

8A TRIACs

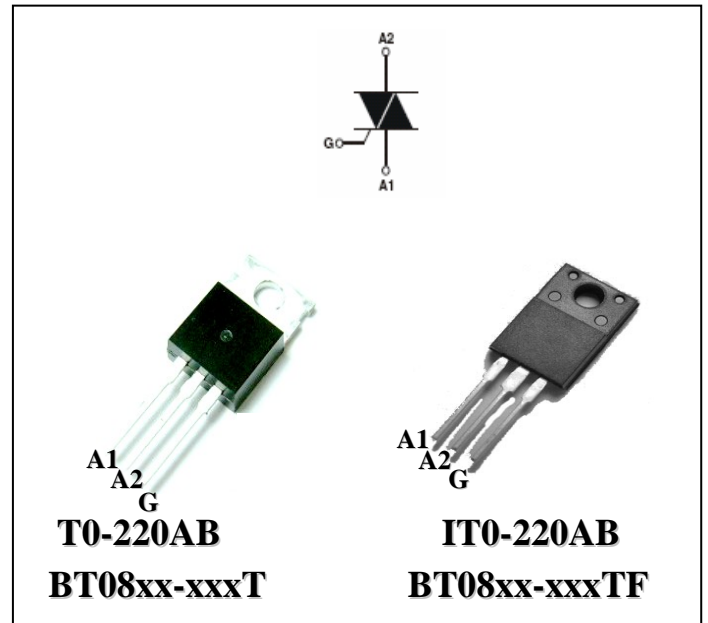
4-Quadrant Triacs (standard & logic level)

Main features

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

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) , $T_{mb} \leq 102^{\circ}C$	8	A	
I_{TSM}	Non repetitive surge on-state current (full sine wave , $T_j \text{ initial} = 25^{\circ}C$)	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	
dl/dt	Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$, $t_r \leq 100ns$	F = 120Hz $T_j = 125^{\circ}C$	50	A/us
I_{GM}	Peak gate current $t_p = 20us$	$T_j = 125^{\circ}C$	2	A
$P_{G(AV)}$	Average gate power dissipation	$T_j = 125^{\circ}C$	0.5	W
T_{stg} T_j	Storage junction temperature range Operating junction temperature range		-40 to +150 -40 to +125	$^{\circ}C$

Electrical characteristics ($T_j = 25^\circ\text{C}$, unless otherwise specified)

Symbol	Test conditions	Quadrant		BT08			Unit
				10	25	35	
$I_{GT}(1)$	$V_D = 12\text{V}$ $R_L = 100\ \text{ohm}$	I - II - III	MAX.	10	25	35	mA
		IV		25	50	70	
V_{GT}		ALL	MAX.	1.5			V
$I_H(2)$	$I_T = 100\ \text{mA}$		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	
$V_T(2)$	$I_{TM} = 10\text{A}$	$t_p = 380\ \mu\text{s}$	$T_j = 25^\circ\text{C}$	MAX.	1.65	V
I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM}$		$T_j = 25^\circ\text{C}$	MAX.	5	μA
			$T_j = 125^\circ\text{C}$		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
$R_{th(j-mb)}$	Junction to mounting base	Full cycle	2.0(max.)	K/W
		Half cycle	2.4(max.)	
$R_{th(j-a)}$	Junction to ambient	In free air	60(typ.)	K/W



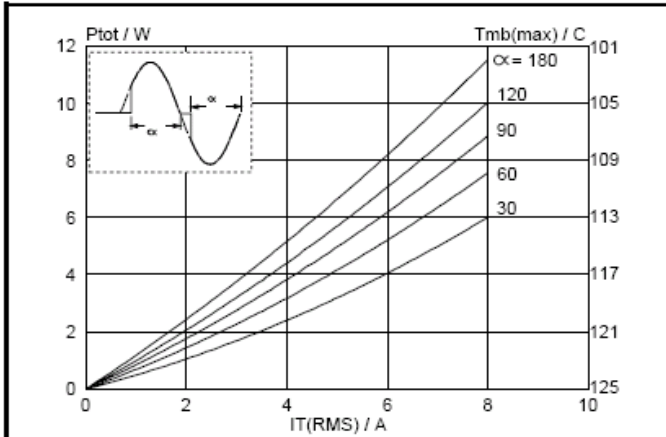


Fig.1. Maximum on-state dissipation, P_{tot} , versus rms on-state current, $I_{T(RMS)}$, where $\alpha =$ conduction angle.

