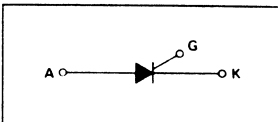


**2N6167
 thru
 2N6170**

**SCRs
 20 AMPERES RMS
 100 thru 600 VOLTS**



Silicon Controlled Rectifier Reverse Blocking Triode Thyristor

... designed for industrial and consumer applications such as power supplies; battery chargers; temperature, motor, light and welder controls.

- Economical for a Wide Range of Uses
- High Surge Current — $I_{TSM} = 240$ Amps
- Rugged Construction in Isolated Stud Package

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
*Peak Repetitive Forward and Reverse Blocking Voltage (1) ($T_J = -40^\circ\text{C}$ to $+100^\circ\text{C}$)	V_{DRM} or V_{RRM}	100 200 400 600	Volts
*Non-Repetitive Peak Reverse Blocking Voltage ($t \leq 5$ ms)	V_{RSM}	150 250 450 650	Volts
*Average Forward Current ($T_C = -40$ to $+65^\circ\text{C}$) ($+85^\circ\text{C}$)	$I_{T(AV)}$	13 6.5	Amps
*Peak Surge Current (One cycle, 60 Hz) ($T_C = +65^\circ\text{C}$) (1.5 ms pulse @ $T_J = 100^\circ\text{C}$) Preceded and followed by no current or Voltage	I_{TSM}	240 560	Amps
Circuit Fusing ($T_J = -40$ to $+100^\circ\text{C}$) ($t = 1$ to 8.3 ms)	I^2t	235	A^2s
*Peak Gate Power	P_{GM}	5	Watts
*Average Gate Power	$P_{G(AV)}$	0.5	Watt

*Indicates JEDEC Registered Data.

(cont.)

(1) Ratings apply for zero or negative gate voltage. Devices shall not have a positive bias applied to the gate concurrently with a negative potential on the anode. Devices should not be tested with a constant current source for forward or reverse blocking capability such that the voltage applied exceeds the rated blocking voltage.

MAXIMUM RATINGS — continued

Rating	Symbol	Value	Unit
*Peak Forward Gate Current	I_{GFM}	2	Amps
*Operating Junction Temperature Range	T_J	-40 to +100	°C
*Storage Temperature Range	T_{stg}	-40 to +150	°C
*Stud Torque	—	30	in. lb.

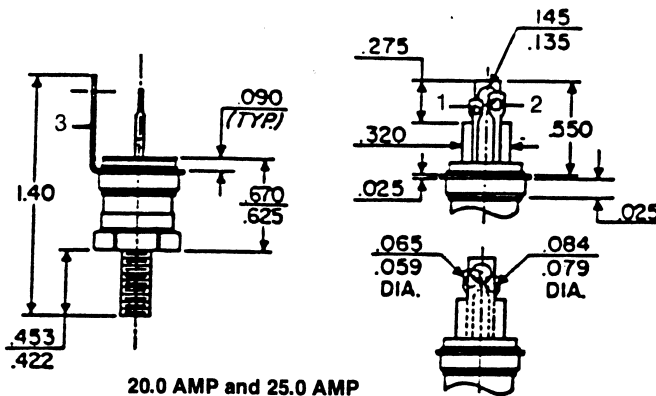
***THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.5	°C/W

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
*Peak Forward or Reverse Blocking Current (Rated V_{DRM} or V_{RRM} , gate open, $T_C = 100^\circ\text{C}$)	I_{DRM}, I_{RRM}	—	1	2	mA
2N6167	—	—	1	2.5	
2N6168	—	—	1	3	
2N6169	—	—	1	4	
2N6170	—	—	—	10	μA
(Rated V_{DRM} or V_{RRM} , gate open, $T_C = 25^\circ\text{C}$) All Devices	—	—	—	10	μA
*Peak Forward "On" Voltage ($I_{TM} = 41$ A Peak)	V_{TM}	—	1.5	1.7	Volts
Gate Trigger Current, Continuous dc ($V_D = 12$ V, $R_L = 24 \Omega$)	I_{GT}	—	—	75	mA
* $T_C = -40^\circ\text{C}$	—	—	2.1	40	
* $T_C = 25^\circ\text{C}$	—	—	—	—	
Gate Trigger Voltage, Continuous dc ($V_D = 12$ V, $R_L = 24 \Omega$)	V_{GT}	—	0.8	2.5	Volts
* $T_C = -40^\circ\text{C}$	—	—	0.63	1.6	
* $T_C = 25^\circ\text{C}$	—	—	—	—	
Holding Current ($V_D = 12$ V, gate open, $I_T = 200$ mA)	I_H	—	—	90	mA
* $T_C = -40^\circ\text{C}$	—	—	3.5	50	
* $T_C = 25^\circ\text{C}$	—	—	—	—	
*Turn-On Time ($t_d + t_r$) ($I_{TM} = 41$ Adc, $V_D = \text{Rated } V_{DRM}$, $I_{GT} = 200$ mAdc, Rise Time $\leq 0.05 \mu\text{s}$, Pulse Width = $10 \mu\text{s}$)	t_{on}	—	—	1	μs
Turn-Off Time ($I_{TM} = 10$ A, $I_R = 10$ A) ($I_{TM} = 10$ A, $I_R = 10$ A, $T_J = 100^\circ\text{C}$)	t_{off}	—	25	—	μs
Forward Voltage Application Rate ($T_J = 100^\circ\text{C}$, $V_D = \text{Rated } V_{DRM}$)	dv/dt	—	50	—	V/ μs

*Indicates JEDEC Registered Data.



**20.0 AMP and 25.0 AMP
1/2" ISOLATED STUD MOUNT
ALL DIMENSIONS IN INCHES**