

BTA12A_BT12A Triac

DESCRIPTION

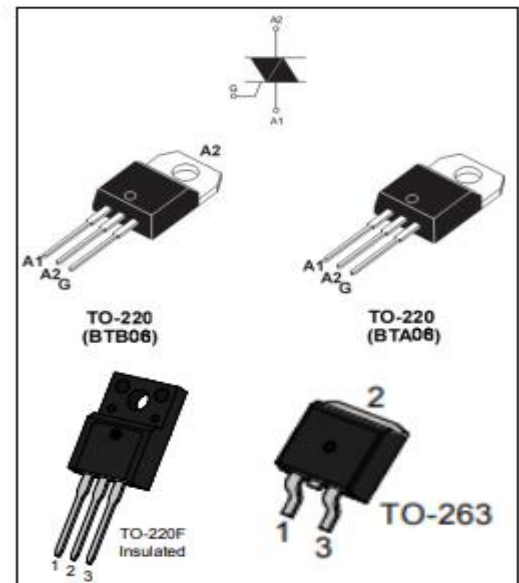
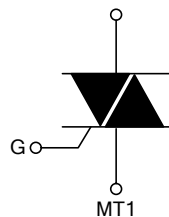
The BTA12A_BT12A is a silicon bidirectional device with NPNPN five-layer structure; Single-sided grooving technology with independent intellectual property rights, countertop glass passivation process; Multilayer metallized electrode on the back; It has high blocking voltage and high temperature stability;

The BTA12A_BT12A is widely used in dimming, temperature regulation, speed regulation, and electric vehicles Tools, solid state relays, vacuum cleaners, motor controls system and other fields, strong anti-interference ability.

MT2

FEATURES

- * Low gate trigger current
- * Low holding current



ABSOLUTE MAXIMUM RATINGS

SYMBOL	PARAMETER			RATINGS	UNIT
$I_{T(RMS)}$	RMS On-State Current	BTA BTB	$T_c=80^\circ\text{C}$ $T_c=90^\circ\text{C}$	12	A
I_{TSM}	Non Repetitive Surge Peak On-State Current	F=50HZ	$t=20\text{ms}$	120	A
I^2t	I^2t Value	$t_p=10\text{ms}$		72	A^2S
di/dt	Critical Rate of Rise of On-State Current		$T_j=125^\circ\text{C}$	50	A/us
V_{DRM}/V_{RRM}	Repetitive Peak Off-State Voltage		$T_j=25^\circ\text{C}$	600/800	V

I_{GM}	Peak Gate Current	$t_p=20\mu s$	$T_j=125^\circ C$	4	A
$P_{G(AV)}$	Average Gate Power Dissipation		$T_j=125^\circ C$	10	W
T_{stg} T_j	Storage Junction Temperature Operating Junction Temperature			-40to+150 -40to+125	$^\circ C$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ Electrical characteristics (three quadrants)

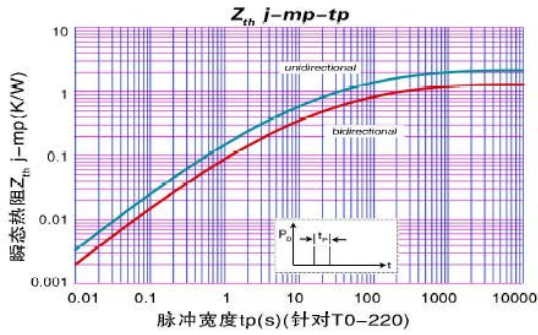
PARAMETER	SYMBOL	TEST CONDITIONS	Quadrants		RATINGS	UNIT
Gate Trigger Current	I_{GT}	$V_D=12V$ (DC) $R_L=100\Omega$	I II III	MAX	≤ 50	mA
Gate Trigger Voltage	V_{GT}			MAX	1.5	V
GateNon-Trigger Voltage	V_{GD}			MIN	0.2	V
Holding Current (Note 1)	I_H	$I_T=0.5A$		MAX	60	mA
Latching Current	I_L	$I_G=1.2I_{GT}$		MAX	60	mA
					100	
Critical Rate of Rise of Off-State Voltage (Note 1)	dv/dt	$V_D=2/3V_{DRM}$ $T_j=125^\circ C$		MIN	500	V/ μs
Critical Rate of Rise of Off-State Voltage at Commutation (Note 1)	$(dv/dt)_c$	$T_j=125^\circ C$		MIN	8	V/ μs

