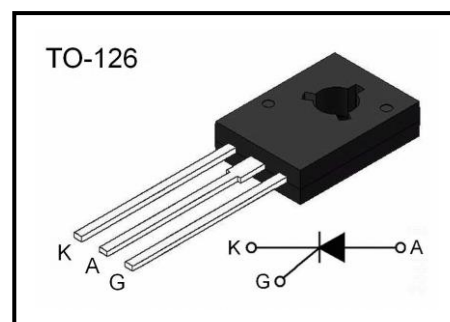


Silicon Controlled Rectifier**Reverse Blocking Triode Thyristors**

Glassivated PNP devices designed for high volume consumer applications such as temperature, light, and speed control; process and remote control, and warningsystems where reliability of operationis important.

Features

- Glassivated 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

**Absolute Maximum Rating** ($T_J=25^{\circ}\text{C}$, unless otherwise noted)

Characteristic		Symbol	Test Conditions	Value	Unit
Peak Repetitive Forward and Reverse Blocking Voltage	C106D	$V_{\text{DRM}}, V_{\text{RRM}}$	$R_{\text{GK}} = 1 \text{ k}\Omega$	400	V
	C106M			600	V
On-State RMS Current		$I_{\text{T(RMS)}}$	180° Conduction Angles	4	A
Average Forward Current		$I_{\text{T(AV)}}$	180° Conduction Angles	2.55	A
Peak Non-repetitive Surge Current		I_{TSM}	1/2 Cycle, 60Hz	20	A
Circuit Fusing Considerations		I^2t	$t = 8.3 \text{ ms}$	1.65	A^2s
Forward Peak Gate Power		P_{GM}	Pulse Width $\leq 1\mu\text{s}$, $T_C=80^{\circ}\text{C}$	0.5	W
Forward Average Gate Power		$P_{\text{G(AV)}}$	Pulse Width $\leq 1\mu\text{s}$, $T_C=80^{\circ}\text{C}$	0.1	W
Peak Forward Gate Current		I_{GM}	Pulse Width $\leq 1\mu\text{s}$, $T_C=80^{\circ}\text{C}$	0.2	A
Operating Junction Temperature Range		T_J		$-40 \sim +110$	$^{\circ}\text{C}$
Storage Temperature Range		T_{stg}		$-40 \sim +150$	$^{\circ}\text{C}$

Thermal characteristics ($T_C=25^{\circ}\text{C}$, unless otherwise noted)

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta\text{JC}}$	3.0	$^{\circ}\text{C/W}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta\text{JA}}$	75	$^{\circ}\text{C/W}$
Maximum Lead Temperature for Soldering Purposes 1/8 in. from Case for 10 Seconds	T_L	260	$^{\circ}\text{C}$

Electrical Characteristics ($T_C=25^{\circ}\text{C}$, unless otherwise noted)

Characteristic	Symbol	Test Conditions		Min	Typ	Max	Unit
Peak Forward or Reverse Blocking Current	$I_{\text{DRM}}, I_{\text{RRM}}$	$V_{\text{AK}} = \text{Rated } V_{\text{DRM}} \text{ or } V_{\text{RRM}}, R_{\text{GK}}=1\text{K}\Omega$	$T_J=25^{\circ}\text{C}$			10	μA
			$T_J=110^{\circ}\text{C}$			100	
Peak Forward On-State Voltage	V_{TM}	$I_T = 4\text{A}$				2.2	V
Gate Trigger Current (DC)	I_{GT}	$V_{\text{AK}} = 6\text{V}, R_{\text{L}}=100\Omega$	$T_J = 25^{\circ}\text{C}$			200	μA
			$T_J = -40^{\circ}\text{C}$			500	
Peak Reverse Gate Voltage	V_{GRM}	$I_{\text{GR}} = 10\mu\text{A}$				6	V
Gate Trigger Voltage (DC)	V_{GT}	$R_{\text{GK}} = 1\text{K}\Omega$	$T_J = 25^{\circ}\text{C}$	0.4		0.8	V
			$T_J = -40^{\circ}\text{C}$	0.5		1.0	
Gate Non-Trigger Voltage (DC)	V_{GD}	$V_{\text{AK}}=12\text{V}, R_{\text{L}}=100\Omega$	$T_J = 110^{\circ}\text{C}$	0.2			V
Latching Current	I_{L}	$V_{\text{AK}}=12\text{V}, I_{\text{G}}=20\text{mA}$	$T_J = 25^{\circ}\text{C}$			5.0	mA
			$T_J = -40^{\circ}\text{C}$			7.0	
Holding Current	I_{H}	$V_{\text{D}} = 12\text{V}; I_{\text{GT}} = 0.1\text{A}$				3	mA
Forward Voltage Application Rate	dv/dt	$V_{\text{D}} = \text{Rated } V_{\text{DRM}}, R_{\text{GK}} = 1\text{K}\Omega$	$T_J = 110^{\circ}\text{C}$		8		V/ μs
Turn-On Time	t_{gt}				1.2		μs
Turn-Off Time	t_{q}				40		μs

