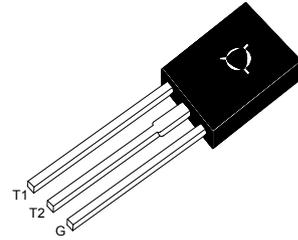


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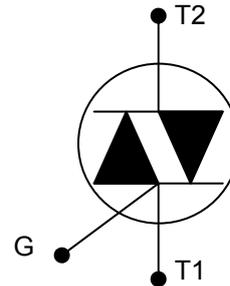
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APPLICATIONS

- For use in high bidirectional transient and blocking voltage applications
- For high thermal cycling performance
- Typical application include motor control, industrial and domestic lighting, heating and static switching



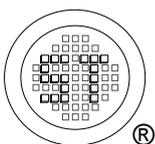
TO-126 Plastic Package



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Repetitive Peak Off State Voltage	V_{DRM}	600 ¹⁾	V
RMS on State Current Full Sine Wave, $T_{mb} \leq 107\text{ }^{\circ}\text{C}$	$I_{T(RMS)}$	4	A
Non-Repetitive Peak on State Current Full Sine Wave, $T_J = 25\text{ }^{\circ}\text{C}$ Prior to Surge	I_{TSM}	25 27	A
I^2t for Fusing	I^2t	3.1	A^2s
Repetitive Rate of Rise of on State Current after Triggering $I_{TM} = 6\text{ A}$, $I_G = 0.2\text{ A}$, $dI_G/dt = 0.2\text{ A}/\mu\text{s}$	dI_T/dt	50 50 50 10	$\text{A}/\mu\text{s}$
Peak Gate Current	I_{GM}	2	A
Peak Gate Voltage	V_{GM}	5	V
Peak Gate Power	P_{GM}	5	W
Average Gate Power (Over any 20 ms period)	$P_{G(AV)}$	0.5	W
Operating Junction Temperature	T_j	125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-40 to +150	$^{\circ}\text{C}$

¹⁾ The rate of rise of current should not exceed $3\text{ A}/\mu\text{s}$



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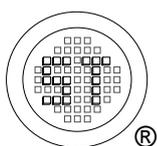
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Characteristics at $T_J = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
Gate Trigger Current at $V_D = 12\text{ V}$, $I_T = 0.1\text{ A}$	I_{GT}	-	-	35	mA
T2+ G+				35	
T2+ G-				35	
T2- G+				70	
Latching Current at $V_D = 12\text{ V}$, $I_{GT} = 0.1\text{ A}$	I_L	-	-	20	mA
T2+ G+				30	
T2+ G-				20	
T2- G+				30	
Holding Current at $V_D = 12\text{ V}$, $I_{GT} = 0.1\text{ A}$	I_H	-	-	15	mA
On State Voltage at $I_T = 5\text{ A}$	V_T	-	-	1.7	V
Gate Trigger Voltage at $V_D = 12\text{ V}$, $I_T = 0.1\text{ A}$ at $V_D = 400\text{ V}$, $I_T = 0.1\text{ A}$, $T_J = 125\text{ }^\circ\text{C}$	V_{GT}	- 0.25	- -	1.5 -	V
Off State Leakage Current at $V_D = \text{max}$, $V_{DRM} = \text{max}$, $T_J = 125\text{ }^\circ\text{C}$	I_D	-	-	0.5	mA
Critical Rate of Rise of Off State Voltage at $V_{DM} = 67\% V_{DRM}\text{ max}$, $T_J = 125\text{ }^\circ\text{C}$, exponential waveform, gate open circuit	dV_D/dt	100	250	-	V/ μs
Critical Rate of Change of Commutating Voltage at $V_{DM} = 400\text{ V}$, $T_J = 95\text{ }^\circ\text{C}$, $I_{T(RMS)} = 4\text{ A}$, $dI_{com}/dt = 1.8\text{ A/ms}$, gate open circuit	dV_{com}/dt	-	50	-	V/ μs
Gate Controlled Turn On Time at $I_{TM} = 6\text{ A}$, $V_D = V_{DRM}\text{ max}$, $I_G = 0.1\text{ A}$, $dI_G/dt = 5\text{ A}/\mu\text{s}$,	t_{gt}	-	2	-	μs

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction to Mounting Base	$R_{th(j-mb)}$	3	K/W
Full Cycle Half Cycle		3.7	
Junction to Ambient (typical)	$R_{th(j-a)}$	100 (Typ.)	K/W



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