■ Electrical characteristics (four quadrants)

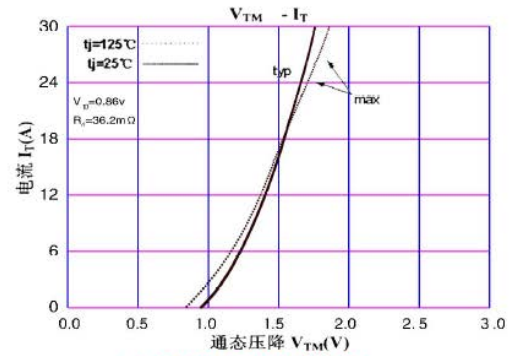
PARAMETER	SYMBOL	TEST CONDITIONS	Quadrants		RATINGS		UNIT
Gate Trigger Current	I_{GT}	$V_D=12V R_L=100\Omega$	I II III IV	MAX	I II III	IV	mA
					≤ 50	≤ 120	
Gate Trigger Voltage	V_{GT}			MAX	1.5		V
GateNon-Trigger Voltage	V_{GD}	$T_j=125^\circ C$		MIN	0.2		V
HoldingCurrent (Note 1)	I_H	$I_T=0.5A$		MAX	60		mA
Latching Current	I_L	$I_G=1.2I_{GT}$		MAX	60		mA
					100		
Critical Rate of Rise of Off-State Voltage (Note 1)	dv/dt	$V_D=2/3V_{DRM} T_j=125^\circ C$		MIN	500		V/us
Critical Rate of Rise of Off-State Voltage at Commutation (Note 1)	$(dv/dt)_c$	$T_j=125^\circ C$		MIN	10		V/us

■ Static parameters

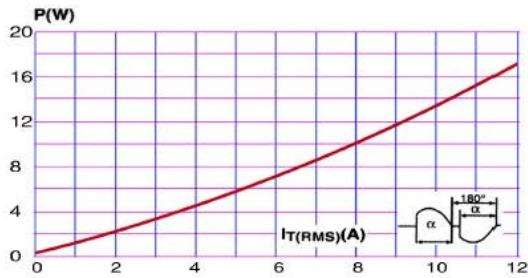
SYMBOL	PARAMETER			RATINGS	UNIT
V_{TM}	Peak On-State Voltage (Note 1)	$T_j=25^\circ C$ $I_{TM}=24A$	MAX	1.40	V
V_{T0}	Threshold voltage	$T_j=125^\circ C$	MAX	0.86	V
R_d	Resistance	$T_j=125^\circ C$	MAX	36.6	$m\Omega$
I_{DRM} I_{RRM}	Repetitive Peak Off-State Current	$T_j=25^\circ C$	MAX	5	μA
		$T_j=125^\circ C$		1	mA
$R_{th(j-c)}$	Junction to Case (DC)	BTA		2.05	$^\circ C/W$
		BTB		1.25	



