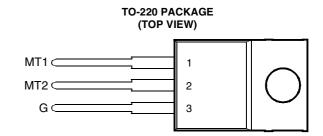
- High Current Triacs
- 16 A RMS
- Glass Passivated Wafer
- 400 V to 800 V Off-State Voltage
- 125 A Peak Current
- Max I_{GT} of 50 mA (Quadrants 1 3)



Pin 2 is in electrical contact with the mounting base.

MDC2ACA

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

RATING			VALUE	UNIT	
	TIC246D		400		
Repetitive peak off-state voltage (see Note 1)	TIC246M	.,	600	V	
	TIC246S	V _{DRM}	700		
	TIC246N		800		
Full-cycle RMS on-state current at (or below) 70°C case temperature (see Note 2)			16	Α	
Peak on-state surge current full-sine-wave at (or below) 25°C case temperature (see Note 3)			125	Α	
Peak gate current			±1	Α	
Operating case temperature range			T _C -40 to +110		
Storage temperature range			-40 to +125	°C	
Lead temperature 1.6 mm from case for 10 seconds			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 70°C derate linearly to 110°C case temperature at the rate of 400 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 peak reverse volta ge and on-state current. Surge may be repeated after the device has returned to original thermal equilibrium.

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	T _C = 110°C			±2	mA
I _{GT}	Gate trigger current	$V_{\text{supply}} = +12 \text{ V}\dagger$ $V_{\text{supply}} = +12 \text{ V}\dagger$ $V_{\text{supply}} = +12 \text{ V}\dagger$ $V_{\text{supply}} = -12 \text{ V}\dagger$ $V_{\text{supply}} = -12 \text{ V}\dagger$	$R_{L} = 10 \Omega$ $R_{L} = 10 \Omega$ $R_{L} = 10 \Omega$ $R_{L} = 10 \Omega$	$t_{p(g)} > 20 \text{ μs}$		12 -19 -16 34	50 -50 -50	mA
V _{GT}	Gate trigger voltage	$\begin{aligned} &V_{\text{supply}} = +12 \text{ V}\dagger \\ &V_{\text{supply}} = +12 \text{ V}\dagger \\ &V_{\text{supply}} = -12 \text{ V}\dagger \\ &V_{\text{supply}} = -12 \text{ V}\dagger \end{aligned}$	$R_{L} = 10 \Omega$ $R_{L} = 10 \Omega$ $R_{L} = 10 \Omega$ $R_{L} = 10 \Omega$	$t_{p(g)} > 20 \mu s$ $t_{p(g)} > 20 \mu s$ $t_{p(g)} > 20 \mu s$ $t_{p(g)} > 20 \mu s$		0.8 -0.8 -0.8 0.9	2 -2 -2 2	>
V _T	On-state voltage	$I_{TM} = \pm 22.5 \text{ A}$	$I_G = 50mA$	(see Note 4)		±1.4	±1.7	V

[†] All voltages are with respect to Main Terminal 1.

NOTE 4: 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.

PRODUCT INFORMATION



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

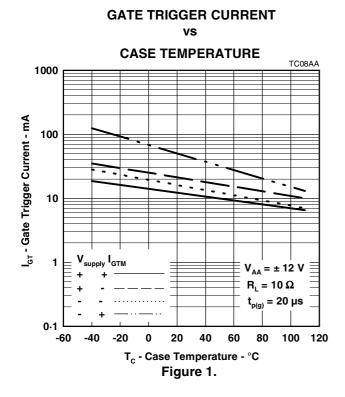
	PARAMETER TEST CONDITIONS			MIN	TYP	MAX	UNIT	
I _H	Holding current	V _{supply} = +12 V†	I _G = 0	Init' I _{TM} = 100 mA		22	40	mA
		$V_{\text{supply}} = -12 \text{ V}\dagger$	$I_G = 0$	Init' $I_{TM} = -100 \text{ mA}$		-12	-40	IIIA
IL	Latching current	V _{supply} = +12 V†	(see Note 5)			80	mA	
		$V_{\text{supply}} = -12 \text{ V}\dagger$					-80	IIIA
dv/dt	Critical rate of rise of	V _D = Rated V _D	I _G = 0	T _C = 110°C		±400		V/µs
	off-state voltage					±400		ν/μ5
dv/dt _(c)	Critical rise of	$V_D = Rated V_D$		$T_C = 80^{\circ}C$	±1.2	±9		V/µs
	commutation voltage	$di/dt = 0.5 I_{T(RMS)}/ms$	$I_T = 1.4 I_{T(RMS)}$	-1.2	±9		ν/μδ	
di/dt	Critical rate of rise of	$V_D = Rated V_D$	L = 50 mΔ	$T_C = 50 \text{ mA}$ $T_C = 110^{\circ}\text{C}$		±100		A/µs
	on -state current	di _G /dt = 50 mA/μs	IGT - 50 IIIA			±100		<i>Α</i> /μδ

[†] All voltages are with respect to Main Terminal 1.

thermal characteristics

PARAMETER		MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction to case thermal resistance			1.9	°C/W
$R_{\theta JA}$	Junction to free air thermal resistance			62.5	°C/W

TYPICAL CHARACTERISTICS



vs **CASE TEMPERATURE** TC08AB 10 V_{στ} - Gate Trigger Voltage - V $V_{\text{supply}} I_{\text{GTM}}$ _{AA} = ± 12 V $R_1 = 10 \Omega$ t_{p(g)} = 20 μs 0.1 0 20 40 60 100 -60 -40 -20 80 T_c - Case Temperature - °C Figure 2.

GATE TRIGGER VOLTAGE

PRODUCT INFORMATION

NOTE 5: The triacs are triggered by a 15-V (open-circuit amplitude) pulse supplied by a generator with the following characteristics: $R_G = 100 \ \Omega$, $t_{p(g)} = 20 \ \mu s$, $t_r = \le 15 \ ns$, $t_r = 1 \ kHz$.

TYPICAL CHARACTERISTICS

