New Jersey Semi-Conductor Products, Inc.

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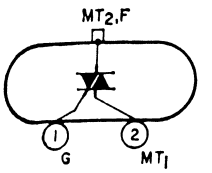
Thyristors

6A, 200V 40429
6A, 400V 40430



Si gate-controlled full-wave types used for the control of ac loads in applications such as heating controls, motor controls, light dimmers, and power switching systems. JEDEC TO-66.

MAXIMUM RATINGS (For sinusoidal ac supply voltage at f = 50/60 Hz with resistive or inductive load)

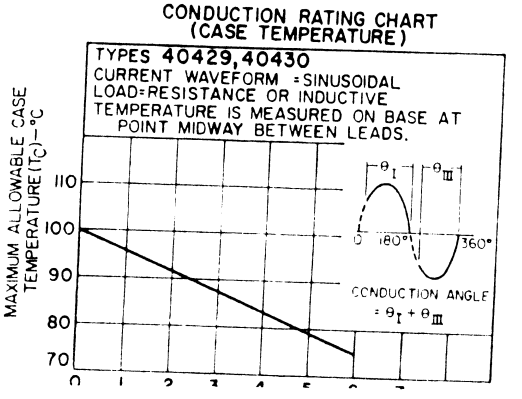
	40429	40430	
V_{DROM}* (T_J = −65°C to 100°C)	200	400	V
$I_{T(RMS)}$ (T_C = 75°C, conduction angle = 360°)	6		A
$I_{T(RMS)}$ (T_A up to 100°C, conduction angle = 360°)	See Rating Chart (Ambient Temperature)		
I_{TSM} (1 cycle of principal voltage)	100		A
I_{GTM} (1 μs max)	4		A
P_{GM} (1 μs max, $I_{GTM} \leq 4$ A peak)	16		W
$P_{G(AV)}$	0.2		W
T_{STG}	−65 to 150		°C
T_C	−65 to 100		°C

CHARACTERISTICS (At maximum electrical ratings at T_C = 25°C)

I_{DROM}* (T_J = 100°C, V_{DROM} = max rated value)	0.1 typ; 4 max	0.2 typ; 4 max	mA
v_{TM}* (i_T = 30 A peak)	1.8 typ; 2.25		V
I_{HO}* (initial principal = 150 mA dc)	15 typ; 30 max		mA
Commutating dv/dt* ($V_D = V_{DROM}$, $I_{T(RMS)}$ = 6 A, commutating di/dt = 3.2 A/ms, gate unenergized at T_C = 75°C)	3 min; 10 typ		V/μs
Critical dv/dt* ($V_D = V_{DROM}$, exponential voltage rise, T_C = 100°C)	30 min; 150 typ	20 min; 100 max	V/μs
I_{GT}*‡ (V_D = 12 Vdc, R_L = 12 Ω):			
I+ mode, V_{MT2} positive, V_G positive	15 typ; 25 max		mA
I- mode, V_{MT2} positive, V_G negative	25 typ; 40 max		mA
III+ mode, V_{MT2} negative, V_G positive	25 typ; 40 max		mA
III- mode, V_{MT2} negative, V_G negative	15 typ; 40 max		mA
V_{GT}*‡ (V_D = 12 Vdc, R_L = 12 Ω)	1 typ; 2.2 max		V
V_{GT}*‡ ($V_D = V_{DROM}$, R_L = 125 Ω, T_C = 100°C)	0.2 min		V
t_{gt} ($V_D = V_{DROM}$, I_{GT} = 80 mA, t_r = 0.1 μs, I_T = 10 A)	2.2		μs
θ_{J-C}(steady-state)	4 max		°C/W
θ_{J-A}	See Rating Chart (Ambient Temperature)		

* For either polarity of main terminal 2 voltage (V_{MT2}) with reference to main terminal 1.
‡ For either polarity of gate voltage (V_G) with reference to main terminal 1.
● This characteristic does not apply to types 40502 and 40503.

CONDUCTION RATING CHART
(CASE TEMPERATURE)



Quality Semi-Conductors