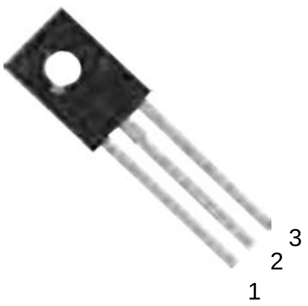
BT134

TO-126 Triac

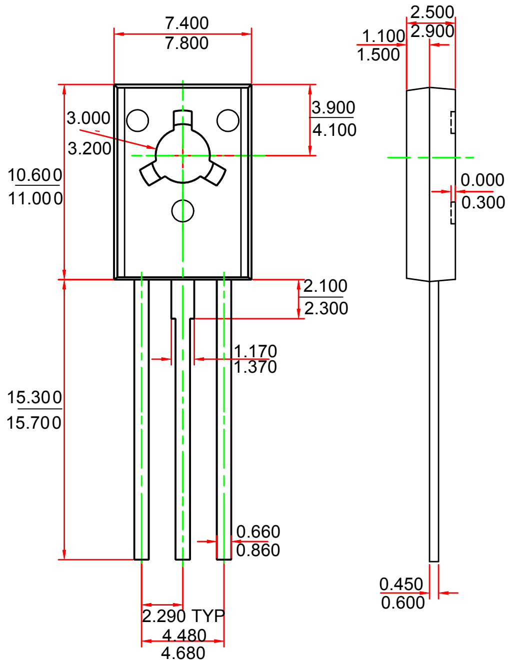


1. ANODE

2. ANODE

3. GATE

TO-126



Dimensions in inches and (millimeters)

Features

- ✧ Glass passivated triacs in a plastic, intended for use in applications requiring high bidirectional transient and blocking voltage capability and high thermal cycling performance.
- ✧ Typical applications include motor control, industrial and domestic lighting , heating and static switching.

MAXIMUM RATINGS* T_A=25℃ unless otherwise noted

Symbol	Parameter	CONDITIONS	Value	Units
V_{DRM}	Repetitive peak off-state voltages		600	V
$I_{T(RMS)}$	RMS on-state current Non-repetitive peak on-state current	full sine wave ;Tmb≦107℃	4	A
I^2t	I^2t for fusing	t=10ms	3.1	A^2s
dI_T/dt	Repetitive rate of rise of on-state current after tiggering	dI_G/dt=0.2A/us		
		T2+G+	50	A/us
		T2+G-	50	A/us
		T2-G-	50	A/us
		T2-G+	10	A/us
I_{GM}	Peak gate current		2	A
V_{GM}	Peak gate voltage		5	V
P_{GM}	Peak gate power		5	W
$P_{G(AV)}$	Average gate power	over any 20 ms period	0.5	W
T_{stg}	Storage Temperature		-40-150	℃
T_J	Operating junction Temperature		125	℃

ELECTRICAL CHARACTERISTICS(Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Rated repetitive peak off-state current	I_{DRM}	$V_D=V_{DRM}$				10	μA
On-state voltage	V_{TM}	$I_T=3A$			1.4	1.7	V
Gate trigger current	I_{GT}	$T_2(+), G(+)$	$V_D=12V$ $R_L=100\Omega$			7	mA
		$T_2(+), G(-)$				7	mA
		$T_2(-), G(-)$				7	mA
		$T_2(-), G(+)$				20	mA
Gate trigger voltage	V_{GT}	$T_2(+), G(+)$	$V_D=12V$ $R_L=100\Omega$			1.45	mA
		$T_2(+), G(-)$				1.45	mA
		$T_2(-), G(-)$				1.45	mA
		$T_2(-), G(+)$				2	mA
Holding current	I_H	$I_T=100mA$ $I_G=20mA$				15	mA
Thermal Resistance Junction to mounting base	$R_{th\ j\text{-}mb}$	full cycle				3.0	k/W
		half cycle				3.7	K/w
Thermal Resistance Junction to ambient	$R_{th\ j\text{-}a}$	In free air			60		K/w

Typical Characteristics

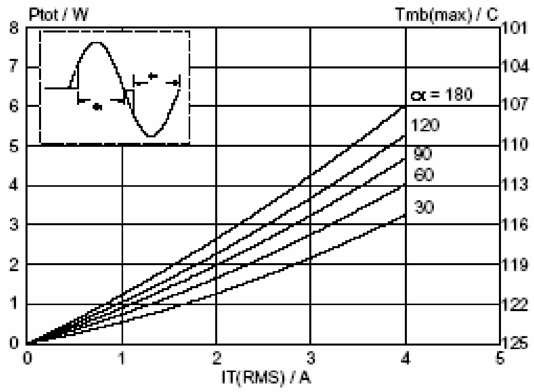


Fig.1. Maximum on-state dissipation, P_{tot}, versus rms on-state current, $I_{T(RMS)}$, where α = conduction angle.

