

TISP4P0xxL1N Overvoltage Protector Series

BOURNS®

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

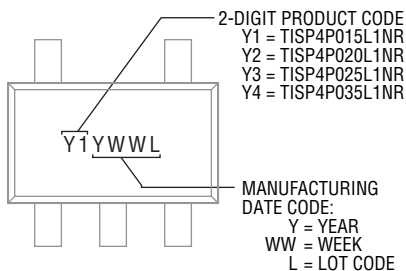
Rating	Symbol	Value	Unit
Repetitive peak off-state voltage	V_{DRM}	'4P015L1N ± 8 '4P020L1N ± 12 '4P025L1N ± 16 '4P035L1N ± 24	V
Non-repetitive peak impulse current (see Notes 1, 2 and 3) 8/20 μs (IEC 61000-4-5, 1.2/50 μs voltage, 8/20 current combination wave generator) 10/1000 μs (GR-1089-CORE, 10/1000 μs voltage wave shape)	I_{PPSM}	± 30 ± 18	A
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. Rated currents only apply if pins 1 & 5 (Tip) are connected together and pins 3 & 4 (Ring) are connected together.

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	$V_D = V_{\text{DRM}}$			± 1	μA
$V_{(\text{BO})}$ Breakover voltage	$dv/dt = \pm 250 \text{ V/ms}$, $R_{\text{SOURCE}} = 300 \Omega$			'4P015L1N ± 15 '4P020L1N ± 20 '4P025L1N ± 25 '4P035L1N ± 35	V
I_H Holding current	$I_T = \pm 5 \text{ A}$, $di/dt = \pm 30 \text{ mA/ms}$		'4P015L1N ± 30 '4P020L1N ± 10 '4P025L1N ± 30 '4P035L1N ± 30		mA
C_O Off-state capacitance	$f = 1 \text{ MHz}$, $V_d = 1 \text{ V rms}$, $V_D = 2 \text{ V}$		'4P015L1N 6.5 '4P020L1N 6 '4P025L1N 5.5 '4P035L1N 3.5		pF
ΔC Delta-capacitance	$f = 1 \text{ MHz}$, $V_d = 1 \text{ V rms}$, $V_D = 1 \text{ V to } V_{\text{DRM}}$		'4P015L1N 2 '4P020L1N 2.5 '4P025L1N 3 '4P035L1N 2		pF

Typical Part Marking



Environmental Specifications

Moisture Sensitivity Level 1
 ESD Classification (HBM) 3B

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Specifications are subject to change without notice.

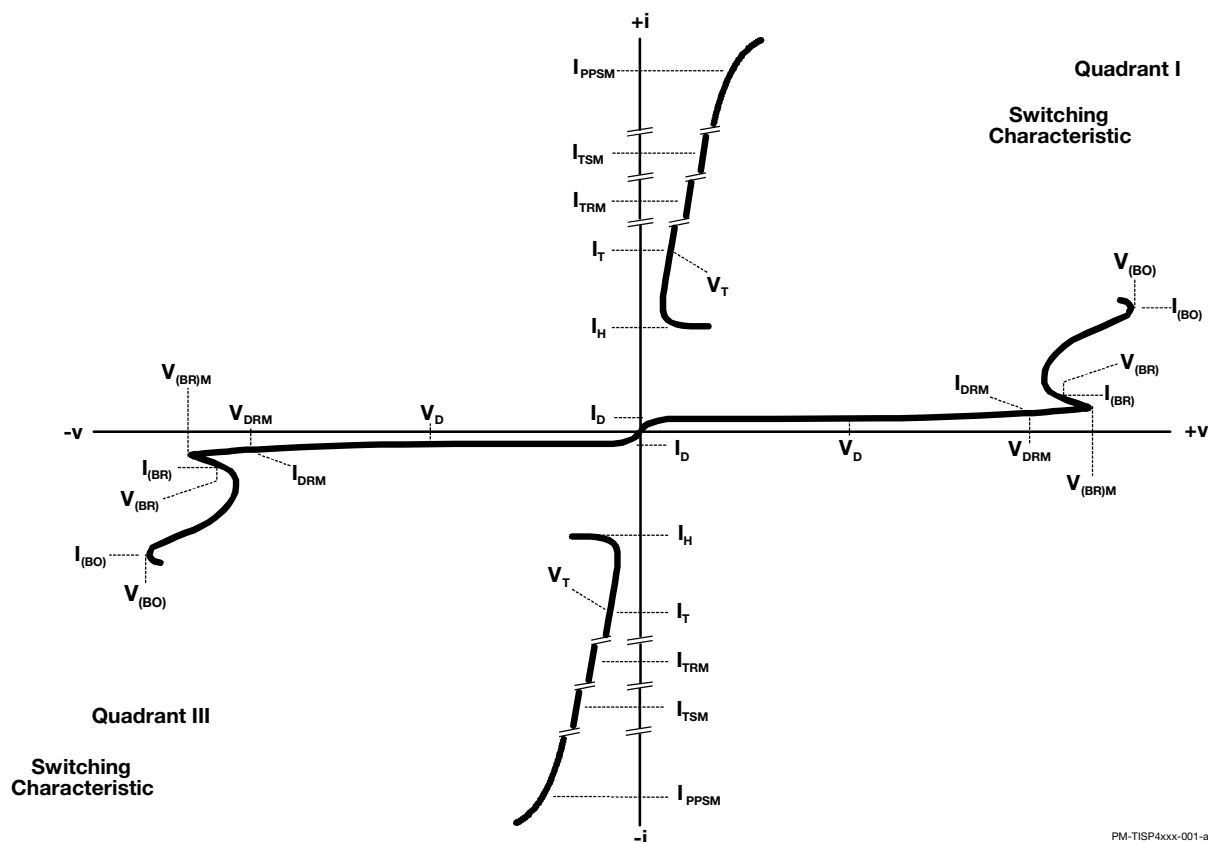
Users should verify actual device performance in their specific applications.

