

TRIAC

BTB16

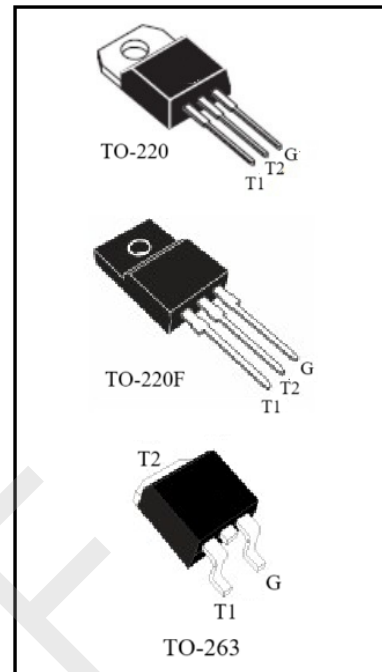
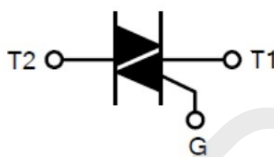
FEATURES

- Planar passivated for voltage ruggedness and reliability
- Low gate trigger current
- Low holding current
- High thermal cycling performance
- High voltage capability
- High current surge capability

APPLICATIONS

- Mains power AC switching
- Static relays
- Light dimmers
- Heater Control
- Motor Speed Controller

SYMBOL:



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL		VALUE		UNIT
Repetitive Peak Off-State Voltages	V_{DRM} , V_{RRM}	4Q	BTB16-600(C/B)	600	V
			BTB16-800(C/B)	800	
		3Q	BTB16-600(SW/CW/BW)	600	
			BTB16-800(SW/CW/BW)	800	
RMS on-State Current	$I_{T(RMS)}$		16		A
Non-Repetitive Peak On-State Current	I_{TSM}		160		A
I^2t for fusing	I^2t		144		A ² s
Repetitive rate of rise of on-state current after triggering	di/dt		50		A/uS
Peak gate current	I_{GM}		4		A
Peak Gate Power	P_{GM}		5		W
Average Gate Power	$P_{G(AV)}$		1		W
Operating junction temperature	T_J		-40~+125		°C
Storage Temperature	T_{STG}		-40 ~ +150		°C

ELECTRICAL CHARACTERISTICS (T_J=25°C) (4Q) Standard

Parameter	Symbol	Test Conditions			C	B	Units
Peak Repetitive Forward or Reverse Blocking Current	I_{DRM} I_{RRM}	V_{AK} = Rated V_{DRM} or V_{RRM} ;		MAX	5		uA
Gate Trigger Current	I_{GT}	$V_D=12V$, $R_L=33\Omega$	I-II-III	MAX	25	50	mA
			IV	MAX	50	100	
Gate Trigger Voltage	V_{GT}	$V_D=12V$, $R_L = 33\text{ k}\Omega$		MAX	1.3		V
Gate Non-Trigger Voltage	V_{GD}	$V_D = V_{DRM}$, $R_L = 3.3\text{ k}\Omega$, $T_j = 125^\circ\text{C}$		MIN	0.2		V
Peak Forward On-State Voltage	V_{TM}	$I_T=22.5A$,		MAX	1.55		V
Latch Current	I_L	$I_G = 1.2 I_{GT}$	I-III-IV	MAX	40	60	mA
			II	MAX	80	120	
Holding Current	I_H	$I_T=0.5A$		MAX	25	50	mA
Critical Rate of Rise of Off-State Voltage	dV/dt	$V_D=67\%V_{DRM}$, $T_j=25^\circ\text{C}$, Gate open		MIN	200	400	V/ μs

**ELECTRICAL CHARACTERISTICS (T_J=25°C)
(3Q) Triggering in three quadran**

Parameter	Symbol	Test Conditions			SW	CW	BW	Units
Peak Repetitive Forward or Reverse Blocking Current	I_{DRM} I_{RRM}	V_{AK} = Rated V_{DRM} or V_{RRM} ;		MAX	5			uA
Gate Trigger Current	I_{GT}	$V_D=12V$, $R_L=33\Omega$	I-II-III	MAX	10	35	50	mA
Gate Trigger Voltage	V_{GT}	$V_D=12V$, $R_L = 33$		MAX	1.3			V
Gate Non-Trigger Voltage	V_{GD}	$V_D = V_{DRM}$, $R_L = 3.3\text{ k}\Omega$, $T_j = 125^\circ\text{C}$		MIN	0.2			V
Peak Forward On-State Voltage	V_{TM}	$I_T=22.5A$,		MAX	1.55			V
Latch Current	I_L	$I_G = 1.2 I_{GT}$	I-III	MAX	25	50	70	mA
			II	MAX	30	60	80	
Holding Current	I_H	$I_T=0.5A$		MAX	15	35	50	mA
Critical Rate of Rise of Off-State Voltage	dV/dt	$V_D=67\%V_{DRM}$, $T_j=25^\circ\text{C}$, Gate open		MIN	40	400	1000	V/ μs