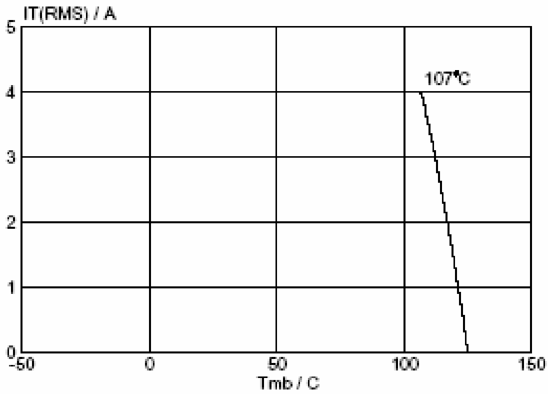


Fig.4. Maximum permissible rms current $I_{T(RMS)}$, versus mounting base temperature T_{mb}.

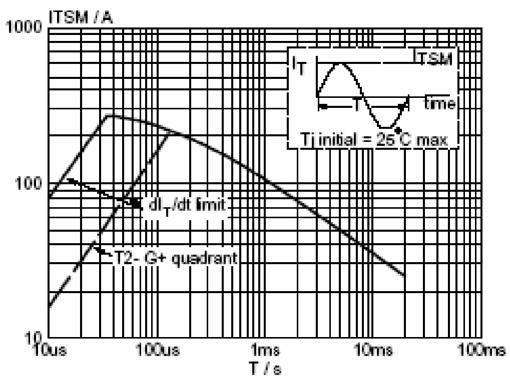


Fig.2. Maximum permissible non-repetitive peak on-state current I_{TSM}, versus pulse width t_p, for sinusoidal currents, $t_p \leq 20ms$.

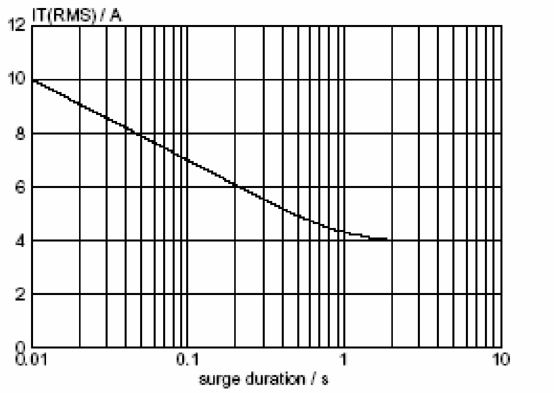


Fig.5. Maximum permissible repetitive rms on-state current $I_{T(RMS)}$, versus surge duration, for sinusoidal currents, $f = 50$ Hz; $T_{mb} \leq 107^{\circ}C$.

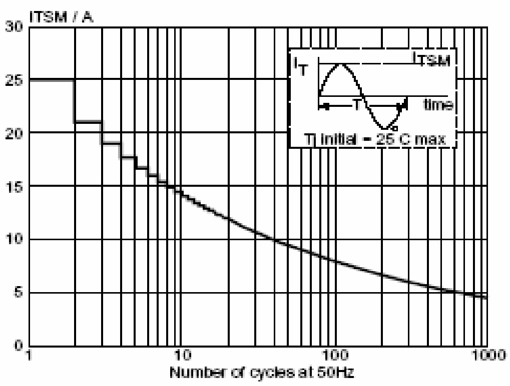


Fig.3. Maximum permissible non-repetitive peak on-state current I_{TSM}, versus number of cycles, for sinusoidal currents, $f = 50$ Hz.

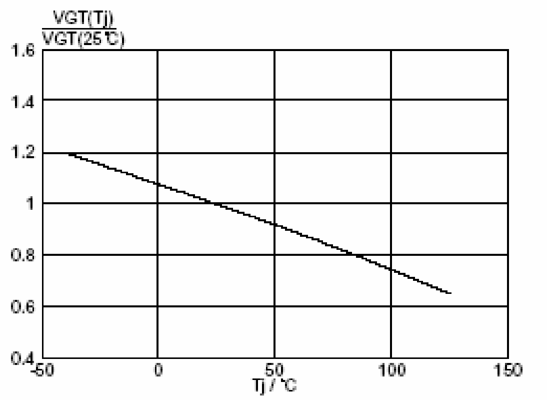


Fig.6. Normalised gate trigger voltage $V_{GT}(T_j)/V_{GT}(25^{\circ}C)$, versus junction temperature T_j.

