

Symbols & Definitions

THYRISTORS

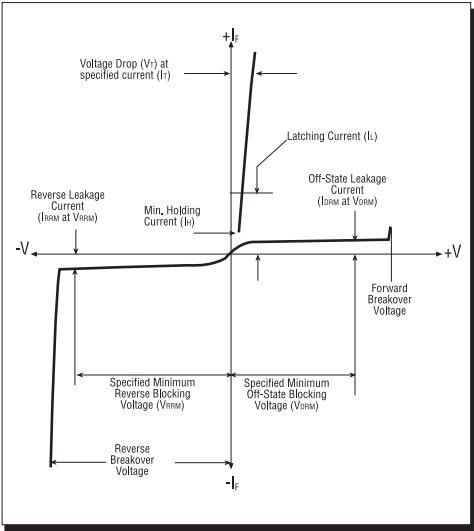
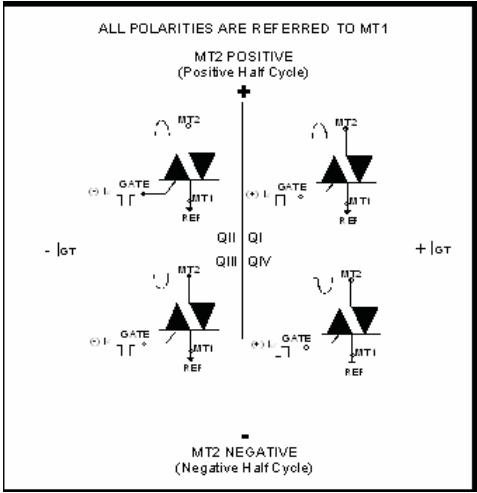
Symbols and definitions

Parameter	Symbol	Definition
Critical Rate of On state Current Rise	di/dt	The critical rate of current rise is defined as the rate with which the current may increase after turn on in order not to destroy the device.
Critical Rate of Current Rise	$(di/dt)_C$	The maximum rate of rise of principal current that will not cause switching from the off-state to the on-state immediately following on-state current conduction in the opposite quadrant.
Critical Rate of Voltage Rise	dv/dt	The maximum rate of rise of principal voltage that will not cause switching from the off state to the on state.
Critical Rate of Rise, Off State	$(dv/dt)_C$	The maximum rate of rise of principal voltage that will not cause switching from the off-state to the on-state immediately following on-state current conduction in the opposite quadrant.
Breakover Current	I_{BO}	The principal current at the breakover point.
Off-State Leakage Current	I_{DRM} / I_{RRM}	The maximum (peak) instantaneous value of the off-state current that results from the application of repetitive peak off-state voltage.
Peak Gate Current	I_{GM}	The maximum DC gate current that results from the gate voltage.
Gate Trigger Current	I_{GT}	The minimum gate current required to switch a device from the off-state to the on-state.
Holding Current	I_H	The minimum principal current required to maintain the device in the on-state
Latching Current	I_L	The minimum principal current required to maintain the device in the on state immediately after switching from the off state to the on-state has occurred and the triggering signal has been removed.
Average On-State Current	$I_{T(AV)}$	The arithmetic average value of the principal current when the device is in the on-state.
On-State Current	$I_{T(RMS)}$	The RMS-Value of the principal current when the device is in the on-state.
Non-repetitive On-State Current	I_{TSM}	The (Surge) On-State Current which the device will withstand with given duration and waveform. Device will have to be given sufficient recovery time before re-application of such current.

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Fusing Current	I^2t	Measure of maximum non-recurring overcurrent capability for very short pulse durations. Value is specified in A ² s for given pulse duration. It is used for fuse coordination.
Gate Dissipation	$P_{G(AV)}$	Mean DC Value of the Power Dissipation resulting from the respective gate current.
Peak Gate Dissipation	P_{GM}	Peak total value of the Power Dissipation resulting from the respective gate current.
Thermal Resistance. Junction to Ambient	$R_{th(j-a)}$	The temperature difference between the thyristor junction and ambient divided by the power dissipation causing the temperature difference under conditions of thermal equilibrium.
Thermal Resistance. Junction to Case	$R_{th(j-c)}$	The temperature difference between the thyristor junction and case divided by the power dissipation causing the temperature difference under conditions of thermal equilibrium.
Rise time	t_r	This is the time it takes the anode voltage to drop from 90% to 10% of its initial value.
Breakover Voltage	V_{BO}	The principal voltage at the breakover point.
Repetitive Peak Off-State	V_{DRM}	The maximum instantaneous value of the forward or reverse voltage.
Non-trigger Voltage	V_{GD}	The maximum gate voltage guaranteed not to trigger the device.
Gate Trigger Voltage	V_{GT}	The gate voltage resulting from the gate trigger current.
Max reverse Gate Voltage	V_{RGM}	The maximum reverse gate voltage the device is guaranteed to withstand.
Voltage	V_{RRM}	That occurs across the device, excluding all non repetitive transient voltages.
On-State Voltage	V_{TM}	The maximum voltage when the device is in the on-state
Threshold Voltage and Dynamic Resistance	$V_{t(0)}$ r_d	Both values are calculated to approximate the true V_{to} vs R_d Curve such that the calculated power dissipation always comes out higher than the actual one, for any current waveform (Safe Operating Area).

Symbols and definitions



DIACS

