

T-25-17

MCR5164-67
(See 2N5168)

Thyristors

Silicon Controlled Rectifiers

... 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 — $I_{TSM} = 200$ Amps
- Low Forward "On" Voltage — 1.2 V (Typ) @ $I_{TM} = 20$ Amps
- Practical Level Triggering and Holding Characteristics — 10 mA (Typ) @ $T_C = 25^\circ\text{C}$
- Rugged Construction in Either Pressfit, Stud or Isolated Stud Package
- Glass Passivated Junctions for Maximum Reliability

MCR6200
S6210
S6220
Series

SCRs
20 AMPERES RMS
100 thru 600 VOLTS

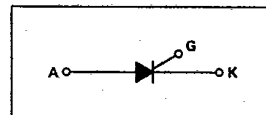
MAXIMUM RATINGS


Rating	Symbol	Value	Unit
Repetitive Peak Off-State Voltage, Note 1	V _{DROM}	100	Volts
Repetitive Peak Reverse Voltage, Note 1			
MCR6200, S6210, S6220 A			
MCR6200, S6210, S6220 B			
MCR6200, S6210, S6220 D	V _{DROM}	200	Volts
MCR6200, S6210, S6220 M			
MCR6200, S6210, S6220			
MCR6200, S6210, S6220			
Non-Repetitive Peak Off-State Voltage, Note 1	V _{DROM}	150	Volts
Non-Repetitive Peak Reverse Voltage, Note 1			
MCR6200, S6210, S6220 A			
MCR6200, S6210, S6220 B			
MCR6200, S6210, S6220 D	250	Volts	Volts
MCR6200, S6210, S6220 M			
MCR6200, S6210, S6220			
MCR6200, S6210, S6220			
RMS On-State Current ($T_C = 75^\circ\text{C}$)	$I_T(\text{RMS})$	20	Amps
Peak Non-Repetitive Surge Current (One Full Cycle of surge current at 60 Hz, preceded and followed by rated current, $T_C = 75^\circ\text{C}$)	I_{TSM}	200	Amps
Circuit Fusing Considerations ($t = 8.3$ ms)	I^2t	170	A ² s
Peak Gate Power (10 μs Max)	P _{GM}	40	Watts
Average Gate Power	P _{G(AV)}	0.5	Watt
Operating Junction Temperature Range	T _J	-65 to +100	°C
Storage Temperature Range	T _{stg}	-65 to +150	°C
Stud Torque	—	30	in. lb.

THERMAL CHARACTERISTICS


Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case MCR6200	R _{θJC}	1.2	°C/W
S6210, S6220		1.4	

Note 1. Ratings apply for open gate conditions. Thyristor devices shall not be tested with a constant current source for blocking capability such that the voltage applied exceeds the rated blocking voltage.






CASE 174-04
(TO-203AA)
STYLE 1
MCR6200 SERIES



CASE 263-04
STYLE 1
S6210 SERIES



CASE 311-02
STYLE 1
S6220 SERIES

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ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Instantaneous Forward Breakover Voltage (Gate Open, T _C = 100°C) MCR6200, S6210, S6220 MCR6200, S6210, S6220 MCR6200, S6210, S6220 MCR6200, S6210, S6220	V _{(BO)O}	100 200 400 600	— — — —	— — — —	Volts
Peak Blocking Current (Rated V _{DROM} @ T _C = 100°C)	I _{DOM} , I _{RROM}	— —	— —	10 2	μA mA
Peak On-State Voltage (I _T = 100 A Peak)	V _T	—	—	2.4	Volts
Gate Trigger Current (Continuous dc) (Main Terminal Voltage = 12 Vdc, R _L = 30 Ohms)	I _{GT}	—	—	15	mA
Gate Trigger Voltage (Continuous dc) (Main Terminal Voltage = 12 Vdc, R _L = 30 Ohms)	V _{GT}	—	—	2	Volts
Holding Current (Either Direction) (Main Terminal Voltage = 12 Vdc, Gate Open)	I _{HO}	—	—	20	mA
Gate Controlled Turn-On Time (V _D = V _{(BO)O} , I _T = 30 A Peak, I _{GT} = 200 mA, Rise Time = 0.1 μs)	t _{gt}	—	2	—	μs
Critical Rate-of-Rise of Off-State Voltage (V _D = V _{(BO)O} , Exponential Voltage Rise, Gate Open, T _C = 100°C) MCR6200, S6210, S6220 MCR6200, S6210, S6220 MCR6200, S6210, S6220	dv/dt	10 10 10	100 150 75	— — —	V/μs

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