Absolute Maximum Ratings, T_A = 25 °C (Unless Otherwise Noted)

Rating	Symbol	Value	Unit
Repetitive peak off-state voltage	V_{DRM}	-97	V
Non-repetitive peak impulse current (see Note 1) 2/10 µs (GR-1089-CORE, 2/10 µs voltage wave shape) 8/20 µs (IEC 61000-4-5, combination wave generator, 1.2/50 µs voltage waveshape) 10/160 µs (TIA-968-A, 10/160 µs voltage wave shape) 5/310 µs (ITU-T K.44, 10/700 µs voltage wave shape used in K.20/21/45) 5/320 µs (TIA-968-A, 9/720 µs voltage waveshape) 10/560 µs (TIA-968-A, 10/560 µs voltage wave shape) 10/1000 µs (GR-1089-CORE, 10/1000 µs voltage wave shape)	I_{PPSM}	 2 x ±120 2 x ±70 2 x ±60 2 x ±50 2 x ±50 2 x ±45 2 x ±35	A
Non-repetitive peak on-state current, 0 °C < T_A < 70 °C 1 s, 50 Hz	I_{TSM}	 2 x 4.3	A
Initial rate of rise of on-state current, linear current ramp, maximum ramp value < 38 A	di_T/dt	250	A/µs
Junction temperature	T_J	-65 to +150	°C
Storage temperature range	T_{stg}	-65 to +150	°C

NOTE: 1. Initially the device must be in thermal equilibrium with 0 °C < T_J < 70 °C. The surge may be repeated after the device returns to its initial conditions.

Electrical Characteristics for Terminals T and R, T_A = 25 °C (Unless Otherwise Noted)

Parameter		Test Conditions		Min	Typ	Max	Unit
I_{DRM}	Repetitive peak off-state current	$V_D = \pm V_{DRM}$	T_A = 25 °C			±5	µA
			T_A = 70 °C			±10	
$V_{(BO)}$	Breakover voltage	dv/dt = -250 V/ms, R_{SOURCE} = 300 Ω				±123	V
I_H	Holding current	I_T = ±5A, di/dt = ±30 mA/ms		±150			mA

Electrical Characteristics for Terminals T and G or R and G, T_A = 25 °C (Unless Otherwise Noted)

Parameter		Test Conditions		Min	Typ	Max	Unit
I_{DRM}	Repetitive peak off-state current	$V_D = V_{DRM}$	T_A = 25 °C			-5	µA
			T_A = 70 °C			-10	
$V_{(BO)}$	Breakover voltage	dv/dt = -250 V/ms, R_{SOURCE} = 300 Ω				-120	V
$V_{(BO)}$	Impulse breakover voltage	dv/dt ≤ -1000 V/µs, Linear voltage ramp, Maximum ramp value = -500 V di/dt ≤ -20 A/µs, Linear current ramp, Maximum ramp value = -10 A				-130	V
$I_{(BO)}$	Breakover current	dv/dt = -250 V/ms, R_{SOURCE} = 300 Ω		-100		-600	mA
I_H	Holding current	I_T = -5 A, di/dt = +30 mA/ms		-150			mA
V_T	On-state voltage	I_T = -5 A, t_w = 100 µs				-3	V
V_F	Forward voltage	I_F = +5 A, t_w = 100 µs				+3	V
V_{FRM}	Peak forward recovery voltage	dv/dt ≤ +1000 V/µs, Linear voltage ramp, Maximum ramp value = +500 V di/dt ≤ +20 A/µs, Linear current ramp, Maximum ramp value = +10 A			+3.3		V
dv/dt	Critical rate of rise of off-state voltage	Linear voltage ramp, maximum ramp value < 0.85V_{DRM}		-5			kV/µs
C_O	Off-state capacitance	f = 1 MHz, V_d = 1 V rms	V_D = -2 V		60	65	pF
			V_D = -50 V		20	25	

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Thermal Characteristics, T_A = 25 °C (Unless Otherwise Noted)

Parameter		Test Conditions	Min	Typ	Max	Unit
$R_{\theta JA}$	Junction to ambient thermal resistance	P_{tot} = 0.8 W 5 cm^2 FR4 PCB			160	°C/W

