元耀科技股份有限公司
YENYO TECHNOLOGY CO., LTD.

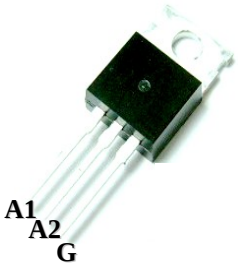
BT08 Series

8A TRIACs

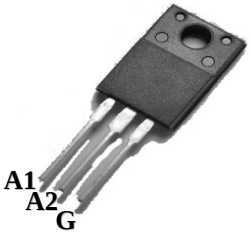
4-Quardrant Triacs (standard & logic level)

Main features

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
V_{DRM}/V_{RRM}	600	V
$I_{GT(Q1)}$	10 to 35	mA



T0-220AB
BT08xx-xxxT



IT0-220AB
BT08xx-xxxTF

DESCRIPTION

The BT08 series is suitable for use on AC inductive loads. These devices intended to be interface directly to micro-controllers, logic integrated circuits and other low power gate trigger circuits….

Absolute maximum ratings

Symbol	Parameter			Value	Unit
$I_{T(RMS)}$	RMS on-state current (full sine wave) ,Tmb≦102℃			8	A
I_{TSM}	Non repetitive surge on-state current (full sine wave , Tj initial=25℃)	F = 50Hz	t = 20ms	65	A
		F = 60Hz	t = 16.7ms	72	
I^2t	I^2t Value for fusing	t_p = 10ms		21	A^2s
dI/dt	Critical rate of rise of on-state current I_G = 2 x I_{GT} , tr ≦100ns	F = 120Hz	Tj = 125℃	50	A/us
I_{GM}	Peak gate current	t_p = 20us	Tj = 125℃	2	A
$P_{G(AV)}$	Average gate power dissipation		Tj = 125℃	0.5	W
T_{stg} T_j	Storage junction temperature range Operating junction temperature range			-40 to +150 -40 to +125	℃

Electrical characteristics (T_j = 25℃, unless otherwise specified)

Symbol	Test conditions	Quadrant		BT08			Unit
				10	25	35	
I_{GT}(1)	V_D = 12V RL=100 ohm	I - II – III	MAX.	10	25	35	mA
		IV		25	50	70	
V_{GT}		ALL	MAX.	1.5			V
I_H (2)	I_T = 100 mA		MAX.	15	25	35	mA
I_L	I_G = 1.2 I_{GT}	I - III	MAX.	25	35	50	mA
		II-IV		35	45	60	

Static characteristics

Symbol	Test conditions			Value	Unit
V_T (2)	I_{TM} = 10A tp = 380 us	Tj = 25℃	MAX.	1.65	V
I_{DRM} I_{RRM}	V_{DRM}=V_{RRM}	Tj = 25℃	MAX.	5	uA
		Tj = 125℃		1	mA

Note 1 : minimum I_{GT} is guaranteed at 5% of I_{GT} max.

Note 2 : for both polarities of A2 referenced to A1

Thermal resistance

Symbol	Parameter	Conditions	Value	Unit
$R_{th\ (j\text{-}mb)}$	Junction to mounting base	Full cycle Half cycle	2.0(max.) 2.4(max.)	K/W
$R_{th\ (j\text{-}a)}$	Junction to ambient	In free air	60(typ.)	K/W

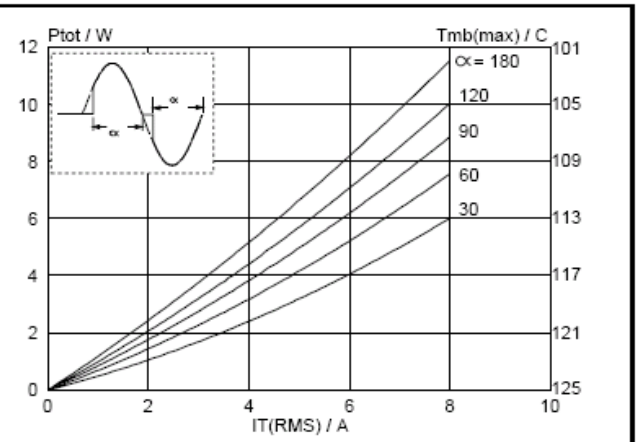


Fig.1. Maximum on-state dissipation, P_{tot}, versus rms on-state current, $I_{T(RMS)}$, where α = conduction angle.

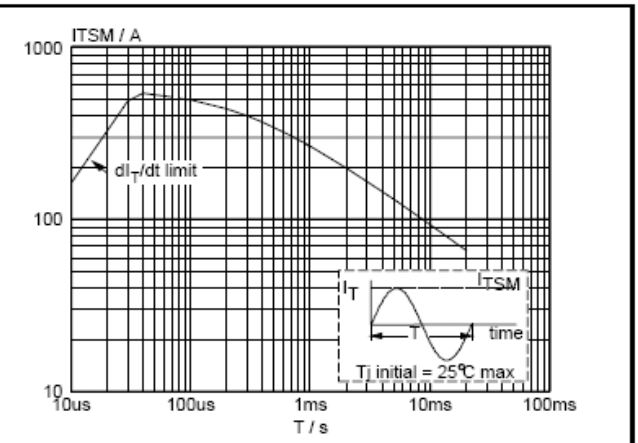


Fig.2. Maximum permissible non-repetitive peak on-state current I_{TSM}, versus pulse width t_p, for sinusoidal currents, $t_p \leq 20ms$.