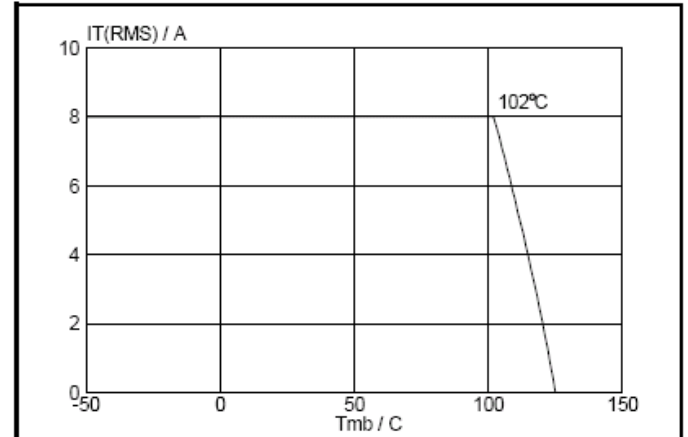


Fig.4. Maximum permissible rms current $I_{T(RMS)}$, versus mounting base temperature T_{mb} .

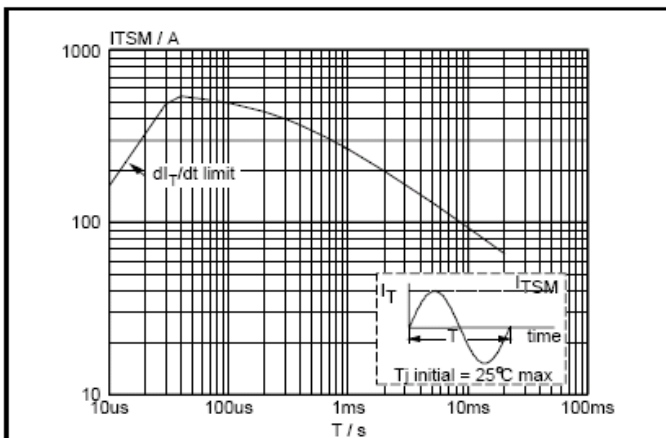


Fig.2. Maximum permissible non-repetitive peak on-state current I_{TSM} , versus pulse width t_p , for sinusoidal currents, $t_p \leq 20\text{ms}$.

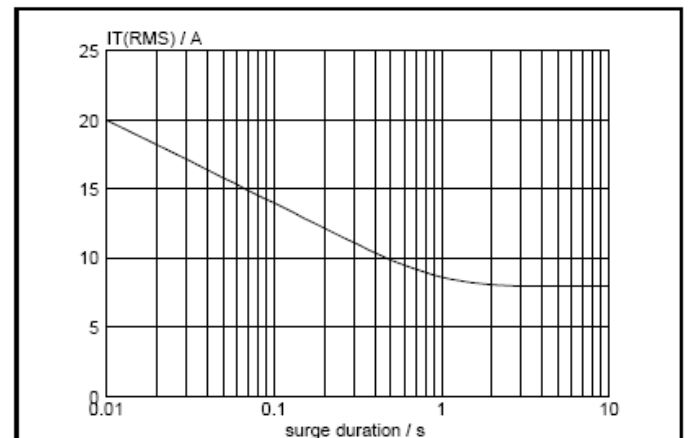


Fig.5. Maximum permissible repetitive rms on-state current $I_{T(RMS)}$, versus surge duration, for sinusoidal currents, $f = 50\text{ Hz}$; $T_{mb} \leq 102^\circ\text{C}$.

