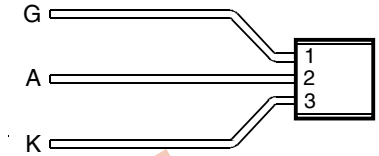
- **2 A Continuous On-State Current**
- **15 A Surge-Current**
- **Glass Passivated Wafer**
- **400 V to 600 V Off-State Voltage**
- **Max $I_{GT}$ of 200 µA**
- **Package Options**

| 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) | TICP106D<br>TICP106M | $V_{DRM}$ | 400<br>600 | V |
| Repetitive peak reverse voltage | TICP106D<br>TICP106M | $V_{RRM}$ | 400<br>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 ≤ 300 µs) | | $I_{GM}$ | 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 kΩ.
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.

## 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 $V_{DRM}$ | $R_{GK}$ = 1 kΩ | | | | 20 | μA |
| $I_{RRM}$ | Repetitive peak reverse current | $V_R$ = rated $V_{RRM}$ | $I_G$ = 0 | | | | 200 | μA |
| $I_{GT}$ | Gate trigger current | $V_{AA}$ = 12 V | $R_L$ = 100 Ω | $t_{p(g)} \geq 20$ μs | | 5 | 200 | μA |
| $V_{GT}$ | Gate trigger voltage | $V_{AA}$ = 12 V | $R_L$ = 100 Ω<br>$R_{GK}$ = 1 kΩ | $t_{p(g)} \geq 20$ μs | 0.4 | | 1 | V |
| $I_H$ | Holding current | $V_{AA}$ = 12 V | $R_{GK}$ = 1 kΩ | Initiating $I_T$ = 10 mA | | | 5 | mA |
| $V_T$ | On-state voltage | $I_T$ = 1 A | (see Note 5) | | | | 1.5 | V |

NOTE 5: 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.