BOURNS®

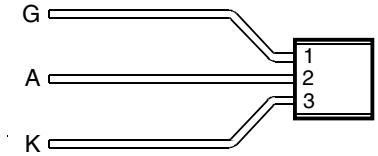
- **1 A Continuous On-State Current**
- **15 A Surge-Current**
- **Glass Passivated Wafer**
- **400 V to 600 V Off-State Voltage**
- **I_{GT} 50 µA min, 200 µA max**
- **di/dt 100A/µs**
- **Package Options**

PACKAGE	PACKING	PART # SUFFIX
LP	Bulk	(None)
LP with fomed leads	Tape and Reel	R

LP PACKAGE
(TOP VIEW)

MDC1AA

LP PACKAGE
WITH FORMED LEADS
(TOP VIEW)



MDC1AB

absolute maximum ratings over operating junction temperature (unless otherwise noted)

RATING		SYMBOL	VALUE	UNIT
Repetitive peak off-state voltage (see Note 1)	TICP107D TICP107M	V_{DRM}	400 600	V
Repetitive peak reverse voltage	TICP107D TICP107M	V_{RRM}	400 600	V
Continuous on-state current at (or below) 25°C ambient temperature (see Note 2)		$I_{T(RMS)}$	1	A
Surge on-state current at (or below) 25°C ambient temperature (see Note 3)		I_{TSM}	15	A
Critical rate of rise of on-state current at 110°C (see Note 4)		di/dt	100	A/µs
Peak positive gate current (pulse width ≤ 300 µs)		I_{GM}	0.2	A
Junction temperature range		T_J	-40 to +110	°C
Storage temperature range		T_{stg}	-40 to +125	°C
Lead temperature 3.2 mm from case for 10 seconds		T_L	230	°C

NOTES: 1. These values apply when the gate-cathode resistance R_{GK} = 1 kΩ.
2. These values apply for continuous dc operation with resistive load.
3. This value applies for one 50 Hz half-sine-wave when the device is operating at (or below) the rated value of peak reverse voltage and on-state current. Surge may be repeated after the device has returned to original thermal equilibrium.
4. Rate of rise of on-state current after triggering with I_G = 10mA, di_G/dt = 1A/µs.

electrical characteristics at 25°C ambient temperature (unless otherwise noted)

PARAMETER		TEST CONDITIONS			MIN	TYP	MAX	UNIT
I_{DRM}	Repetitive peak off-state current	V_D = rated V_{DRM}	R_{GK} = 1 kΩ				20	µA
I_{RRM}	Repetitive peak reverse current	V_R = rated V_{RRM}	I_G = 0				200	µA
I_{GT}	Gate trigger current	V_{AA} = 12 V	R_L = 100 Ω	$t_{p(g)} \geq 20$ µs	50		200	µA
V_{GT}	Gate trigger voltage	V_{AA} = 12 V	R_L = 100 Ω	$t_{p(g)} \geq 20$ µs	0.4		1	V
I_H	Holding current	V_{AA} = 12 V		Initiating I_T = 10 mA			2	mA
V_T	On-state voltage	I_T = 2 A	(see Note 5)				1.4	V

NOTE 5: This parameter must be measured using pulse techniques, t_p = 1 ms, duty cycle ≤ 2 %. Voltage sensing-contacts, separate from the current carrying contacts, are located within 3.2 mm from the device body.