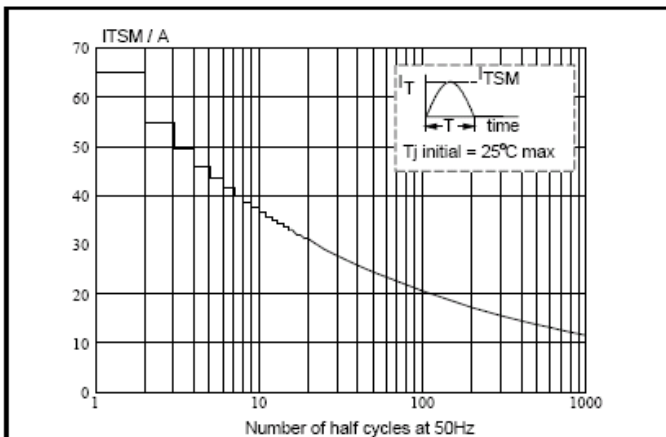


Fig.3. Maximum permissible non-repetitive peak on-state current I_{TSM} , versus number of cycles, for sinusoidal currents, $f = 50\text{ Hz}$.

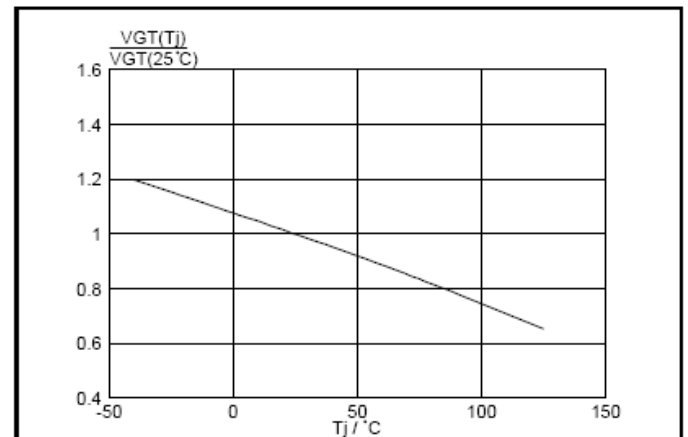
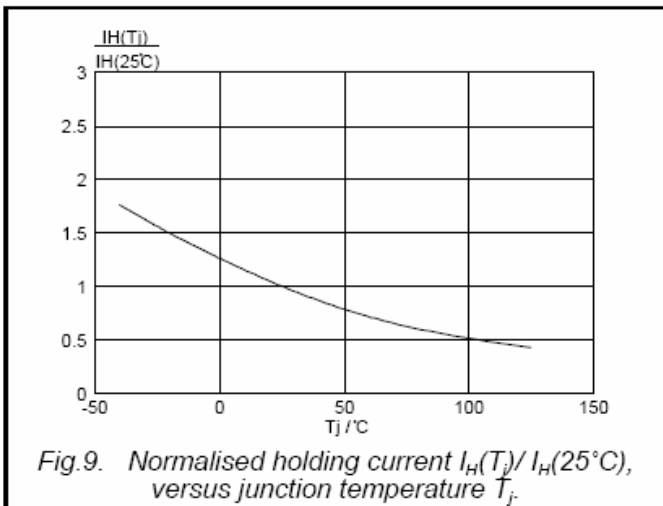
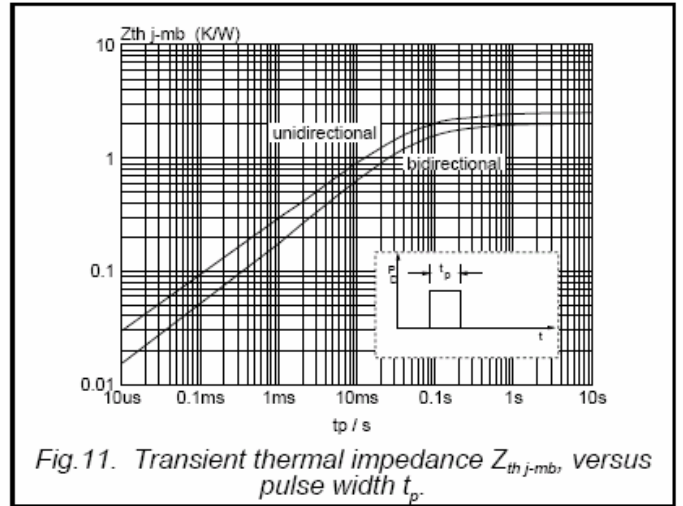
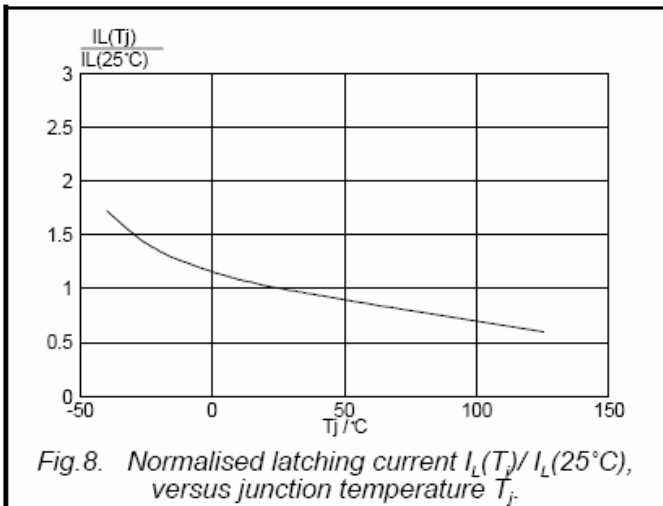
