

- 1.5 A RMS
- Glass Passivated Wafer
- 400 V to 600 V Off-State Voltage
- Max  $I_{GT}$  of 10 mA
- Package Options

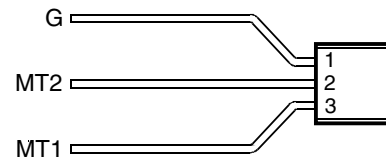
PACKAGE	PACKING	PART # SUFFIX
LP	Bulk	(None)
LP with fomed leads	Tape and Reel	R

LP PACKAGE  
(TOP VIEW)



MDC2AA

LP PACKAGE  
WITH FORMED LEADS  
(TOP VIEW)



MDC2AB

**absolute maximum ratings over operating case temperature (unless otherwise noted)**

RATING		SYMBOL	VALUE	UNIT
Repetitive peak off-state voltage (see Note 1)	TICP206D	$V_{DRM}$	400	V
	TICP206M		600	
Full-cycle RMS on-state current at (or below) 85°C case temperature (see Note 2)		$I_{T(RMS)}$	1.5	A
Peak on-state surge current full-sine-wave at (or below) 25°C case temperature (see Note 3)		$I_{TSM}$	10	A
Peak on-state surge current half-sine-wave at (or below) 25°C case temperature (see Note 4)		$I_{TSM}$	12	A
Peak gate current		$I_{GM}$	±0.2	A
Average gate power dissipation at (or below) 85°C case temperature (see Note 5)		$P_{G(AV)}$	0.3	W
Operating case temperature range		$T_C$	-40 to +110	°C
Storage temperature range		$T_{stg}$	-40 to +125	°C
Lead temperature 1.6 mm from case for 10 seconds		$T_L$	230	°C

- NOTES: 1. These values apply bidirectionally for any value of resistance between the gate and Main Terminal 1.  
 2. This value applies for 50-Hz full-sine-wave operation with resistive load. Above 85°C derate linearly to 110°C case temperature at the rate of 60 mA/°C.  
 3. This value applies for one 50-Hz full-sine-wave when the device is operating at (or below) the rated value of on-state current. Surge may be repeated after the device has returned to original thermal equilibrium. During the surge, gate control may be lost.  
 4. This value applies for one 50-Hz half-sine-wave when the device is operating at (or below) the rated value of on-state current. Surge may be repeated after the device has returned to original thermal equilibrium. During the surge, gate control may be lost.  
 5. This value applies for a maximum averaging time of 20 ms.

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

PARAMETER	TEST CONDITIONS			MIN	TYP	MAX	UNIT
$I_{DRM}$ Repetitive peak off-state current	$V_D = \text{rated } V_{DRM}$	$I_G = 0$				±20	µA
$I_{GT}$ Gate trigger current	$V_{supply} = +12 V†$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$			8	mA
	$V_{supply} = +12 V†$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$			-8	
	$V_{supply} = -12 V†$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$			-8	
	$V_{supply} = -12 V†$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$			10	
$V_{GT}$ Gate trigger voltage	$V_{supply} = +12 V†$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$			2.5	V
	$V_{supply} = +12 V†$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$			-2.5	
	$V_{supply} = -12 V†$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$			-2.5	
	$V_{supply} = -12 V†$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$			2.5	

† All voltages are with respect to Main Terminal 1.

**PRODUCT INFORMATION**

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

PARAMETER	TEST CONDITIONS			MIN	TYP	MAX	UNIT
$V_T$ On-state voltage	$I_T = \pm 1$ A	$I_G = 50$ mA	(see Note 6)			$\pm 2.2$	V
$I_H$ Holding current	$V_{supply} = +12$ V†	$I_G = 0$	Init' $I_{TM} = 100$ mA			30	mA
	$V_{supply} = -12$ V†	$I_G = 0$	Init' $I_{TM} = -100$ mA			-30	
$I_L$ Latching current	$V_{supply} = +12$ V†	(see Note 7)				40	mA
	$V_{supply} = -12$ V†					-40	

† All voltages are with respect to Main Terminal 1.

NOTES: 6. This parameter must be measured using pulse techniques,  $t_p \leq 1$  ms, duty cycle  $\leq 2$  %. Voltage-sensing contacts separate from the current carrying contacts are located within 3.2 mm from the device body.

7. The triacs are triggered by a 15-V (open circuit amplitude) pulse supplied by a generator with the following characteristics:  
 $R_G = 100 \Omega$ ,  $t_{p(g)} = 20 \mu s$ ,  $t_r \leq 15$  ns,  $f = 1$  kHz.

