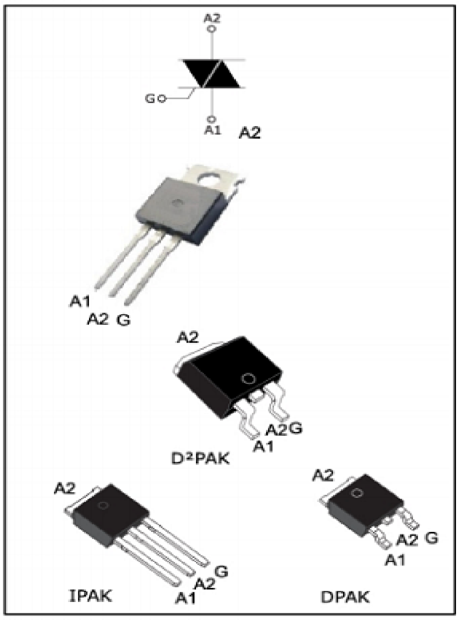
BTB06

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	Test conditions	Value	Unit
V_{DRM}/V_{RRM}	Repetitive peak off-state/reverse voltages		600	V
$I_{T(RMS)}$	RMS on-state current Non-repetitive peak on-state current	full sine wave ;Tmb≦107℃	6	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(T_a=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=100Ω			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=100Ω			1.45	V
			T_2(+), G(-)				1.45	V
			T_2(-), G(-)				1.45	V
			T_2(-), G(+)				2	V
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

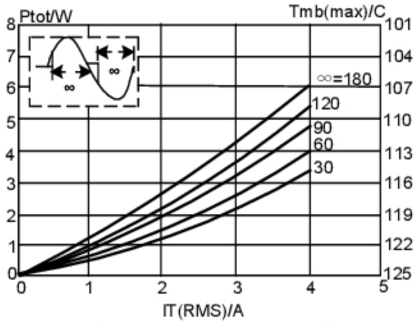


Fig.1. Maximum on-state dissipation P_{tot}, versus rms on-state current $I_{T(RMS)}$, where ∞ =conduction angle.

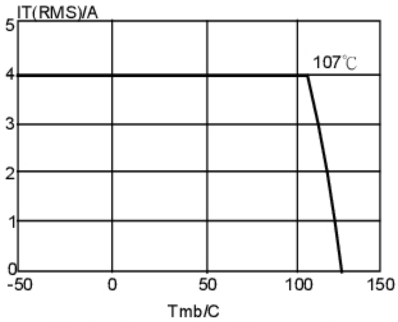


Fig.4. Maximum permissible rms current $I_{T(RMS)}$, versus mounting base temperature T_{mb}

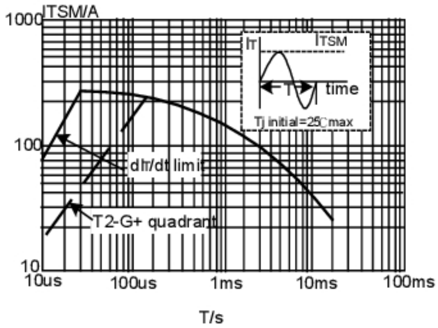


Fig.2.Maximum Permissible non-repetitive peak on-state Current I_{TSM}, versus pulse width t_p, for sinusoidal currents, t_p ≤ 20ms

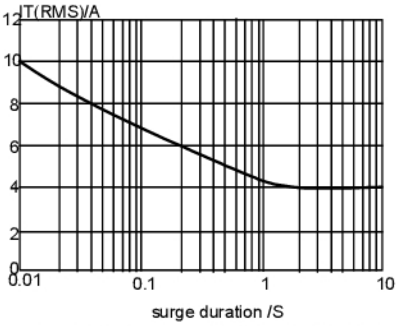


Fig. 5.Maximum permissible repetitive rms on-stat current $I_{T(RMS)}$ versus surge duration, for sinusoidal currents, f=50HZ; T_{mb} ≒ 107℃

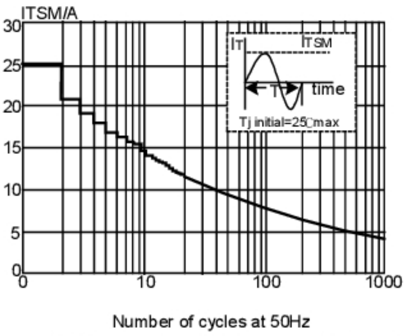


Fig3.Maximum Permissible non-repetitive peak on-state current I_{TSM}, versus number of cycles, for sinusoidal currents, f=50HZ.

