

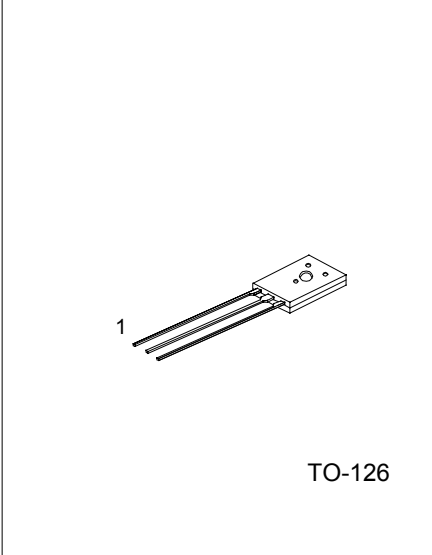
REVERSE BLOCKING TRIODE  
THYRISTORS

DESCRIPTION

PNPN devices designed for high volume consumer applications such as temperature, light and speed control; process and remote control, and warning systems where reliability of operation is important.

FEATURES

- \*Glass-Passivated surface for reliability and uniformity
- \*Power rated at economical prices
- \*Practical level triggering and holding characteristics
- \*Flat, rugged, thermopad construction for low thermal resistance, high heat dissipation and durability



TO-126

1:CATHODE 2:ANODE 3:GATE

ABSOLUTE MAXIMUM RATINGS (T<sub>J</sub>=25°C unless otherwise noted.)

PARAMETER	SYMBOL	MAX	UNIT
Peak Repetitive Forward and Reverse Blocking Voltage (note 1) (T <sub>J</sub> =110°C, R <sub>GK</sub> =1kΩ)	V <sub>DRM</sub> , V <sub>RRM</sub>	400	V
MCR106-6 MCR106-8		600	
RMS Forward Current (All conduction Angles)	I <sub>T(RMS)</sub>	4	A
Average Forward Current (T <sub>C</sub> =93°C or T <sub>A</sub> =30°C)	I <sub>T(AV)</sub>	2.55	A
Peak Non-repetitive Surge Current (1/2 Cycle, 60Hz, T <sub>J</sub> =-40 to +110°C)	I <sub>TSM</sub>	25	A
Circuit Fusing Considerations (t=8.3 ms)	I <sup>2</sup> t	2.6	A <sup>2</sup>
Peak Gate Power	P <sub>GM</sub>	0.5	W
Average Gate Power	P <sub>G(AV)</sub>	0.1	W
Peak Forward Gate Current	I <sub>GM</sub>	0.2	A
Peak Reversed Gate Voltage	V <sub>RGM</sub>	6	V
Operating Junction Temperature Range	T <sub>J</sub>	-40 ~ +110	°C
Storage Temperature Range	T <sub>stg</sub>	-40 ~ +150	°C
Mounting Torque (note 2)		6	In. lb.

Note 1: V<sub>DRM</sub> and V<sub>RRM</sub> for all types can be applied on a continuous basis. Ratings apply for zero or negative gate voltage; however, positive gate voltage shall not be applied concurrent with negative potential on the anode. Blocking voltages shall not be tested with a constant current source such that the voltage of the devices are exceeded.

Note 2: Torque rating applies with use of compression washer (B52200-F006 or equivalent). Mounting torque in excess of 6 in. lb. does not appreciably lower case-to-sink thermal resistance. Anode lead and heatsink contact pad are common. For soldering purposes (either terminal connection or device mounting), soldering temperatures shall not exceed +200°C. For optimum results, an activated flux (oxide removing) is recommended.

**THERMAL CHARACTERISTICS**

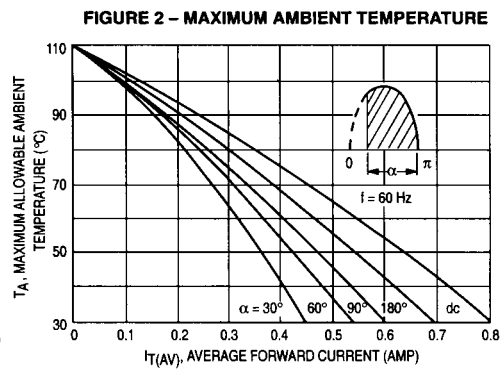
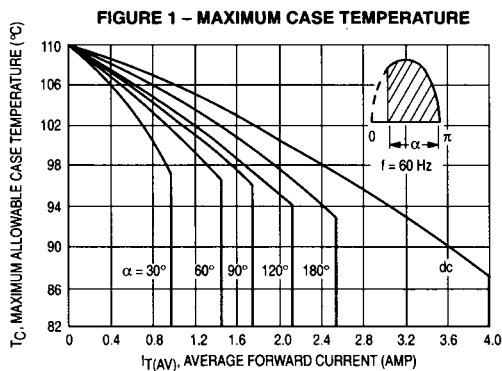
PARAMETER	SYMBOL	MAX	UNIT
Thermal Resistance, Junction to Case	$R_{\theta JC}$	3	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	75	°C/W

**ELECTRICAL CHARACTERISTICS** ( $T_c=25^\circ\text{C}$  and  $R_{GK}=1000\ \Omega$  unless otherwise stated)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Peak Forward or Reverse Blocking Current ( $V_{AK}=\text{Rated } V_{DRM}$ or $V_{RRM}$ ) $T_j=25^\circ\text{C}$ $T_j=100^\circ\text{C}$	$I_{DRM}, I_{RRM}$			10 200	$\mu\text{A}$ $\mu\text{A}$
Forward "On" Voltage ( $I_{TM}=4\text{A peak}$ )	$V_{TM}$			2	V
Gate Trigger Current (continuous dc) (Note) ( $V_{AK}=7\text{V}$ , $R_L=100\ \Omega$ ) ( $V_{AK}=7\text{V}$ , $R_L=100\ \Omega$ , $T_c=-40^\circ\text{C}$ )	$I_{GT}$			200 500	$\mu\text{A}$
Gate Trigger Voltage (continuous dc) ( $V_{AK}=7\text{V}$ , $R_L=100\ \Omega$ , $T_c=25^\circ\text{C}$ )	$V_{GT}$			1	V
Gate Non-Trigger Voltage ( $V_{AK}=\text{Rated } V_{DRM}$ , $R_L=100\ \Omega$ , $T_j=110^\circ\text{C}$ )	$V_{GD}$	0.2			V
Holding Current ( $V_{AK}=7\text{V}$ , $T_c=25^\circ\text{C}$ )	$I_H$			5	mA
Forward Voltage Application Rate ( $T_j=110^\circ\text{C}$ )	$dv/dt$		10		V/ $\mu\text{s}$

Note:  $R_{GK}$  current is not included in measurement.

**CURRENT DERATING**



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