



**PRODUCT NAME : C122B 8A 200V SCR**

**PRICE : Rs 35.00**

**SKU : RM1944**



## DESCRIPTION

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## Features

- Gate Turn-On Voltage ( $V_{gt}$ ): 1.5V
- Peak Off-State Voltage( $V_{drm}$ ): 200V
- On-State Current ( $I_{trms}$ ): 8.0A
- Gate Current ( $I_{gt}$ ): 25mA
- Typical Voltage Change over Time ( $dV/dT$ ): 50V/ $\mu$ s

**MOTOROLA**  
**SEMICONDUCTOR TECHNICAL DATA**

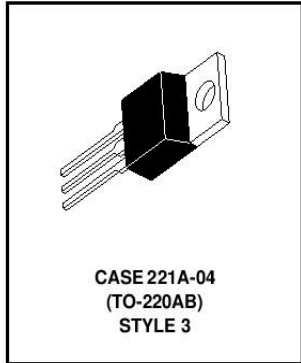
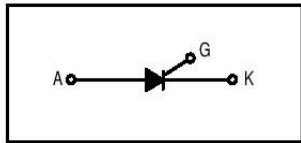
**Silicon Controlled Rectifiers**  
**Reverse Blocking Triode Thyristors**

... designed primarily for full-wave ac control applications, such as motor controls, heating controls and power supplies; or wherever half-wave silicon gate-controlled, solid-state devices are needed.

- Glass Passivated Junctions and Center Gate Fire for Greater Parameter Uniformity and Stability
- Small, Rugged, Thermowatt Construction for Low Thermal Resistance, High Heat Dissipation and Durability
- Blocking Voltage to 800 Volts
- Different Leadform Configurations, Suffix (2) thru (6) available, see Leadform Options (Section 4) for Information

**C122( )1 Series**

**SCRs**  
**8 AMPERES RMS**  
**50 thru 800 VOLTS**



**MAXIMUM RATINGS** ( $T_J = 25^\circ\text{C}$  unless otherwise noted.)

Rating	Symbol	Value	Unit
Repetitive Peak Off-State Voltage <sup>(1)</sup> ( $T_J = 25$ to $100^\circ\text{C}$ , Gate Open)	$V_{DRM}$		Volts
Repetitive Peak Reverse Voltage	$V_{RRM}$		
C122F1		50	
C122A1		100	
C122B1		200	
C122D1		400	
C122M1		600	
C122N1		800	
Peak Non-repetitive Reverse Voltage <sup>(1)</sup>	$V_{RSM}$		Volts
C122F1		75	
C122A1		200	
C122B1		300	
C122D1		500	
C122M1		700	
C122N1		800	
Forward Current RMS (All Conduction Angles)	$I_{T(RMS)}$	8	Amps
Peak Forward Surge Current (1/2 Cycle, Sine Wave, 60 Hz)	$I_{TSM}$	90	Amps
Circuit Fusing Considerations ( $t = 8.3$ ms)	$I^2t$	34	$\text{A}^2\text{s}$

1.  $V_{DRM}$  and  $V_{RRM}$  for all types can be applied on a continuous basis. Ratings apply for zero or negative gate voltage; however, (cont.) positive gate voltage shall not be applied concurrent with negative potential on the anode. Blocking voltages shall not be tested with a constant current source such that the voltage ratings of the devices are exceeded.

**C122( )1 Series**

**MAXIMUM RATINGS — continued**

Rating	Symbol	Value	Unit
Forward Peak Gate Power ( $t = 10 \mu\text{s}$ )	$P_{GM}$	5	Watts
Forward Average Gate Power	$P_{G(AV)}$	0.5	Watt
Forward Peak Gate Current	$I_{GM}$	2	Amps
Operating Junction Temperature Range	$T_J$	-40 to +100	°C
Storage Temperature Range	$T_{stg}$	-40 to +125	°C

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.8	°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 ( $V_{AK} = \text{Rated } V_{DRM} \text{ or } V_{RRM}, \text{ Gate Open}$ ) $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	$I_{DRM}, I_{RRM}$	—	—	10 0.5	$\mu\text{A}$ mA
Peak On-State Voltage <sup>(1)</sup> ( $I_{TM} = 16 \text{ A Peak}, T_C = 25^\circ\text{C}$ )	$V_{TM}$	—	—	1.83	Volts
Gate Trigger Current (Continuous dc) ( $V_D = 6 \text{ V}, R_L = 91 \text{ Ohms}, T_C = 25^\circ\text{C}$ ) ( $V_D = 6 \text{ V}, R_L = 45 \text{ Ohms}, T_C = -40^\circ\text{C}$ )	$I_{GT}$	—	—	25 40	mA
Gate Trigger Voltage (Continuous dc) ( $V_D = 6 \text{ V}, R_L = 91 \text{ Ohms}, T_C = 25^\circ\text{C}$ ) ( $V_D = 6 \text{ V}, R_L = 45 \text{ Ohms}, T_C = -40^\circ\text{C}$ ) ( $V_D = \text{Rated } V_{DRM}, R_L = 1000 \text{ Ohms}, T_C = 100^\circ\text{C}$ )	$V_{GT}$	— — 0.2	— — —	1.5 2 —	Volts
Holding Current ( $V_D = 24 \text{ Vdc}, I_T = 0.5 \text{ A}, 0.1 \text{ to } 10 \text{ ms Pulse},$ Gate Trigger Source = 7 V, 20 Ohms) $T_C = 25^\circ\text{C}$ $T_C = -40^\circ\text{C}$	$I_H$	— —	— —	30 60	mA
Turn-Off Time ( $V_D = \text{Rated } V_{DRM}$ ) ( $I_{TM} = 8 \text{ A}, I_R = 8 \text{ A}$ )	$t_q$	—	50	—	$\mu\text{s}$
Critical Rate-of-Rise of Off-State Voltage ( $V_D = \text{Rated } V_{DRM}, \text{ Linear}, T_C = 100^\circ\text{C}$ )	$dv/dt$	—	50	—	$\text{V}/\mu\text{s}$

1. Pulse Test: Pulse Width = 1 ms, Duty Cycle  $\leq 2\%$ .

