



**PRODUCT NAME :** MCR100 0.8A 400V SCR

**PRICE :** Rs 35.00

**SKU :** RM1948



SEE THE PRODUCT PAGE FOR MORE DETAILS Copyrights by Robomart.com

## DESCRIPTION

## Features

- Gate Turn-On Voltage (Vgt): 0.8V
- Peak Off-State Voltage(Vdrm): 400V
- On-State Current (It): 0.8A
- Gate Current (Igt): 200μA

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

Order this document  
 by MCR100/D

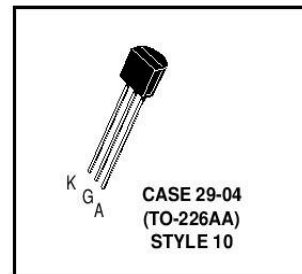
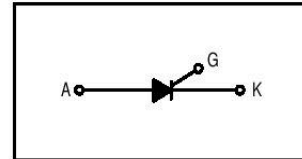
**Silicon Controlled Rectifiers**  
**Reverse Blocking Triode Thyristors**

PNPN devices designed for high volume, line-powered consumer applications such as relay and lamp drivers, small motor controls, gate drivers for larger thyristors, and sensing and detection circuits. Supplied in an inexpensive plastic TO-226AA package which is readily adaptable for use in automatic insertion equipment.

- Sensitive Gate Trigger Current — 200  $\mu$ A Maximum
- Low Reverse and Forward Blocking Current — 100  $\mu$ A Maximum,  $T_C = 125^\circ\text{C}$
- Low Holding Current — 5 mA Maximum
- Glass-Passivated Surface for Reliability and Uniformity

**MCR100**  
**Series\***  
 \*Motorola preferred devices

**SCRs**  
**0.8 AMPERE RMS**  
**100 thru 600 VOLTS**



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

Rating	Symbol	Value	Unit
Peak Repetitive Forward and Reverse Blocking Voltage <sup>(1)</sup> $(T_J = 25 \text{ to } 125^\circ\text{C}, R_{GK} = 1 \text{ k}\Omega)$ MCR100-3 MCR100-4 MCR100-6 MCR100-8	$V_{DRM}$ and $V_{RRM}$	100 200 400 600	Volts
Forward Current RMS (See Figures 1 & 2) (All Conduction Angles)	$I_T(\text{RMS})$	0.8	Amps
Peak Forward Surge Current, $T_A = 25^\circ\text{C}$ (1/2 Cycle, Sine Wave, 60 Hz)	$I_{TSM}$	10	Amps
Circuit Fusing Considerations ( $t = 8.3 \text{ ms}$ )	$I^2t$	0.415	$\text{A}^2\text{s}$
Peak Gate Power — Forward, $T_A = 25^\circ\text{C}$	$P_{GM}$	0.1	Watts
Average Gate Power — Forward, $T_A = 25^\circ\text{C}$	$P_{GF(AV)}$	0.01	Watt
Peak Gate Current — Forward, $T_A = 25^\circ\text{C}$ (300 $\mu\text{s}$ , 120 PPS)	$I_{GFM}$	1	Amp
Peak Gate Voltage — Reverse	$V_{GRM}$	5	Volts
Operating Junction Temperature Range @ Rated $V_{RRM}$ and $V_{DRM}$	$T_J$	-40 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-40 to +150	$^\circ\text{C}$
Lead Solder Temperature (< 1/16" from case, 10 s max)	—	+230	$^\circ\text{C}$

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, 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.

**Preferred** devices are Motorola recommended choices for future use and best overall value.



**MCR100 Series**

**THERMAL CHARACTERISTICS**

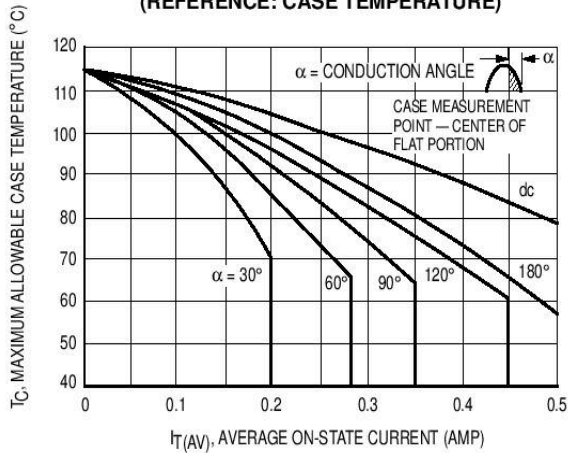
Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	75	$^{\circ}C/W$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	$^{\circ}C/W$

**ELECTRICAL CHARACTERISTICS** ( $T_C = 25^{\circ}C$ ,  $R_{GK} = 1\text{ k}\Omega$  unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
Peak Forward or Reverse Blocking Current ( $V_{AK} = \text{Rated } V_{DRM} \text{ or } V_{RRM}$ )	$I_{DRM}, I_{RRM}$	—	10 100	$\mu A$ $\mu A$
Forward "On" Voltage <sup>(1)</sup> ( $I_{TM} = 1\text{ A Peak @ } T_A = 25^{\circ}C$ )	$V_{TM}$	—	1.7	Volts
Gate Trigger Current (Continuous dc) <sup>(2)</sup> (Anode Voltage = 7 Vdc, $R_L = 100\text{ Ohms}$ )	$I_{GT}$	—	200	$\mu A$
Gate Trigger Voltage (Continuous dc) (Anode Voltage = 7 Vdc, $R_L = 100\text{ Ohms}$ ) (Anode Voltage = Rated $V_{DRM}$ , $R_L = 100\text{ Ohms}$ )	$V_{GT}$	— — 0.1	0.8 1.2 —	Volts
Holding Current (Anode Voltage = 7 Vdc, initiating current = 20 mA)	$I_H$	— —	5 10	mA

1. Forward current applied for 1 ms maximum duration, duty cycle  $\leq 1\%$ .
2.  $R_{GK}$  current is not included in measurement.

**FIGURE 1 – MCR100-7, MCR100-8 CURRENT DERATING (REFERENCE: CASE TEMPERATURE)**



**FIGURE 2 – MCR100-7, MCR100-8 CURRENT DERATING (REFERENCE: AMBIENT TEMPERATURE)**

