



BTA12A_BT B12A Triac

■ DESCRIPTION

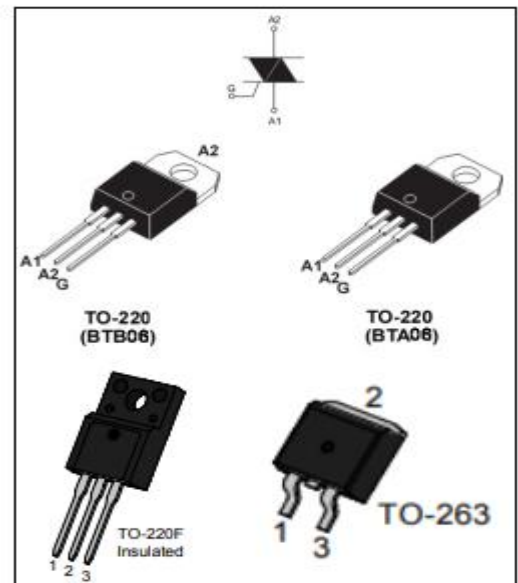
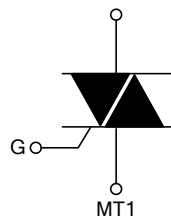
The BTA12A_BT B12A is a silicon bidirectional device with NPNPN five-layer structure; Single-sided grooving technology with independent intellectual property rights, countertop glass passivation process; Multilayer metallized electrode on the back; It has high blocking voltage and high temperature stability;

The BTA12A_BT B12A 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

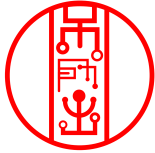
■ FEATURES

- * Low gate trigger current
- * Low holding current



■ ABSOLUTE MAXIMUM RATINGS

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



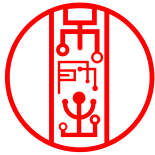
BTA12A_BT B12A

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			$-40\text{to}+150$ $-40\text{to}+125$	$^\circ C$

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 =100Ω	I II III	MAX	≦ 50	mA
Gate Trigger Voltage	V _{GT}			MAX	1.5	V
GateNon-Trigger Voltage	V _{GD}	T _j =125℃		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℃		MIN	500	V/us
Critical Rate of Rise of Off-State Voltage at Commutation (Note 1)	(dv/dt) _c	T _j =125℃		MIN	8	V/us



BTA12A_BT B12A

■ Electrical characteristics (four quadrants)

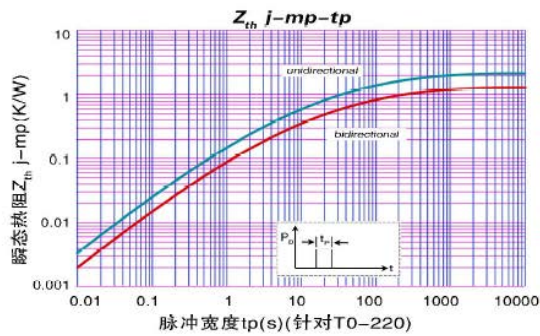
PARAMETER	SYMBOL	TEST CONDITIONS	Quadrants		RATINGS		UNIT
Gate Trigger Current	I _{GT}	V _D =12V R _L =100 Ω	I II III IV	MAX	I II III	IV	mA
					≦ 50	≦ 120	
Gate Trigger Voltage	V _{GT}			MAX	1.5		V
GateNon-Trigger Voltage	V _{GD}	T _j =125℃		MIN	0.2		V
HoldingCurrent (Note 1)	I _H	I _T =0.5A		MAX	60		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℃		MIN	500		V/us
Critical Rate of Rise of Off-State Voltage at Commutation (Note 1)	(dv/dt) _c	T _j =125℃		MIN	10		V/us

■ Static parameters

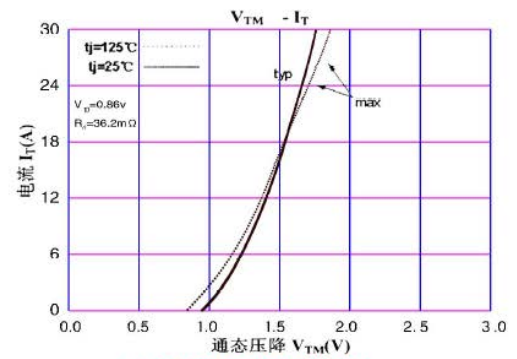
SYMBOL	PARAMETER			RATINGS	UNIT
V _{TM}	Peak On-State Voltage (Note 1)	T _j =25°C I _{TM} =24A	MAX	1.40	V
V _{T0}	Threshold voltage	T _j =125°C	MAX	0.86	V
R _d	Resistance	T _j =125°C	MAX	36.6	m Ω
I _{DRM} I _{RRM}	Repetitive Peak Off-State Current	T _j =25°C T _j =125°C	MAX	5	uA
				1	mA
R _{th(j-c)}	Junction to Case (DC)	BTA		2.05	°C/W
		BTB		1.25	



