

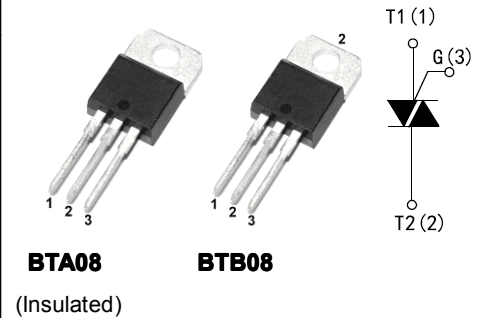
BTA / BTB08

8A TRIACS

Description

- Package: TO-220T
- Available either in through-hole or surface-mount packages, the BTA08/BTB08 is suitable for general purpose AC switching. They can be used as an ON/OFF function in application such as static relays, heating regulation, Induction motor starting circuits or for phase control Operation in light dimmers, motor speed controllers.

DRAWING



Absolute Maximum Ratings

Symbol	Parameter		Value	Unit	
$I_{T(RMS)}$	RMS on-state current(full sine wave)	TO-220T	8	A	
		TC=110°C			
I_{TSM}	Non repetitive surge peak on-state current(full cycle, Tj initial=25°C)	TO-220T Ins.	80	A	
		TC=100°C			
I_{TSM}	Non repetitive surge peak on-state current(full cycle, Tj initial=25°C)	F=50Hz	t=20ms	80	A
		F=60Hz	t=16.7ms	84	
I^2t	I^2t Value for fusing	tp=10ms	36	A ² s	
DI/DT	Critical rate of rise of on-state current IG=2XIGT, tr≤100ns	F=120Hz	Tj=125°C	50	A/us
I_{GM}	Peak gate current	tp=20us	Tj=125°C	4	A
$P_{G(AV)}$	Average gate power dissipation		Tj=125°C	1	W
T_{stg}	Storage junction temperature range			-40 to +150	°C
T_j	Operating junction temperature range			-40 to +125	

Electrical Characteristics (Tj=25°C, unless otherwise specified)

Snubberless™ and Logic Level(3 quadrants)

Symbol	Test conditions	Quadrant	BTA08/BTB08		Unit
$I_{GT(1)}$	$V_D=12V$ $R_L=30\Omega$	I - II - III	MAX	50	mA
V_{GT}		I - II - III	MAX	1.3	V
V_{GD}	$V_D=V_{DRM}$ $R_L=3.3K\Omega$ Tj=125°C	I - II - III	MIN	0.2	V
$I_H(2)$	IT=100mA		MAX	50	mA
IL	$I_G=1.2I_{GT}$	I - III	MAX	70	mA
		II		80	
Dv / Dt(2)	$V_D=67\%V_{DRM}$ Gate open Tj=125°C		MIN	1000	V/us
(DI/dt)c(2)	(Dv/dt)c=0.1 V/us Tj=125°C		MIN	-	A/ms
	(Dv/dt)c=10V/us Tj=125°C			-	
	Without snubber Tj=125°C			7	

Standard (4 Quadrants)

Symbol	Test conditions	Quadrant	BTA08/BTB08		Unit
			MAX	MIN	
IGT(1)	VD=12V RL=30Ω	I - II - III	MAX	50	mA
VGT		IV		100	
VGD	VD=VDRM RL=3.3KΩTj=125°C	ALL	MAX	1.3	V
IH(2)	IT=500mA	ALL	MIN	0.2	V
IL	IG=1.2IGT	I - III- IV	MAX	50	mA
		II		100	
(DI/dt)(2)	VD=67%VDRM Gate open Tj=125°C		MIN	400	V/us
(DI/dt)c(2)	(Dv/dt)c=3.5 A/ms Tj=125°C		MIN	10	V/us

Static Characteristics

Symbol	Test conditions			Value	Unit
VTM(2)	ITM=11A tp=380us	TJ=25°C	MAX	1.55	V
Vto(2)	Threshold voltage	TJ=125°C	MAX	0.85	V
Rd(2)	Dynamic resistance	TJ=125°C	MAX	50	mΩ
IDRM	VDRM=VRRM	TJ=25°C		5	uA
		TJ=125°C	MAX	1	mA
VDRM/VRRM	Voltage	TJ=25°C	MIN	800	V

Note 1: minimum IGT is guaranteed at 5% of IGT max

Note 2: for both polarities of A2 referenced to A1

Thermal Resistances

Symbol	Parameter		Value	Unit
Rth(j-c)	Junction to case(AC)	TO-220T	1.6	°C/W
		TO-220T(Insulated)	2.5	
Rth(j-a)	Junction to ambient	TO-220T	60	°C/W
		TO-220T(Insulated)		