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Parameter Measurement Information



PM-TISP4xxx-001-a

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

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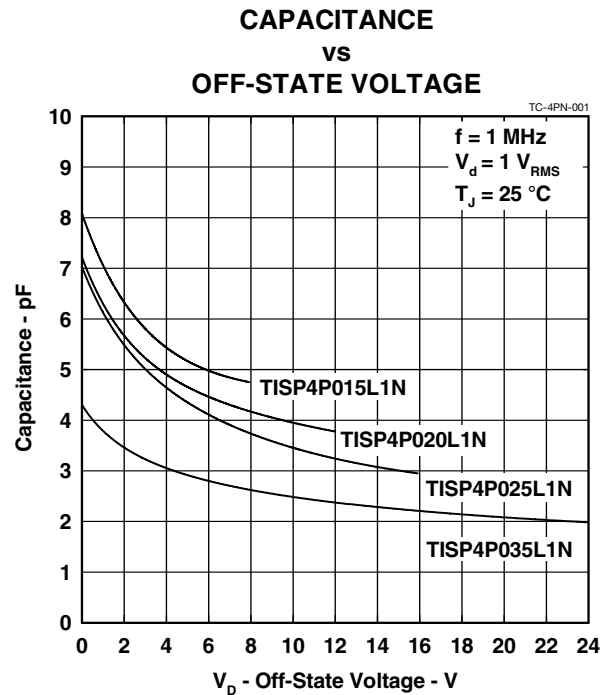
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Typical Characteristics



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Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com

Europe: Tel: +36 88 885 877 • Email: eurocus@bourns.com

The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com

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VDSL Application Examples

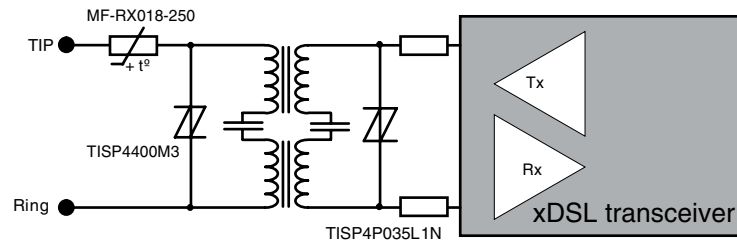


Figure 3.

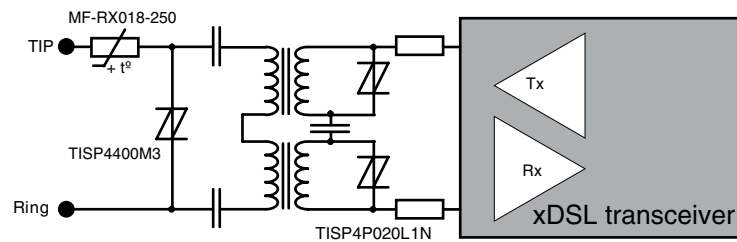


Figure 4.

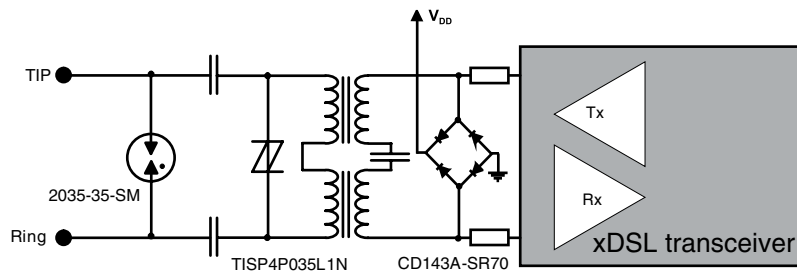
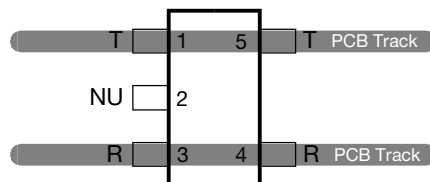


Figure 5.

Recommended PCB Layout



MD-SOT223-5-xxx

Figure 6.

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