

阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

Read Statement

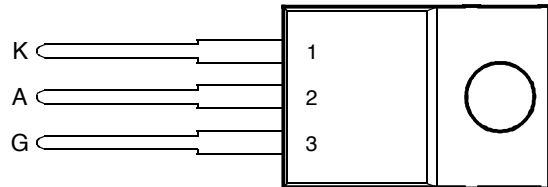
1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

- 12 A Continuous On-State Current
- 100 A Surge-Current
- Glass Passivated Wafer
- 400 V to 800 V Off-State Voltage
- Max I_{GT} of 20 mA



This series is obsolete and not recommended for new designs.

TO-220 PACKAGE
(TOP VIEW)



Pin 2 is in electrical contact with the mounting base.

MDC1ACA

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

RATING		SYMBOL	VALUE	UNIT
Repetitive peak off-state voltage	TIC126D	V_{DRM}	400	V
	TIC126M		600	
	TIC126S		700	
	TIC126N		800	
Repetitive peak reverse voltage	TIC126D	V_{RRM}	400	V
	TIC126M		600	
	TIC126S		700	
	TIC126N		800	
Continuous on-state current at (or below) 70°C case temperature (see Note 1)		$I_{T(RMS)}$	12	A
Average on-state current (180° conduction angle) at (or below) 70°C case temperature (see Note 2)		$I_{T(AV)}$	7.5	A
Surge on-state current at (or below) 25°C case temperature (see Note 3)		I_{TM}	100	A
Peak positive gate current (pulse width $\leq 300 \mu s$)		I_{GM}	3	A
Peak gate power dissipation (pulse width $\leq 300 \mu s$)		P_{GM}	5	W
Average gate power dissipation (see Note 4)		$P_{G(AV)}$	1	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 for continuous dc operation with resistive load. Above 70°C derate linearly to zero at 110°C.
 2. This value may be applied continuously under single phase 50 Hz half-sine-wave operation with resistive load. Above 70°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

APRIL 1971 - REVISED SEPTEMBER 2002
 Specifications are subject to change without notice.

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

PARAMETER		TEST CONDITIONS			MIN	TYP	MAX	UNIT
I_{DRM}	Repetitive peak off-state current	$V_D = \text{rated } V_{DRM}$		$T_C = 110^\circ\text{C}$			2	mA
I_{RRM}	Repetitive peak reverse current	$V_R = \text{rated } V_{RRM}$	$I_G = 0$	$T_C = 110^\circ\text{C}$			2	mA
I_{GT}	Gate trigger current	$V_{AA} = 12\text{ V}$	$R_L = 100\ \Omega$	$t_{p(g)} \geq 20\ \mu\text{s}$		8	20	mA
V_{GT}	Gate trigger voltage	$V_{AA} = 12\text{ V}$	$R_L = 100\ \Omega$	$T_C = -40^\circ\text{C}$			2.5	V
		$V_{AA} = 12\text{ V}$	$R_L = 100\ \Omega$			0.8	1.5	
		$V_{AA} = 12\text{ V}$	$R_L = 100\ \Omega$	$T_C = 110^\circ\text{C}$	0.2			
I_H	Holding current	$V_{AA} = 12\text{ V}$		$T_C = -40^\circ\text{C}$			100	mA
		Initiating $I_T = 100\text{ mA}$					40	
V_T	On-state voltage	$I_T = 12\text{ A}$	(see Note 5)				1.4	V
dv/dt	Critical rate of rise of off-state voltage	$V_D = \text{rated } V_D$	$I_G = 0$	$T_C = 110^\circ\text{C}$		400		V/ μs

NOTE 5: This parameter must be measured using pulse techniques, $t_p = 300\ \mu\text{s}$, duty cycle $\leq 2\%$. Voltage sensing-contacts, separate from the current carrying contacts, are located within 3.2 mm from the device body.

thermal characteristics

PARAMETER		MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Junction to case thermal resistance			2.4	$^\circ\text{C/W}$
$R_{\theta JA}$	Junction to free air thermal resistance			62.5	$^\circ\text{C/W}$



THERMAL INFORMATION

AVERAGE ON-STATE CURRENT
DERATING CURVE

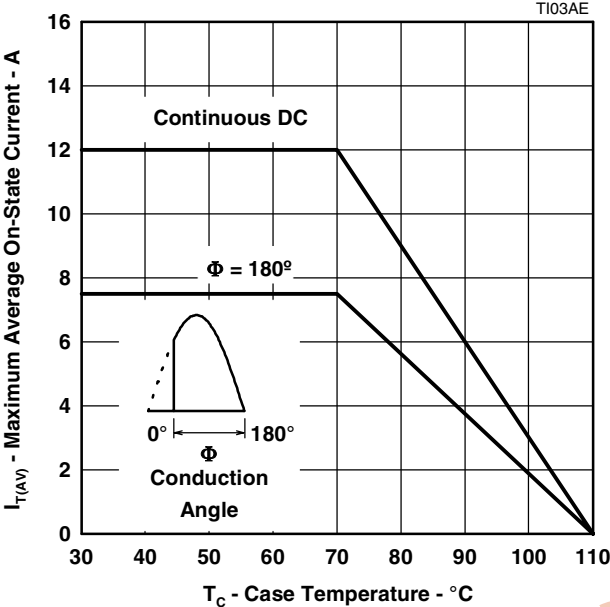


Figure 1.