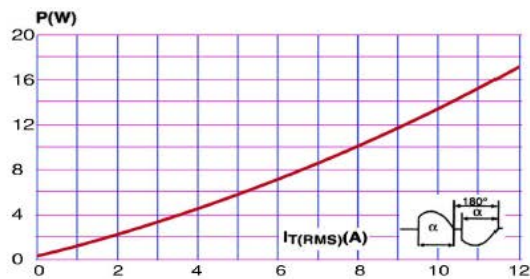
BTA12A_BT12A



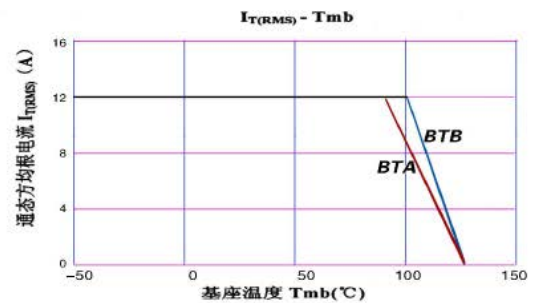
3、瞬态热阻曲线



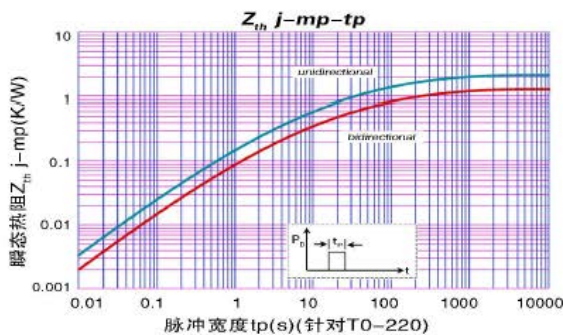
4、通态伏安特性曲线



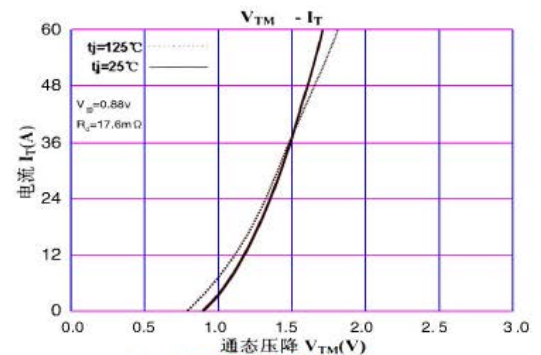
1、功耗与电流曲线 (180°C)



