

- 2 A Continuous On-State Current
- 15 A Surge-Current
- Glass Passivated Wafer
- 400 V to 600 V Off-State Voltage
- Max  $I_{GT}$  of 200  $\mu$ A
- Package Options

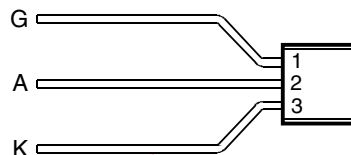
PACKAGE	PACKING	PART # SUFFIX
LP	Bulk	(None)
LP with fomed leads	Tape and Reel	R

**LP PACKAGE  
(TOP VIEW)**



MDC1AA

**LP PACKAGE  
WITH FORMED LEADS  
(TOP VIEW)**



MDC1AB

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

RATING	SYMBOL	VALUE	UNIT
Repetitive peak off-state voltage (see Note 1)	$V_{DRM}$	400 600	V
Repetitive peak reverse voltage	$V_{RRM}$	400 600	V
Continuous on-state current at (or below) 25°C case temperature (see Note 2)	$I_{T(RMS)}$	2	A
Surge on-state current (see Note 3)	$I_{TSM}$	15	A
Peak positive gate current (pulse width $\leq 300 \mu$ s)	$I_{GM}$	0.2	A
Average gate power dissipation (see Note 4)	$P_{G(AV)}$	0.3	W
Operating case temperature range	$T_C$	-40 to +110	°C
Storage temperature range	$T_{stg}$	-40 to +125	°C
Lead temperature 3.2 mm from case for 10 seconds	$T_L$	230	°C

- NOTES: 1. These values apply when the gate-cathode resistance  $R_{GK} = 1 \text{ k}\Omega$ .  
2. These values apply for continuous dc operation with resistive load. Above 25°C derate linearly to zero at 110°C.  
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. This value applies for a maximum averaging time of 20 ms.

**PRODUCT INFORMATION**

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

PARAMETER		TEST CONDITIONS		MIN	TYP	MAX	UNIT
$I_{DRM}$	Repetitive peak off-state current	$V_D = \text{rated } V_{DRM}$	$R_{GK} = 1 \text{ k}\Omega$			20	$\mu\text{A}$
$I_{RRM}$	Repetitive peak reverse current	$V_R = \text{rated } V_{RRM}$	$I_G = 0$			200	$\mu\text{A}$
$I_{GT}$	Gate trigger current	$V_{AA} = 12 \text{ V}$	$R_L = 100 \Omega$ $t_{p(g)} \geq 20 \mu\text{s}$		5	200	$\mu\text{A}$
$V_{GT}$	Gate trigger voltage	$V_{AA} = 12 \text{ V}$	$R_L = 100 \Omega$ $R_{GK} = 1 \text{ k}\Omega$ $t_{p(g)} \geq 20 \mu\text{s}$	0.4		1	V
$I_H$	Holding current	$V_{AA} = 12 \text{ V}$	$R_{GK} = 1 \text{ k}\Omega$ Initiating $I_T = 10 \text{ mA}$			5	mA
$V_T$	On-state voltage	$I_T = 1 \text{ A}$	(see Note 5)			1.5	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**

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