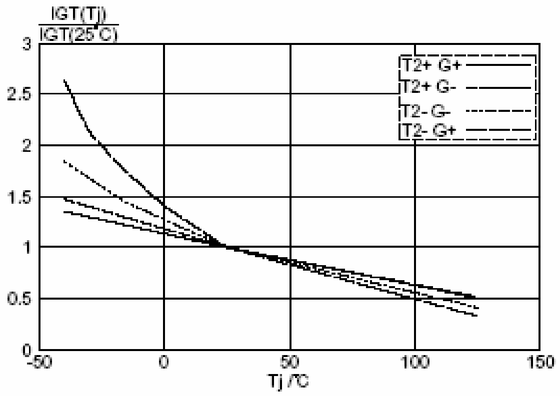


Fig.7. Normalised gate trigger current $I_{GT}(T_j)/ I_{GT}(25˚C)$, versus junction temperature T_j.

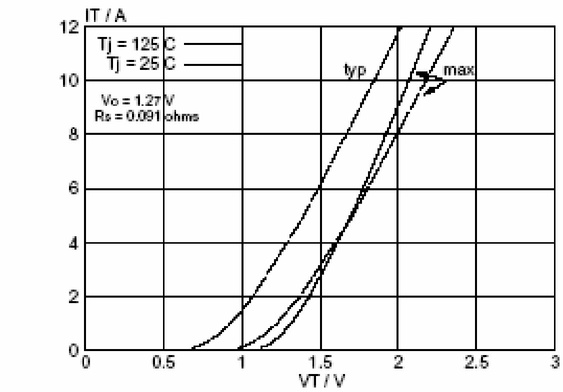


Fig.10. Typical and maximum on-state characteristic.

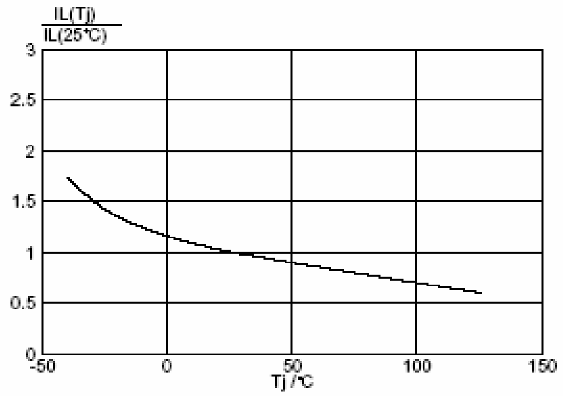


Fig.8. Normalised latching current $I_L(T_j)/ I_L(25˚C)$, versus junction temperature T_j.

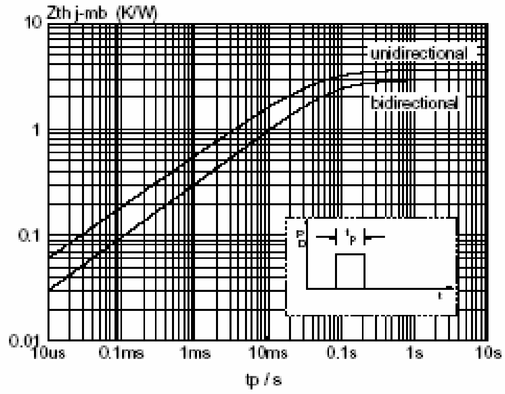


Fig.11. Transient thermal impedance $Z_{th\,j\text{-}mb}$, versus pulse width t_p.

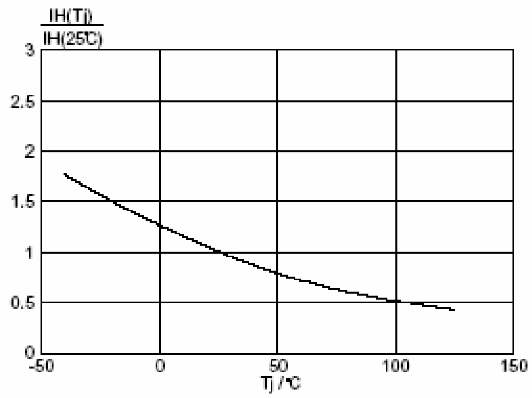


Fig.9. Normalised holding current $I_H(T_j)/ I_H(25˚C)$, versus junction temperature T_j.

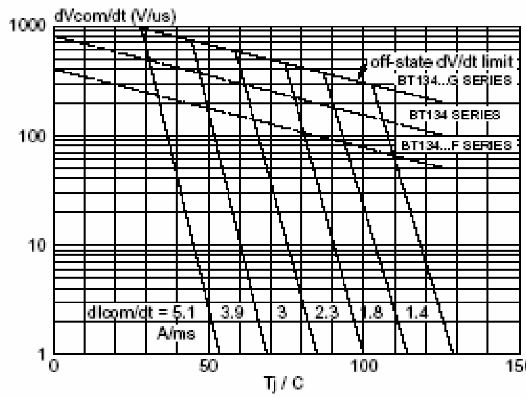


Fig.12. Typical commutation dV/dt versus junction temperature, parameter commutation dI_T/dt. The triac should commutate when the dV/dt is below the value on the appropriate curve for pre-commutation dI_T/dt.