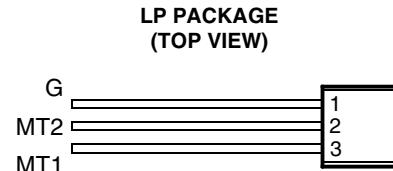
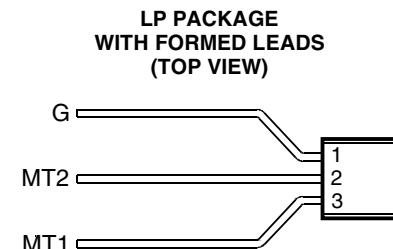


- 1.5 A RMS
- Glass Passivated Wafer
- 400 V to 600 V Off-State Voltage
- Max  $I_{GT}$  of 10 mA
- Package Options

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



MDC2AA



MDC2AB

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

RATING		SYMBOL	VALUE	UNIT
Repetitive peak off-state voltage (see Note 1)	TICP206D TICP206M	$V_{DRM}$	400 600	V
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		$I_{GM}$	$\pm 0.2$	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	$V_D$ = rated $V_{DRM}$	$I_G$ = 0			$\pm 20$	$\mu A$
$I_{GT}$	Gate trigger current	$V_{supply} = +12 V \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		8	mA
		$V_{supply} = +12 V \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		-8	
		$V_{supply} = -12 V \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		-8	
		$V_{supply} = -12 V \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		10	
$V_{GT}$	Gate trigger voltage	$V_{supply} = +12 V \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		2.5	V
		$V_{supply} = +12 V \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		-2.5	
		$V_{supply} = -12 V \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		-2.5	
		$V_{supply} = -12 V \dagger$	$R_L = 10 \Omega$	$t_{p(g)} > 20 \mu s$		2.5	

† All voltages are with respect to Main Terminal 1.

### PRODUCT INFORMATION

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

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

† All voltages are with respect to Main Terminal 1.

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

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

**TYPICAL CHARACTERISTICS**

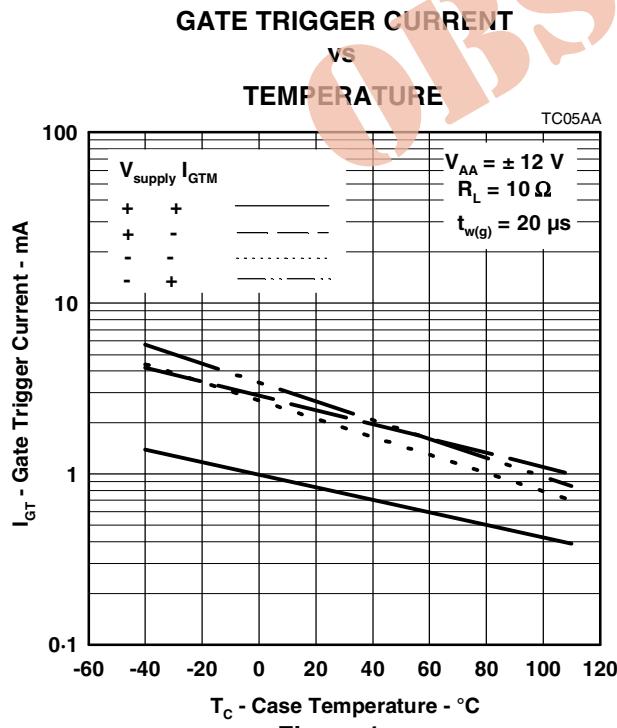


Figure 1.