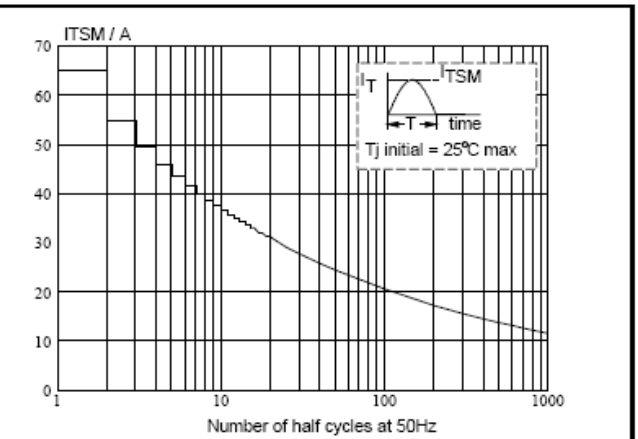


Fig.3. Maximum permissible non-repetitive peak on-state current I_{TSM}, versus number of cycles, for sinusoidal currents, f = 50 Hz.

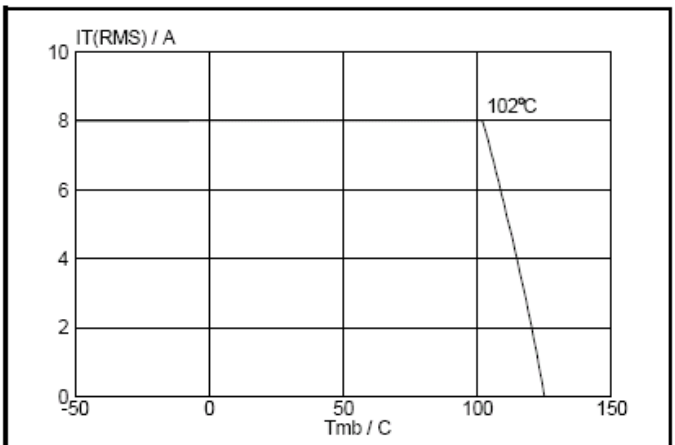


Fig.4. Maximum permissible rms current $I_{T(RMS)}$, versus mounting base temperature T_{mb}.

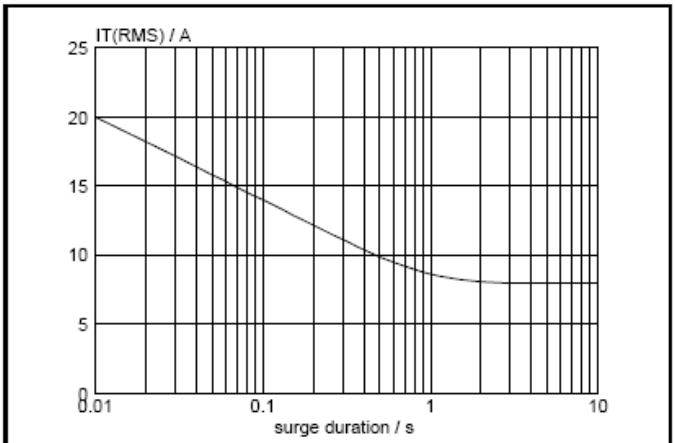


Fig.5. Maximum permissible repetitive rms on-state current $I_{T(RMS)}$, versus surge duration, for sinusoidal currents, f = 50 Hz; $T_{mb} \leq 102°C$.

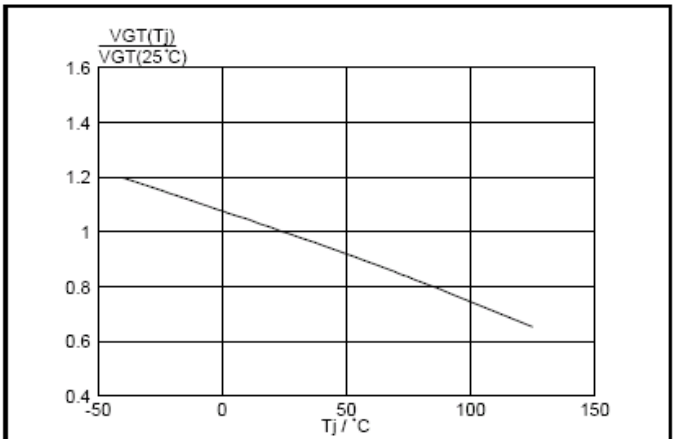


Fig.6. Normalised gate trigger voltage $V_{GT}(T_j)/ V_{GT}(25°C)$, versus junction temperature T_j.