Typical Characteristics

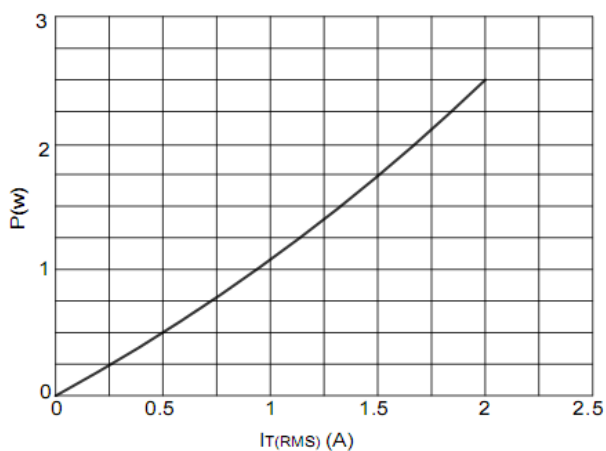


Figure 1. Maximum power dissipation vs RMS on-state current

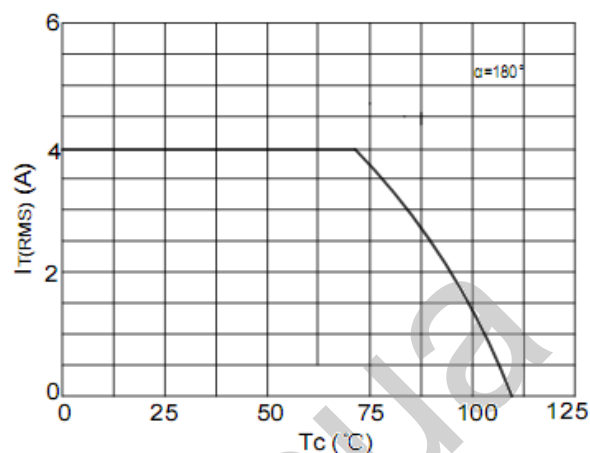


Figure 2. RMS on-state current vs case temperature

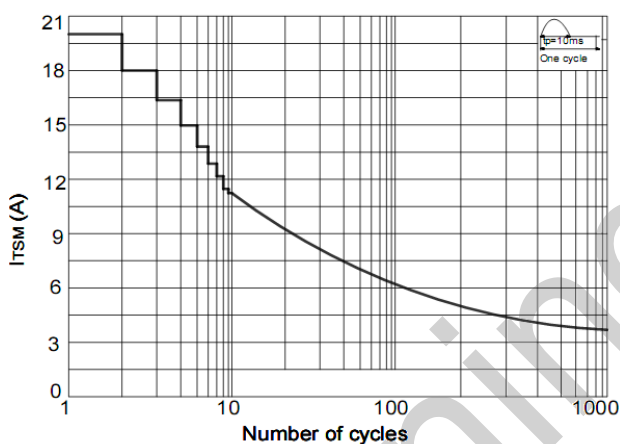


Figure 3. Surge peak on-state current vs number of cycles

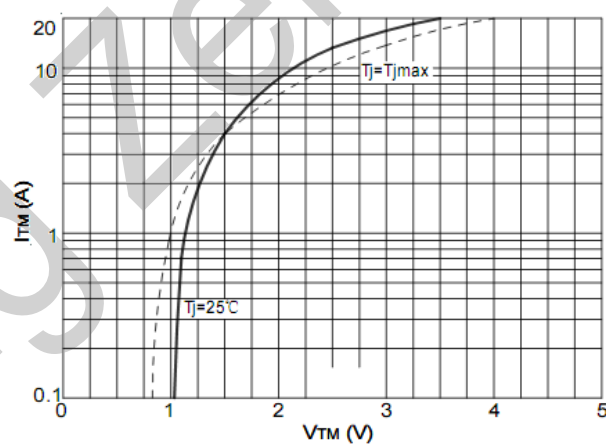


Figure 4. On-state characteristics

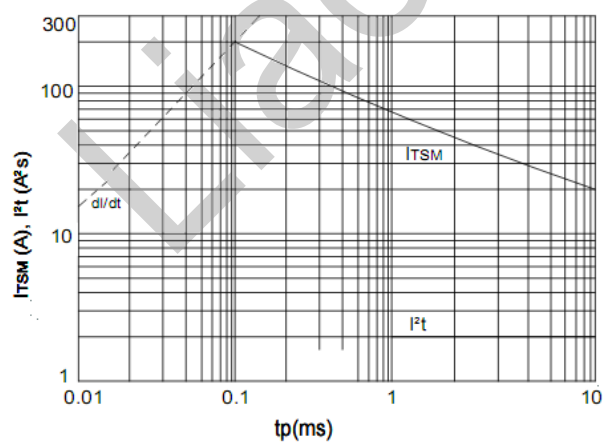


Figure 5. Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I_T

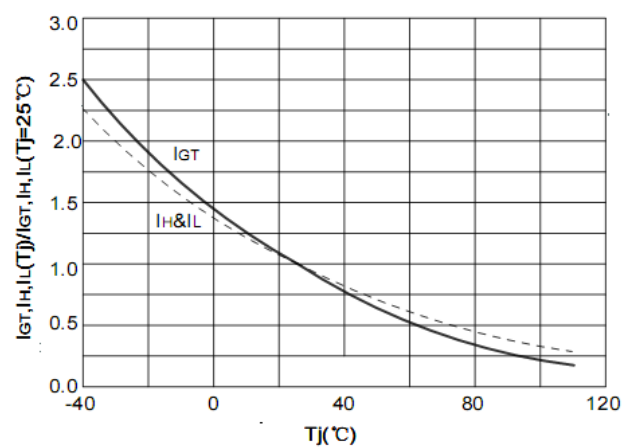


Figure 6. Relative variations of gate trigger current, holding current and latching current versus junction temperature

Package Dimensions

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.40	2.80	0.094	0.110
A1	1.00	1.40	0.039	0.055
b	0.66	0.86	0.026	0.034
b1	1.17	1.37	0.046	0.054
c	0.40	0.60	0.016	0.024
D	7.30	7.70	0.287	0.303
E	10.60	11.00	0.417	0.433
e	2.25	2.33	0.089	0.092
e1	4.50	4.66	0.177	0.183
L	14.00	15.00	0.551	0.591
L1	1.90	2.50	0.075	0.098
Φ	3.10	3.30	0.122	0.130