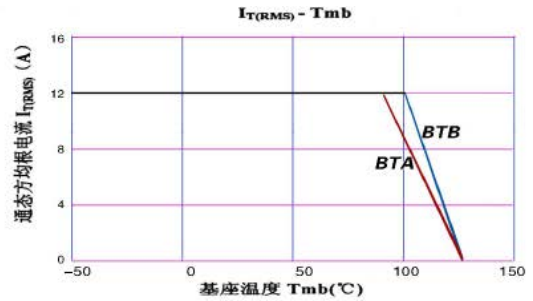
3、瞬态热阻曲线



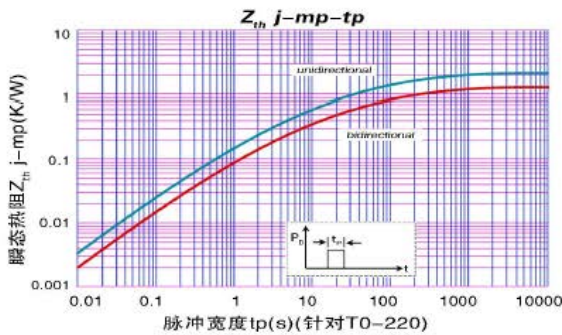
4、通态伏安特性曲线



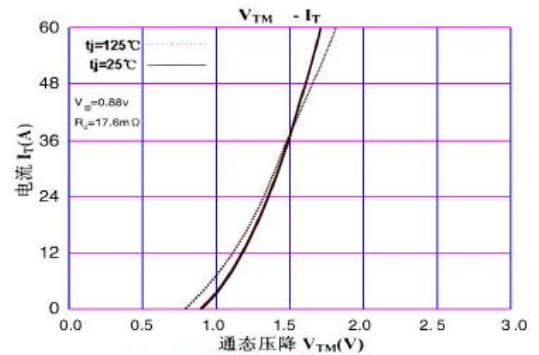
1、功耗与电流曲线 (180°C)



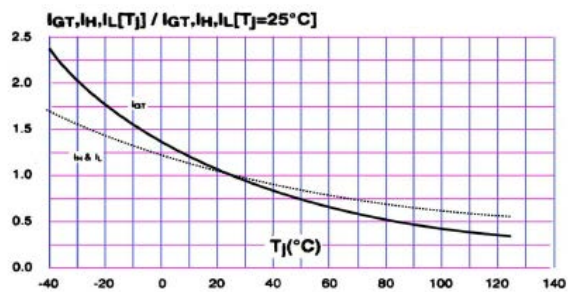
2、壳温与通态方均根电流曲线



3、瞬态热阻曲线



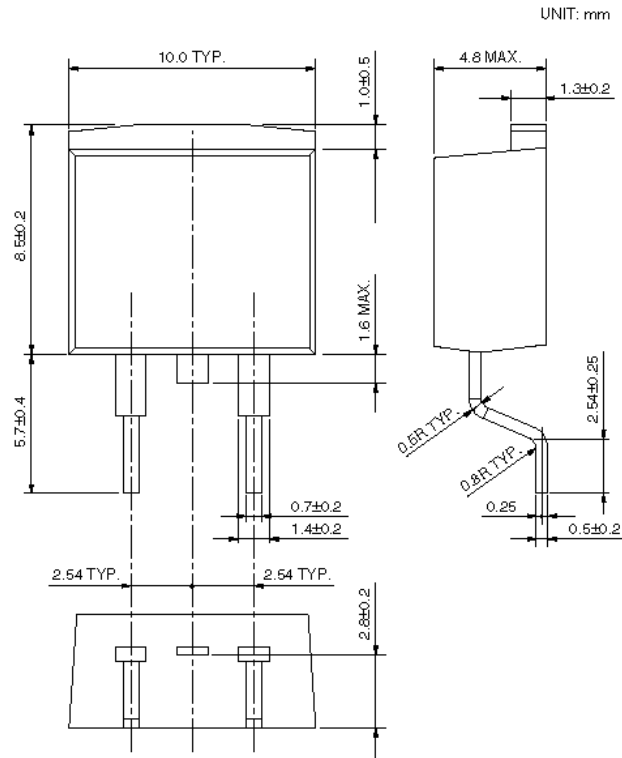
4、通态伏安特性曲线



7、门极触发特性曲线

●TO-263 外形尺寸图:

单位: mm (±0.1)



: The area without solder plated

