

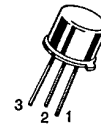
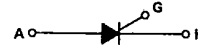
## Silicon Controlled Rectifiers Reverse Blocking Triode Thyristor

... all diffused PNP devices designed for operation in mA/ $\mu$ A signal or detection circuits.

- Low-Level Gate Characteristics —  $I_{GT} = 100 \mu\text{A Max @ } 25^\circ\text{C}$
- Low Holding Current —  $I_{HX} = 3 \text{ mA Max @ } 25^\circ\text{C}$
- Anode Common To Case
- Glass-to-Metal Bond for Maximum Hermetic Seal

**2N4213  
thru  
2N4219**

**SCRs  
1.6 AMPERES RMS  
50 thru 400 VOLTS**



**CASE 79-04  
(TO-205AD)  
STYLE 3**

\*MAXIMUM RATINGS ( $T_J = 125^\circ\text{C}$  unless otherwise noted.)

Characteristic	Symbol	Rating	Unit
Peak Repetitive Forward and Reverse Blocking Voltage, Note 1 2N4213 2N4214 2N4216 2N4219	$V_{DRM}$ or $V_{RRM}$	50 100 200 400	Volts
Forward Current RMS (All Conduction Angles)	$I_T(\text{RMS})$	1.6	Amps
Peak Surge Current (One Cycle, 60 Hz) No Repetition until Thermal Equilibrium is Restored	$I_{TSM}$	15	Amps
Peak Gate Power — Forward	$P_{GFM}$	0.1	Watt
Average Gate Power — Forward	$P_{GF(AV)}$	0.01	Watt
Peak Gate Current — Forward	$I_{GFM}$	0.1	Amp
Peak Gate Voltage — Forward Reverse	$V_{GFM}$ $V_{GRM}$	6 6	Volts
Operating Junction Temperature Range	$T_J$	-65 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65 to +150	$^\circ\text{C}$
Lead Solder Temperature ( $>1/16"$ from case, 10 s max)	—	+230	$^\circ\text{C}$

\*Indicates JEDEC Registered Values.

Note 1.  $V_{DRM}$  and  $V_{RRM}$  can be applied for all types on a continuous dc basis without incurring damage.

2N4213 thru 2N4219

ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$  unless otherwise noted,  $R_{GK} = 1000$  ohms.), Note 1

Characteristic	Symbol	Min	Max	Unit
*Peak Forward or Reverse Blocking Current (Rated $V_{DRM}$ or $V_{RRM}$ , gate open) $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	$I_{DRM}$ , $I_{RRM}$	—	10 200	$\mu\text{A}$ $\mu\text{A}$
*Forward "On" Voltage ( $I_{TM} = 1$ Adc peak)	$V_{TM}$	—	1.5	Volts
Gate Trigger Current (Continuous dc), Note 2 ( $V_D = 7$ V, $R_L = 100$ ohms) ( $T_C = 25^\circ\text{C}$ ) ( $T_C = -65^\circ\text{C}$ )	$I_{GT}$	— —	100 300	$\mu\text{Adc}$
Gate Trigger Voltage (Continuous dc) ( $V_D = 7$ V, $R_L = 100$ ohms, $T_C = 25^\circ\text{C}$ ) *( $V_D = 7$ V, $R_L = 100$ ohms, $T_C = -65^\circ\text{C}$ ) *( $V_D = \text{Rated } V_{DRM}$ , $R_L = 100$ ohms, $T_J = 125^\circ\text{C}$ )	$V_{GT}$	— — 0.1	0.8 1 —	Volt
Holding Current ( $V_D = 7$ V) $T_C = 25^\circ\text{C}$ * $T_C = -65^\circ\text{C}$	$I_{HX}$		3 7	mA
Turn-On Time	$t_{on}$	Circuit dependent, consult manufacturer		
Turn-Off Time	$t_{off}$			

\*Indicates JEDEC Registered Values.

Notes: 1. Thyristor devices shall not be tested with a constant current source for forward or reverse blocking capability such that the voltage applied exceeds the rated blocking voltage.

Thyristor devices shall not have a positive bias applied to the gate concurrently with a negative potential applied to the anode.

2.  $R_{GK}$  current is not included in measurement.

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FIGURE 1 — CASE TEMPERATURE vs CURRENT

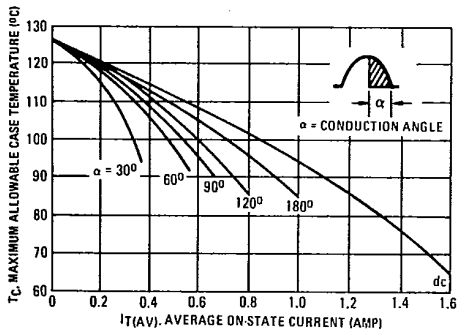
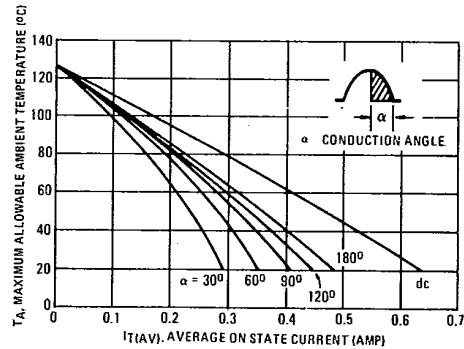


FIGURE 2 — AMBIENT TEMPERATURE vs CURRENT





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