MAX ANODE POWER LOSS
vs
ON-STATE CURRENT

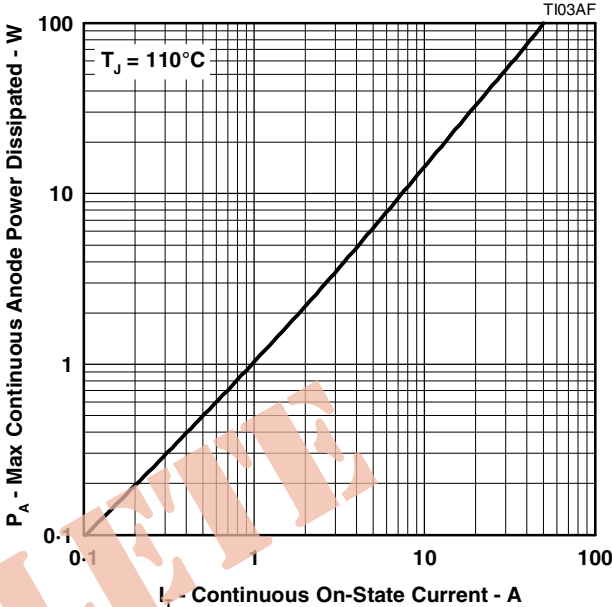


Figure 2.

SURGE ON-STATE CURRENT
vs
CYCLES OF CURRENT DURATION

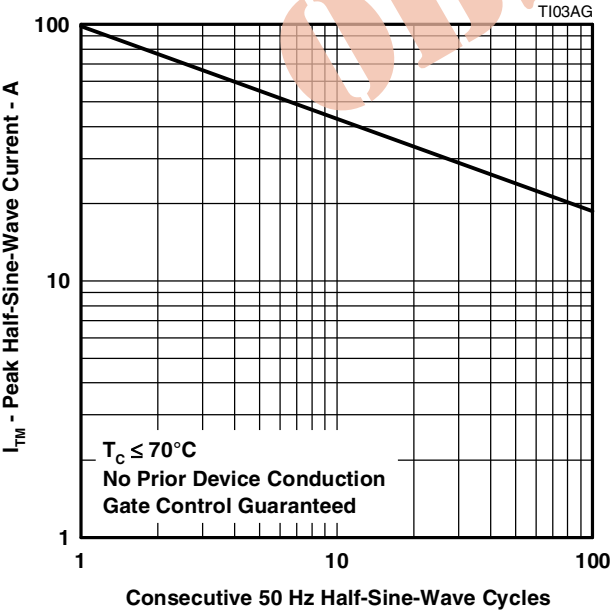


Figure 3.

TRANSIENT THERMAL RESISTANCE
vs
CYCLES OF CURRENT DURATION

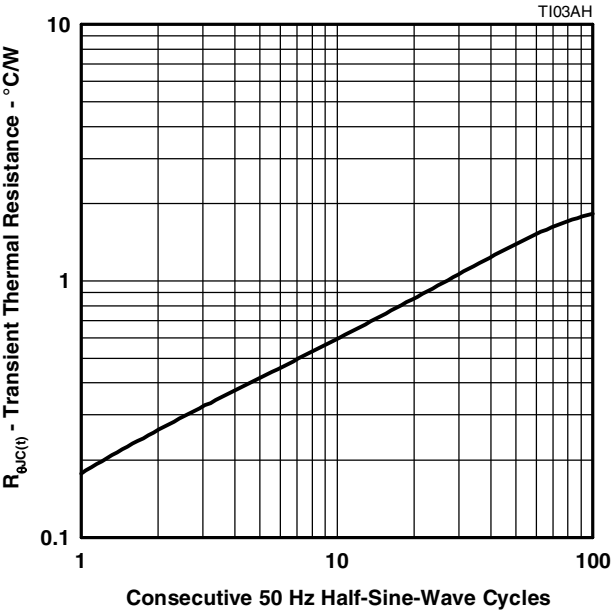


Figure 4.