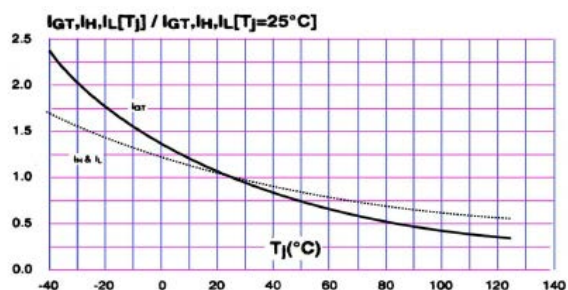
2、壳温与通态方均根电流曲线



3、瞬态热阻曲线



4、通态伏安特性曲线



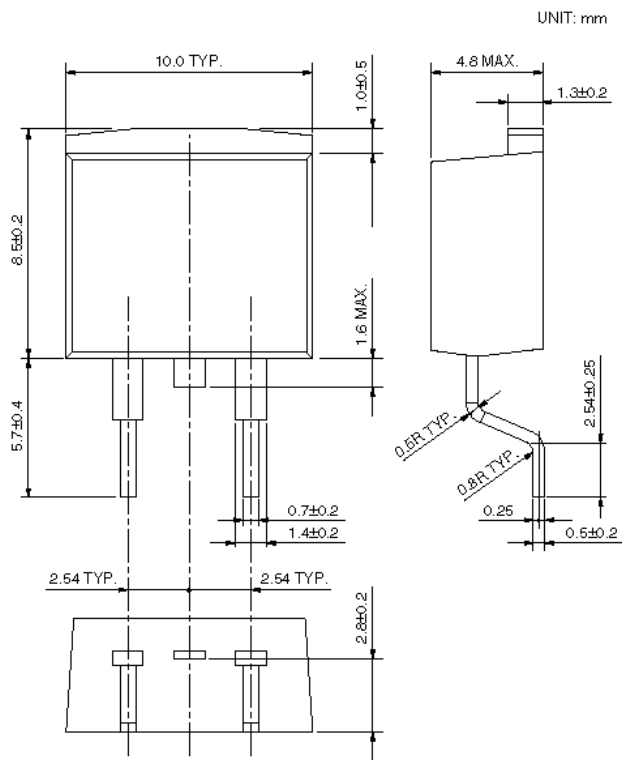
7、门极触发特性曲线



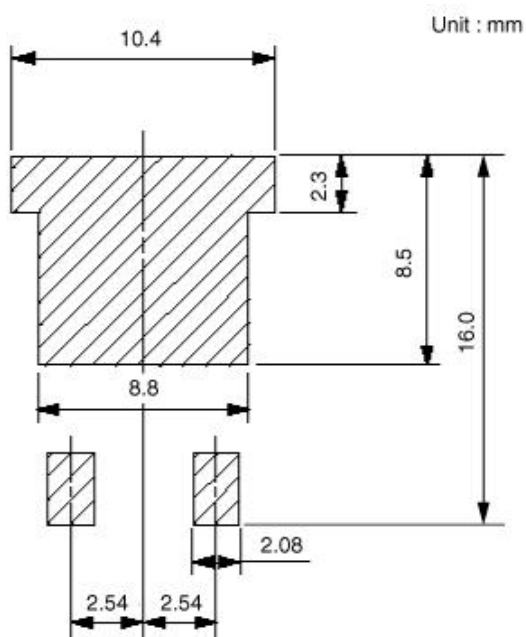
BTA12A_BT B12A

●TO-263 外形尺寸图:

单位: mm (± 0.1)



: The area without solder plated





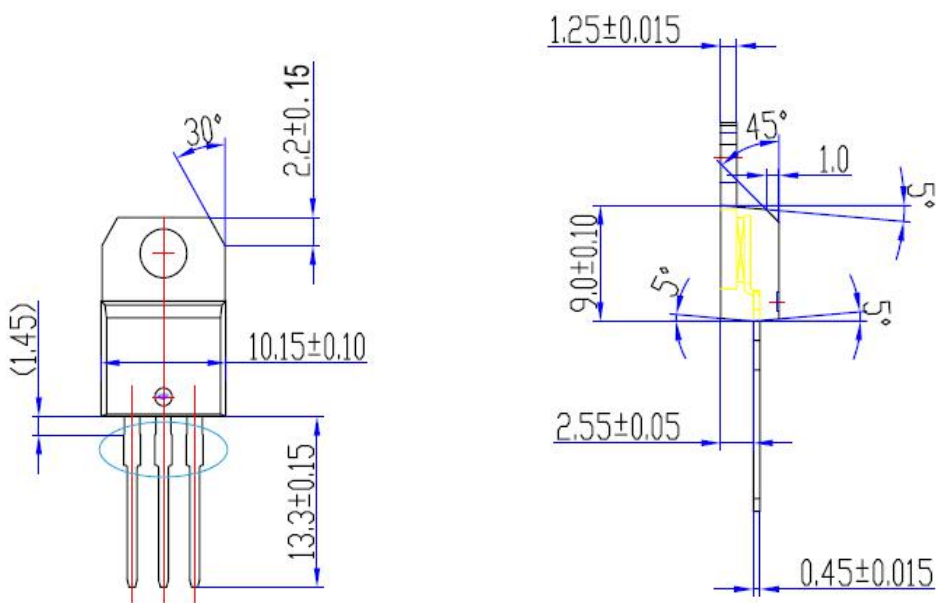
BTA12A_BT B12A

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

TO-220

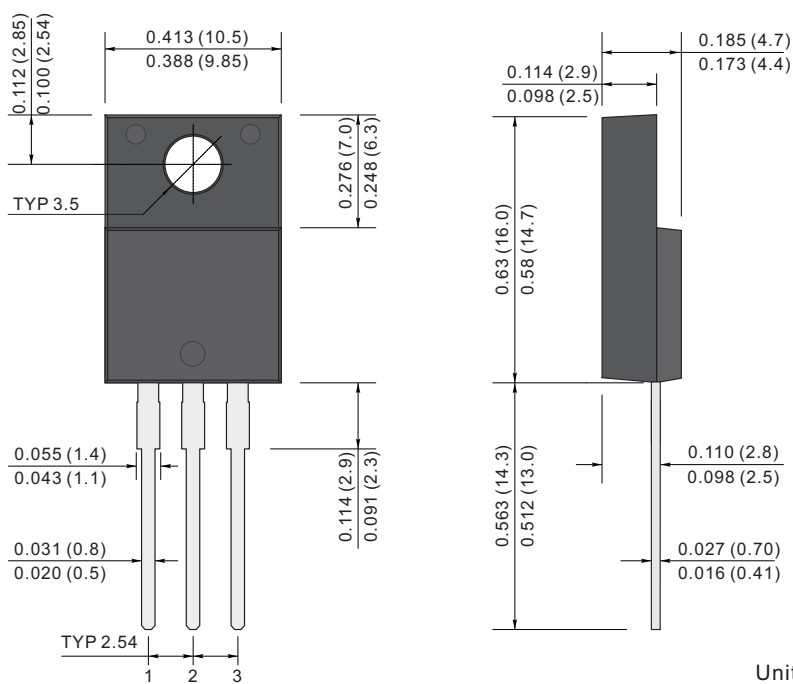
单位: mm (± 0.1)



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

TO-220F



Unit: inch (mm)