



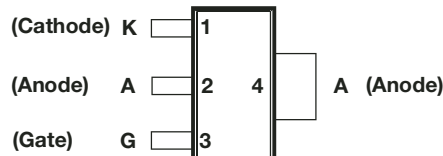
## TICC107M Silicon Controlled Rectifier

1 A RMS On-State Current  
Glass Passivated Wafer  
600 V Off-State Voltage  
 $I_{GT}$  50  $\mu$ A min, 200  $\mu$ A max.

### Description

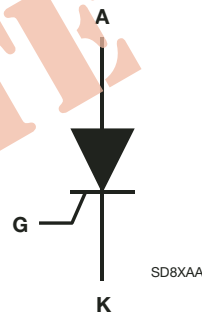
The TICC107M is a sensitive gate SCR designed for switching loads up to 1 Amp RMS. With a maximum gate trigger current of 200  $\mu$ A the TICC107M can be controlled from very simple logic circuits and analog driver circuits. Applications for this device include capacitive discharge flash guns, ignitors and standby power supplies.

### SOT-223 Package (Top View)



MD-SOT223-001-a

### Device Symbol



### How to Order

Device	Package	Carrier	Order As	Marking Code	Standard Quantity
TICC107M	SOT-223	Embossed Tape Reeled	TICC107MR-S	107M	2500

### Absolute Maximum Ratings over Operating Junction Temperature (Unless Otherwise Noted)

Rating	Symbol	Value	Unit
Repetitive peak off-state voltage (see Note 1)	$V_{DRM}$	600	V
Repetitive peak reverse voltage	$V_{RRM}$	600	V
RMS on-state current at (or below) 55 °C ambient temperature, 180 ° conduction angle (see Note 2)	$I_{T(RMS)}$	1	A
Non-repetitive peak on-state current at (or below) 25 °C ambient temperature (see Note 3)	$I_{TSM}$	22.5	A
Critical rate of rise of on-state current at 110 °C (see Note 4)	$di/dt$	100	A/ $\mu$ s
Peak positive gate current (pulse width $\leq$ 300 $\mu$ s)	$I_{GM}$	0.2	A
Junction temperature	$T_J$	-40 to +110	°C
Storage temperature range	$T_{stg}$	-40 to +125	°C

- NOTES: 1. This value applies when the gate-cathode resistance  $R_{GK} = 1$  k $\Omega$ .  
 2. Device mounted to achieve a junction to ambient thermal resistance of 70 °C/W.  
 3. This value applies for one 50 Hz half-sine-wave. The surge may be repeated when the device returns to its initial conditions.  
 4. Rate of rise of on-state current after triggering with  $I_G = 10$  mA,  $di_G/dt = 1$  A/ $\mu$ s.

# TICC107M Silicon Controlled Rectifier

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## Electrical Characteristics, $T_A = 25\text{ °C}$ (Unless Otherwise Noted)

Parameter	Test Conditions	Min	Typ	Max	Unit
$I_{DRM}$ Repetitive peak off-state current	$V_D = V_{DRM}$ , $R_{GK} = 1\text{ k}\Omega$			20	$\mu\text{A}$
$I_{RRM}$ Repetitive peak reverse current	$V_R = V_{RRM}$ , $I_G = 0$			200	$\mu\text{A}$
$I_{GT}$ Gate trigger current	$V_{AA} = 12\text{ V}$ , $R_L = 100\ \Omega$ , $t_{p(g)} \geq 20\ \mu\text{s}$	50		200	$\mu\text{A}$
$V_{GT}$ Gate trigger voltage	$V_{AA} = 12\text{ V}$ , $R_L = 100\ \Omega$ , $t_{p(g)} \geq 20\ \mu\text{s}$	0.4		1	V
$I_H$ Holding current	$V_{AA} = 12\text{ V}$ , Initiating $I_T = 10\text{ mA}$			2	mA
$V_T$ On-state voltage	$I_T = 2\text{ A}$ (see Note 5)			1.4	V

NOTE: 5. This parameter must be measured using pulse techniques,  $t_p = 1\text{ ms}$ , duty cycle  $\leq 2\%$ , with voltage sensing-contacts separate from the current carrying contacts.

## Thermal Characteristics

Parameter	Min	Typ	Max	Unit
$R_{\theta JA}$ Junction to ambient thermal resistance (see Note 6)		70		$^{\circ}\text{C/W}$

NOTE 6. FR4 test board (single-sided), 1.6mm thickness. Terminal 4 (tab) connected to copper of area  $5\text{ cm}^2$ , thickness  $35\ \mu\text{m}$ . Test board mounted vertically.

OBSOLETE

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