

TRIAC

BTA12

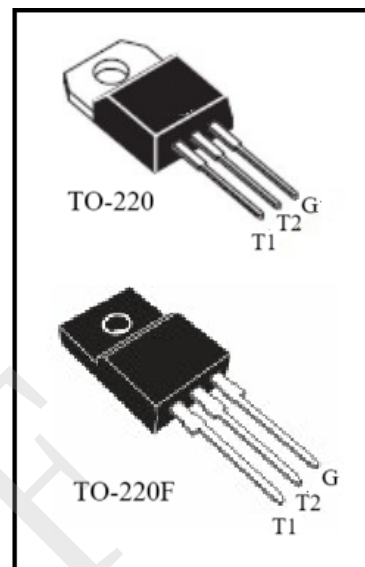
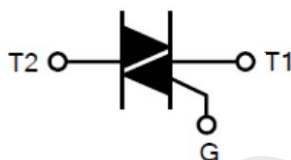
FEATURES

- Glass Passivated Junctions
- High voltage and surge capability
- Low Thermal Resistance and Durability
- Low thermal resistance insulation ceramic
- Insulating Voltage 2500V(RMS)

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 BTA12-600(D/A/C)	600
		BTA12-800(D/A/C)	800
		3Q BTA12-600(TW/SW/CW)	600
		BTA12-800(TW/SW/CW)	800
RMS on-State Current	$I_{T(RMS)}$	12	A
Non-Repetitive Peak On-State Current	I_{TSM}	120	A
I^2t for fusing	I^2t	78	A ² s
Repetitive rate of rise of on-state current after triggering	di/dt	50	A/μS
Peak gate current	I_{GM}	4	A
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} =30Ω	I-II-III	MAX	25	50	mA
			IV	MAX	50	100	
Gate Trigger Voltage	V_{GT}	V_{D} =12V, R_{L} = 33 kΩ		MAX	1.3		V
Gate Non-Trigger Voltage	V_{GD}	V_{D} = V_{DRM} , R_{L} = 3.3 kΩ, T_{j} = 125 °C		MIN	0.2		V
Peak Forward On-State Voltage	V_{TM}	I_{T} =17A,		MAX	1.55		V
Latch Current	I_{L}	I_{G} = 1.2 I_{GT}	I-III-IV	MAX	40	50	mA
			II	MAX	80	100	
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°C, Gate open		MIN	200	400	V/μs

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

Parameter	Symbol	Test Conditions			TW	SW	CW	BW	Units
Peak Repetitive Forward or Reverse Blocking Current	I_{DRM} I_{RRM}	$V_{\text{AK}} = \text{Rated } V_{\text{DRM}}$ or V_{RRM} ;		MAX	5				uA
Gate Trigger Current	I_{GT}	$V_{\text{D}}=12\text{V}$, $R_{\text{L}}=30\Omega$	I-II-III	MAX	5	10	35	50	mA
Gate Trigger Voltage	V_{GT}	$V_{\text{D}}=12\text{V}$, $R_{\text{L}} = 33 \text{ k}\Omega$		MAX	1.3				V
Gate Non-Trigger Voltage	V_{GD}	$V_{\text{D}} = V_{\text{DRM}}$, $R_{\text{L}} = 33 \text{ k}\Omega$, $T_{\text{j}} = 125 \text{ }^{\circ}\text{C}$		MIN	0.2				V
Peak Forward On-State Voltage	V_{TM}	$I_{\text{T}}=17\text{A}$,		MAX	1.55				V
Latch Current	I_{L}	$I_{\text{G}} = 1.2 I_{\text{GT}}$	I-III	MAX	10	25	50	70	mA
			II	MAX	10	30	60	80	
Holding Current	I_{H}	$I_{\text{T}}=0.5\text{A}$		MAX	10	15	35	50	mA
Critical Rate of Rise of Off-State Voltage	dV/dt	$V_{\text{D}}=67\%V_{\text{DRM}}$, $T_{\text{j}}=25^{\circ}\text{C}$, Gate open		MIN	20	40	400	1000	V/ μs