PRODUCT INFORMATION

TYPICAL CHARACTERISTICS

GATE TRIGGER CURRENT
vs
CASE TEMPERATURE

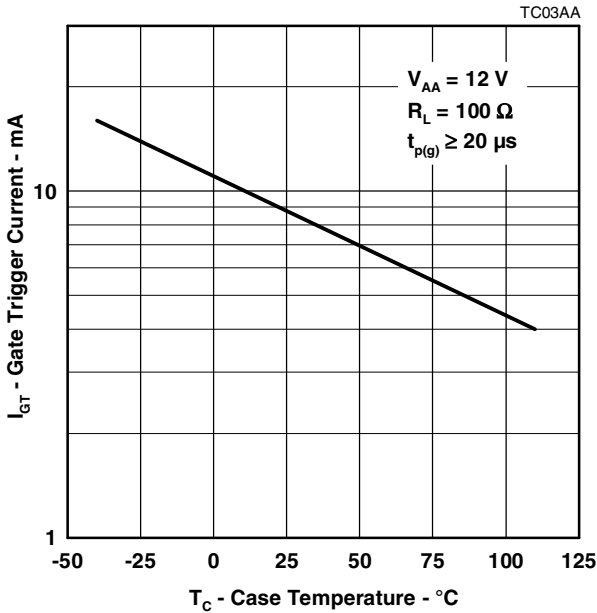


Figure 5.

GATE TRIGGER VOLTAGE
vs
CASE TEMPERATURE

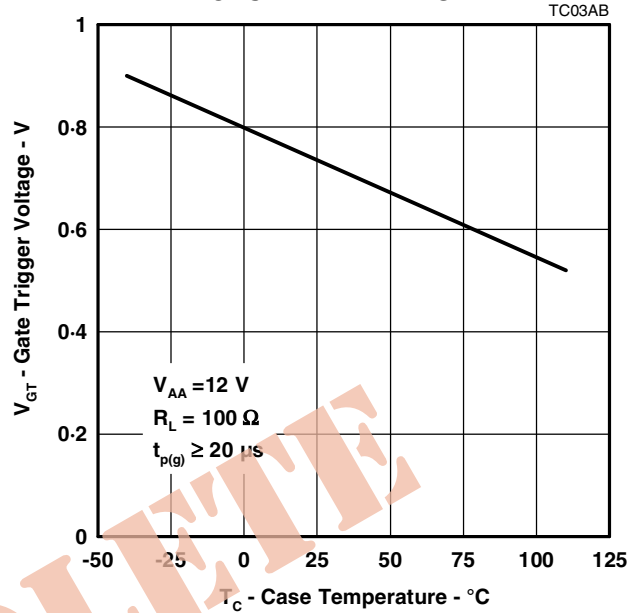


Figure 6.

HOLDING CURRENT
vs
CASE TEMPERATURE

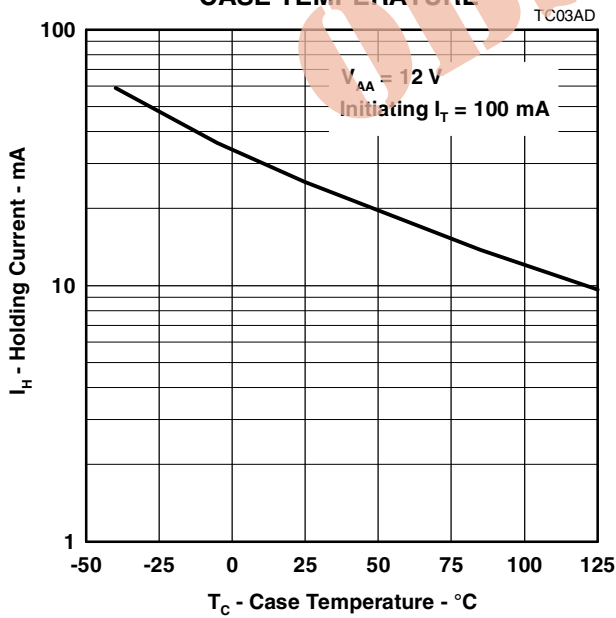


Figure 7.

PEAK ON-STATE VOLTAGE
vs
PEAK ON-STATE CURRENT

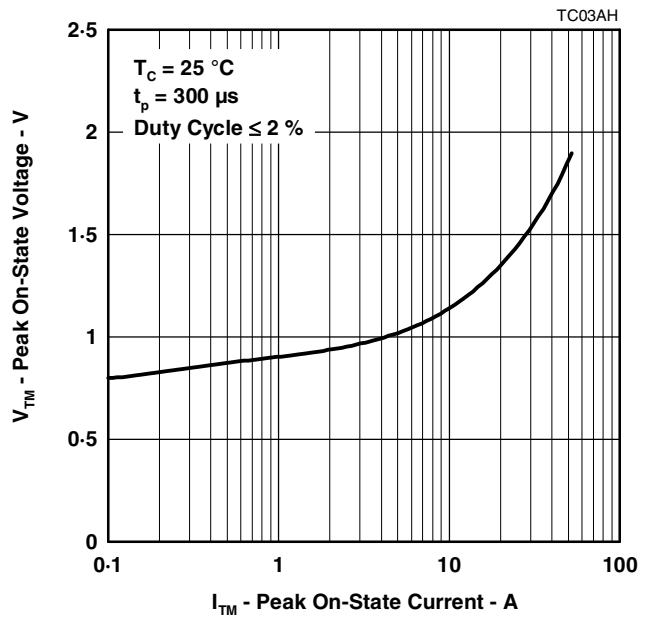


Figure 8.

PRODUCT INFORMATION