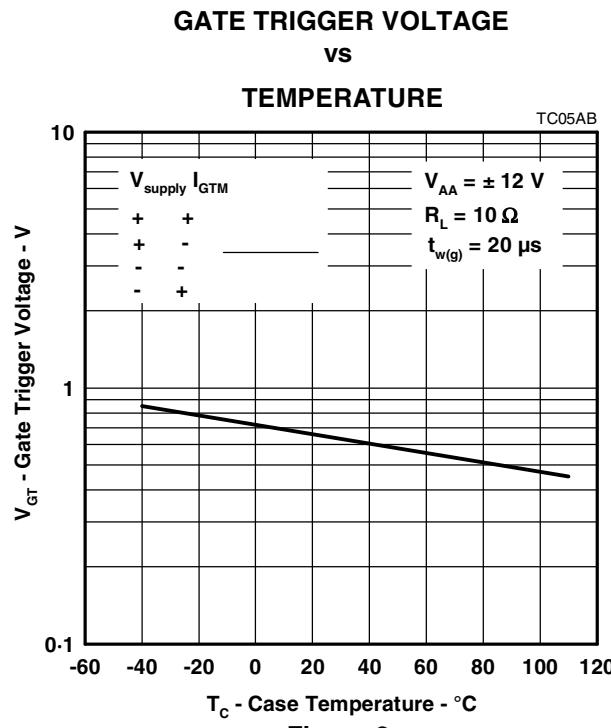


Figure 2.

**PRODUCT INFORMATION**

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Specifications are subject to change without notice.

## TYPICAL CHARACTERISTICS

## HOLDING CURRENT

vs

## CASE TEMPERATURE

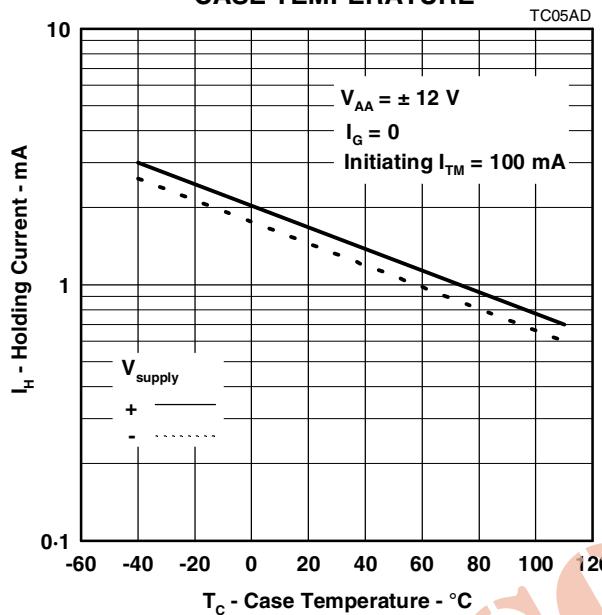


Figure 3.

## LATCHING CURRENT

vs

## CASE TEMPERATURE

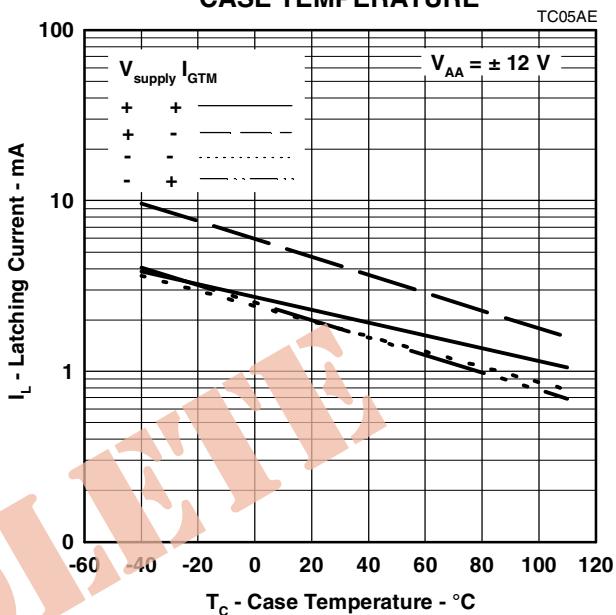


Figure 4.

## PRODUCT INFORMATION

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