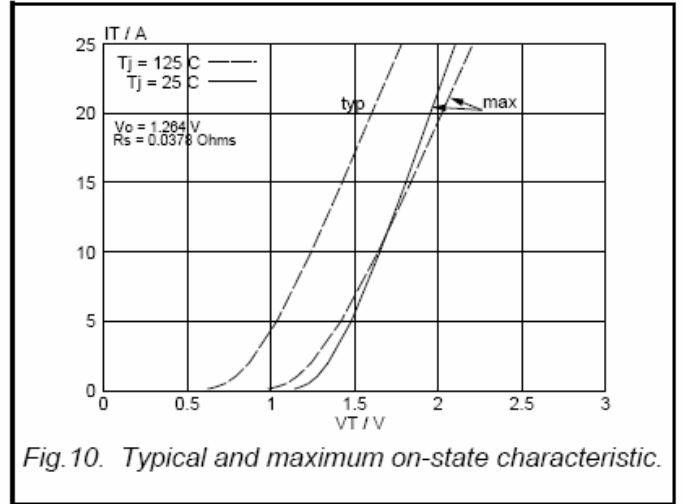
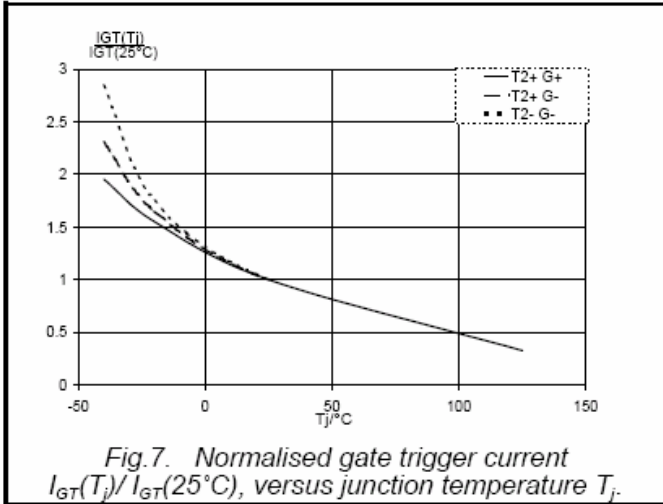


Fig.6. Normalised gate trigger voltage $V_{GT}(T_j) / V_{GT}(25^\circ\text{C})$, versus junction temperature T_j .





Product selector

Part Number	Voltage (xxx)	Sensitivity	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