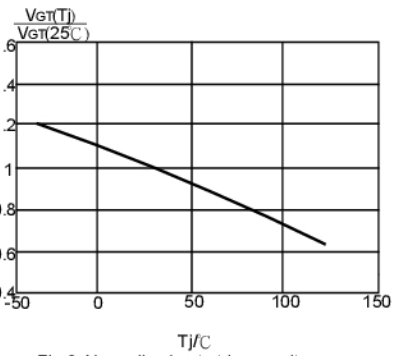


Fig.6. Normalised gate trigger voltage $V_{GT}(T_j)/V_{GT}(25℃)$, versus junction temperature T_j

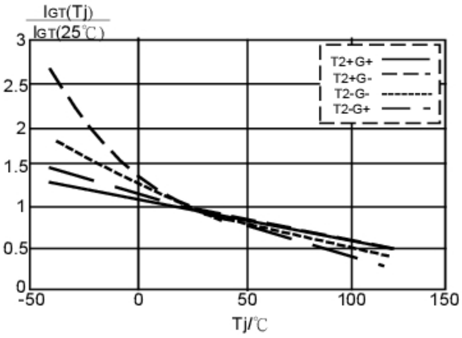


Fig. 7.Normalised gate trigger Current $I_{GT}(Tj)/I_{GT}(25℃)$,versus junction temperature Tj.

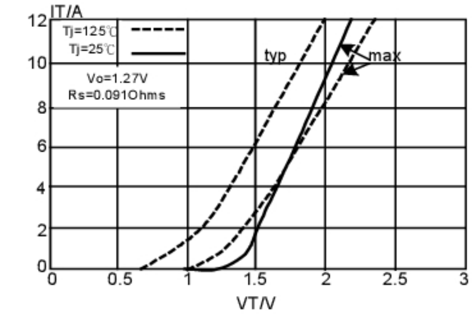


Fig.10.Typical and maximum on-state characteristic.

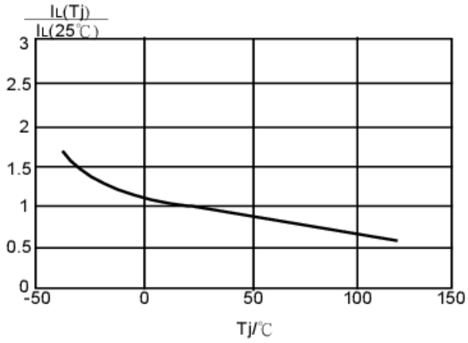


Fig.8.Normalised latching Current $I_L(Tj)/I_L(25℃)$, versus junction temperature Tj

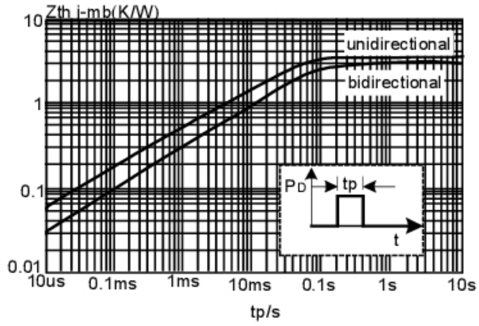


Fig.11.Transient thermal impedance Zthj-mb,versus pulse width tp.

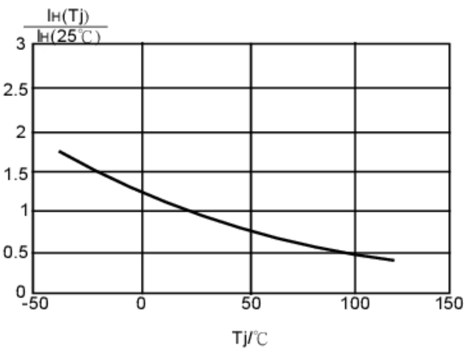


Fig. 9.Normalised holding current $I_H(Tj)/I_H(25℃)$, versus junction temperature Tj.

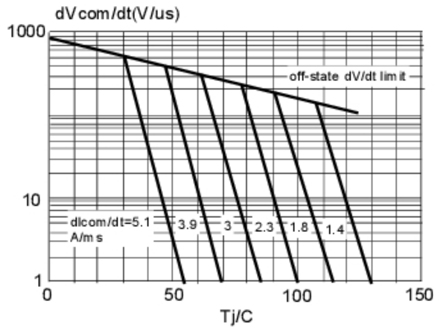


Fig.12.Typical commutation dV/dt versus junction temperature,parameter commutation dI_T/dt.The triac should commutate when the dV/dt is below the value on the appropriate curve for pre-commutation dI_T/dt