Parameter Measurement Information

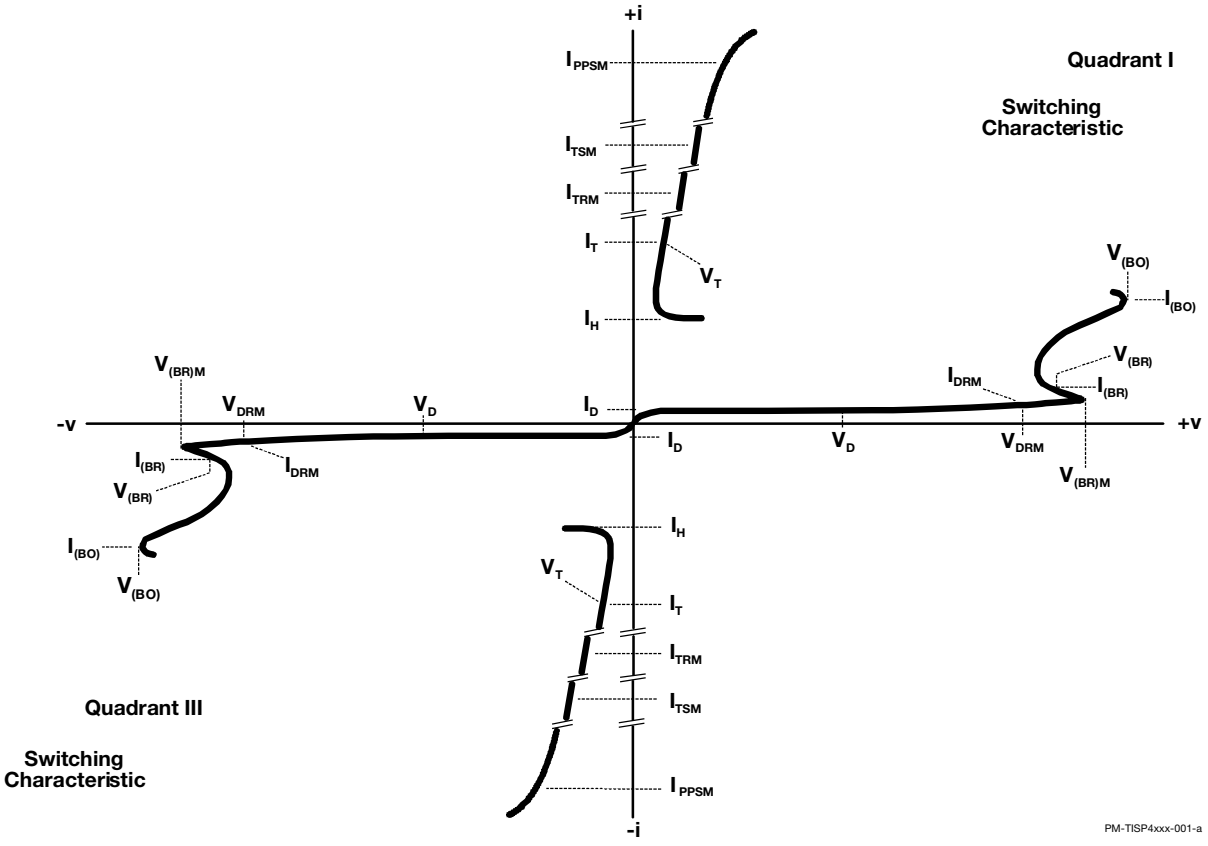

Figure 1. Voltage-Current Characteristic for the Terminals T and R
All Measurements are Referenced to Terminal R

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Parameter Measurement Information

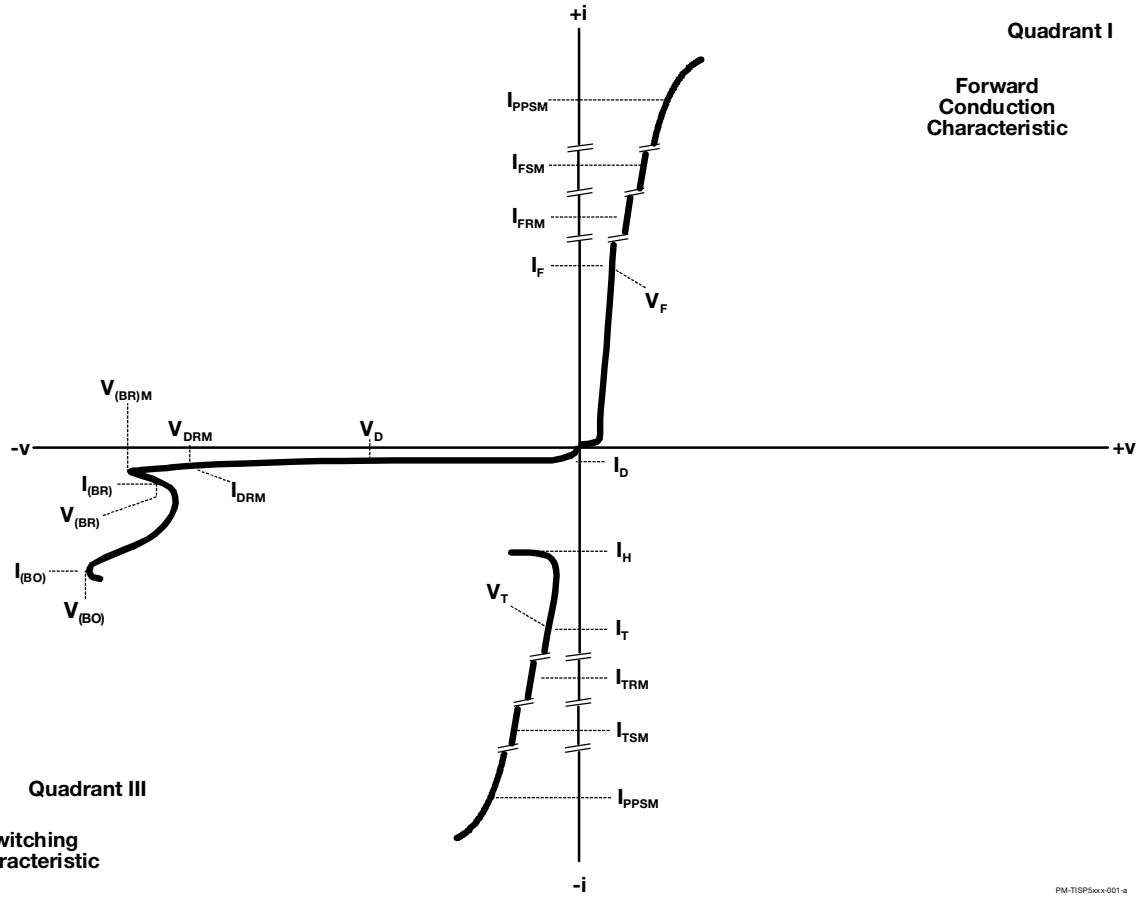

Figure 2. Voltage-Current Characteristic for Terminals T and G or R and G
All Measurements are Referenced to Terminal G

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