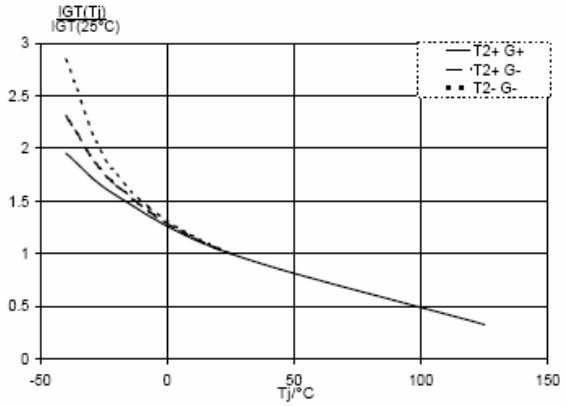


Fig.7. Normalised gate trigger current $I_{GT}(T_j)/ I_{GT}(25°C)$, versus junction temperature T_j.

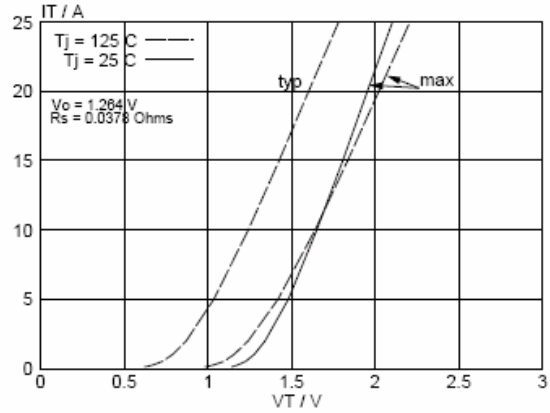


Fig.10. Typical and maximum on-state characteristic.

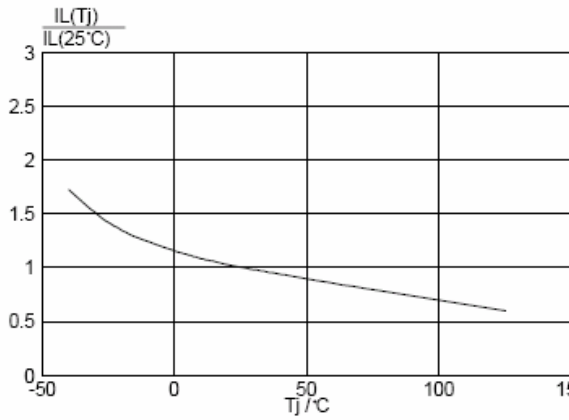


Fig.8. Normalised latching current $I_L(T_j)/ I_L(25°C)$, versus junction temperature T_j.

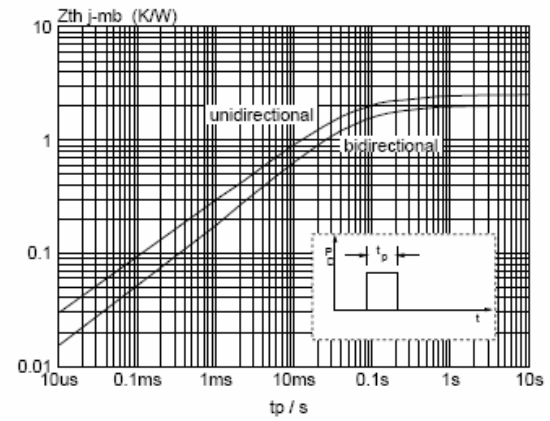


Fig.11. Transient thermal impedance $Z_{th\ j\text{-}mb}$, versus pulse width t_p.

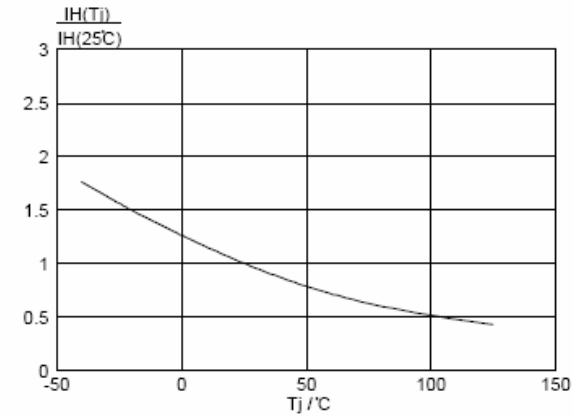


Fig.9. Normalised holding current $I_H(T_j)/ I_H(25°C)$, versus junction temperature T_j.

Product selector

Part Number	Voltage (xxx)	Sensitivty	Package
	600V		
BT0810-XXXT	X	10mA	TO-220AB
BT0810-XXXTF	X	10mA	ITO-220AB
BT0825-XXXT	X	25mA	TO-220AB
BT0825-XXXTF	X	25mA	ITO-220AB
BT0835-XXXT	X	35mA	TO-220AB
BT0835-XXXTF	X	35mA	ITO-220AB