**TYPICAL CHARACTERISTICS**

**GATE TRIGGER CURRENT  
vs  
TEMPERATURE**

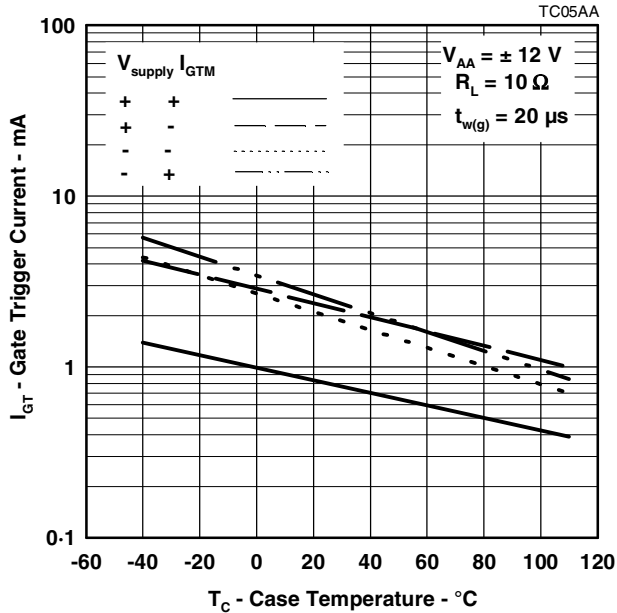


Figure 1.

**GATE TRIGGER VOLTAGE  
vs  
TEMPERATURE**

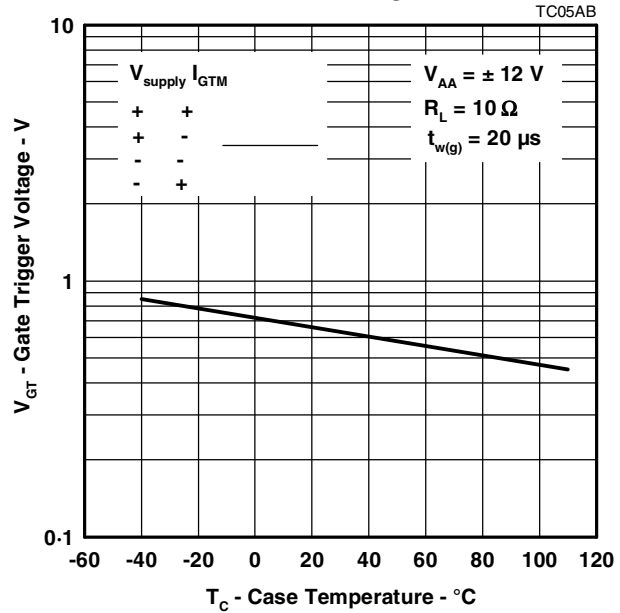
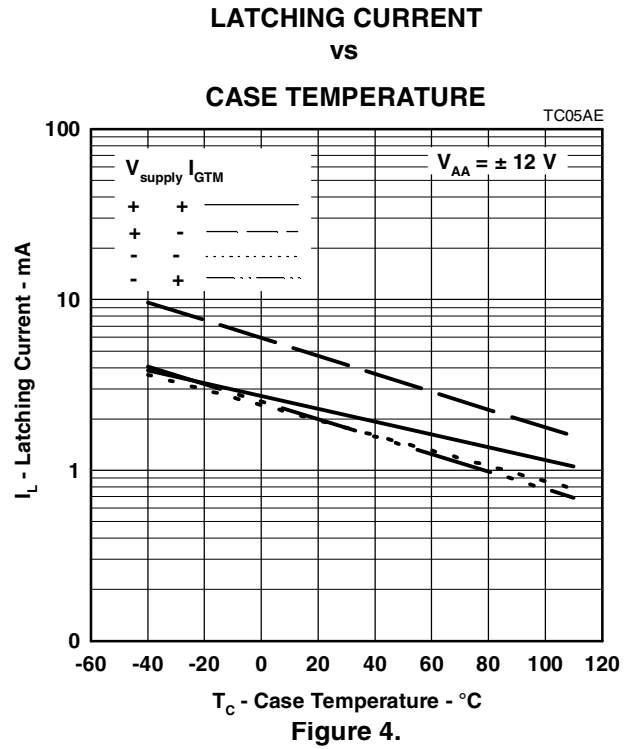
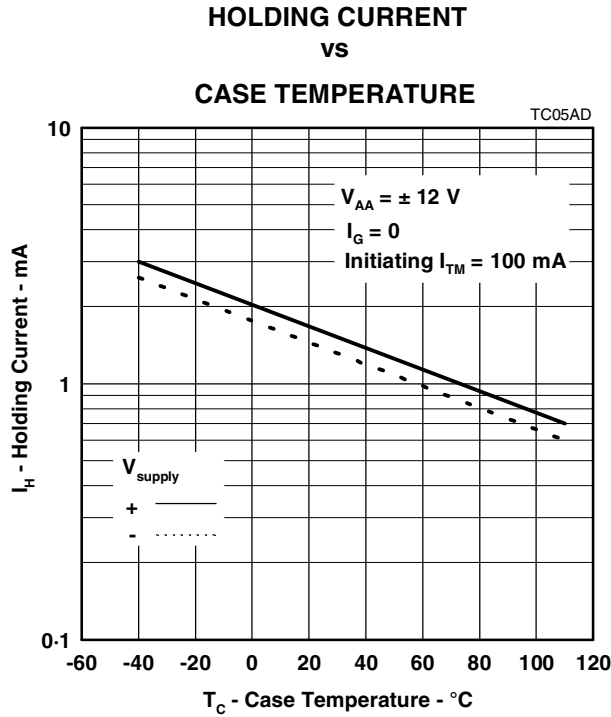


Figure 2.

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**TYPICAL CHARACTERISTICS**



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