113	$^\circ\text{C/W}$
	265 mm x 210 mm populated line card, 4-layer PCB, $I_T = I_{TSM(1000)}$		50		

NOTE: 4. EIA/JESD51-2 environment and PCB has standard footprint dimensions connected with 5 A rated printed wiring track widths.

Parameter Measurement Information

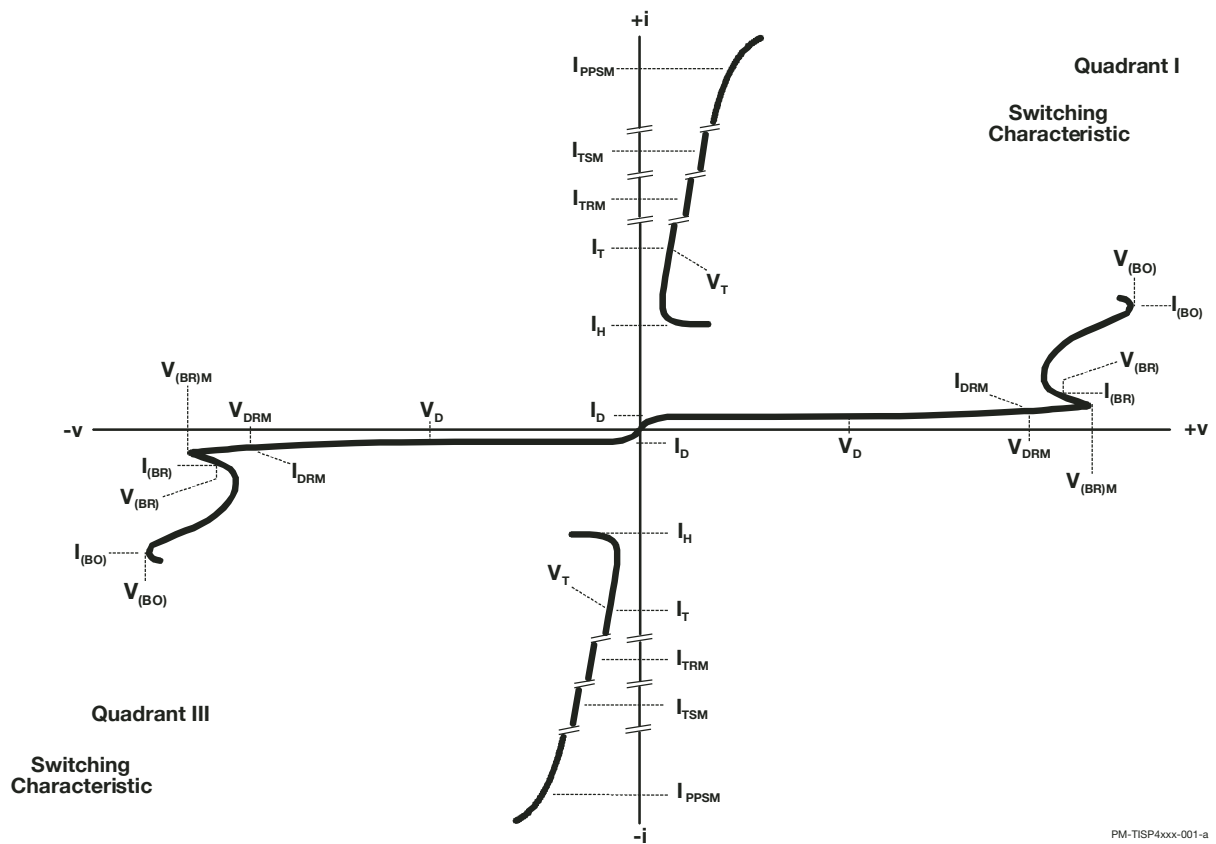


Figure 1. Voltage-Current Characteristic for T and R Terminals
All Measurements are Referenced to the R Terminal

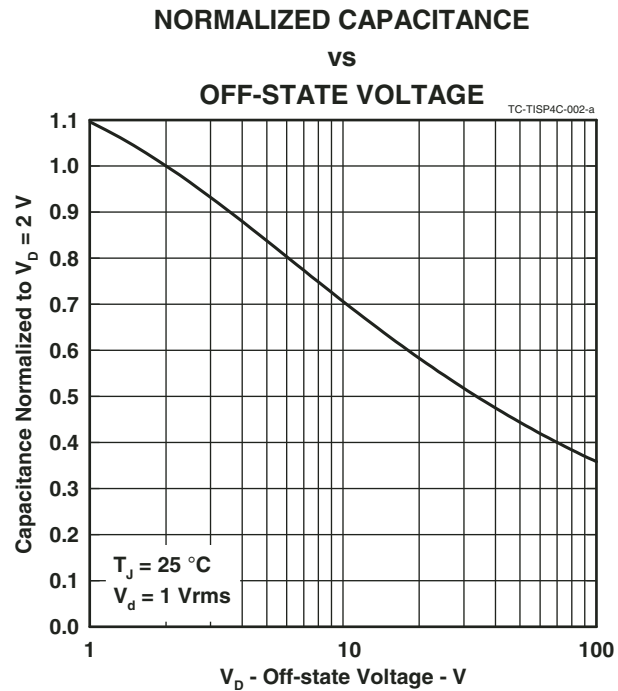
PM-TISP4xxx-001-a

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Typical Characteristics



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