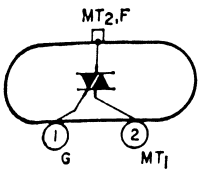
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**Thyristors**

# 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)

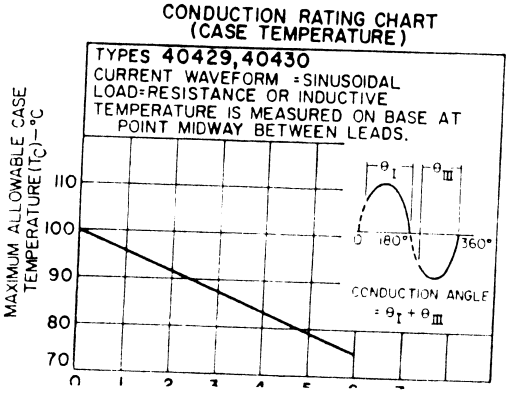
| | 40429 | 40430 | |
|---|---|---|---|
| $V_{DROM}$* ($T_J$ = −65°C to 100°C) | 200 | 400 | V |
| $I_{T(RMS)}$ ($T_C$ = 75°C, conduction angle = 360°) | 6 | | A |
| $I_{T(RMS)}$ ($T_A$ up to 100°C, conduction angle = 360°) | See Rating Chart (Ambient Temperature) | | |
| $I_{TSM}$ (1 cycle of principal 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 |
| $\theta_{J-C}$(steady-state) | 4 max | | °C/W |
| $\theta_{J-A}$ | 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