

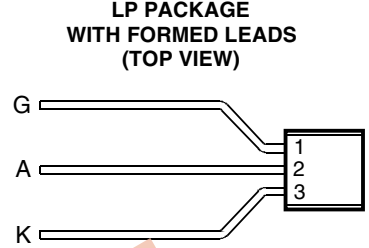


- 1 A Continuous On-State Current
- 15 A Surge-Current
- Glass Passivated Wafer
- 400 V to 600 V Off-State Voltage
- I_{GT} 50 μ A min, 200 μ A max
- di/dt 100A/ μ s
- Package Options

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



MDC1AA



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/ μ s
Peak positive gate current (pulse width \leq 300 μ s)	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 $R_{GK} = 1$ k Ω .
 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 $I_G = 10$ mA, $di_G/dt = 1$ A/ μ s.

PRODUCT INFORMATION

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

PARAMETER		TEST CONDITIONS			MIN	TYP	MAX	UNIT
I_{DRM}	Repetitive peak off-state current	$V_D = \text{rated } V_{DRM}$	$R_{GK} = 1 \text{ k}\Omega$				20	μA
I_{RRM}	Repetitive peak reverse current	$V_R = \text{rated } V_{RRM}$	$I_G = 0$				200	μA
I_{GT}	Gate trigger current	$V_{AA} = 12 \text{ V}$	$R_L = 100 \Omega$	$t_{p(g)} \geq 20 \mu\text{s}$	50		200	μA
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 $\leq 2 \%$. Voltage sensing-contacts, separate from the current carrying contacts, are located within 3.2 mm from the device body.

OBSOLETE