

## BTA04\_BT04 Triac

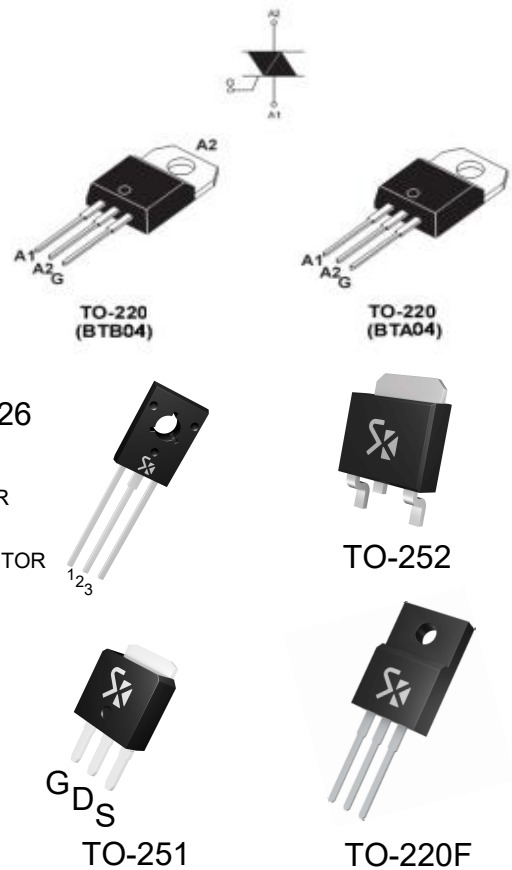
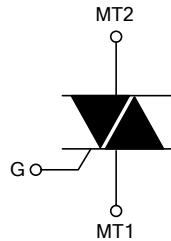
### DESCRIPTION

The BTA04\_BT04 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 BTA04\_BT04 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.

### FEATURES

- \* Low gate trigger current
- \* Low holding current



### ABSOLUTE MAXIMUM RATINGS

SYMBOL	PARAMETER			RATINGS	UNIT
$I_{T(RMS)}$	RMS On-State Current	BTA BTB	$T_c=80^\circ\text{C}$ $T_c=90^\circ\text{C}$	4	A
$I_{TSM}$	Non Repetitive Surge Peak On-State Current	F=50HZ	$t=20\text{ms}$	40	A
$I^2t$	$I^2t$ Value	$t_p=10\text{ms}$		8	$\text{A}^2\text{S}$
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		$T_j=125^\circ C$	0.5	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	$\leq 35$	mA
Gate Trigger Voltage	$V_{GT}$			MAX	1.5	V
GateNon-Trigger Voltage	$V_{GD}$	$T_j=125^\circ C$		MIN	0.2	V
Holding Current (Note 1)	$I_H$	$I_T=0.5A$		MAX	20	mA
Latching Current	$I_L$	$I_G=1.2I_{GT}$		MAX	5	mA
					30	
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/ $\mu s$
Critical Rate of Rise of Off-State Voltage at Commutation (Note 1)	$(dv/dt)_c$	$T_j=125^\circ C$		MIN	10	V/ $\mu s$

**■ Electrical characteristics (four quadrants)**

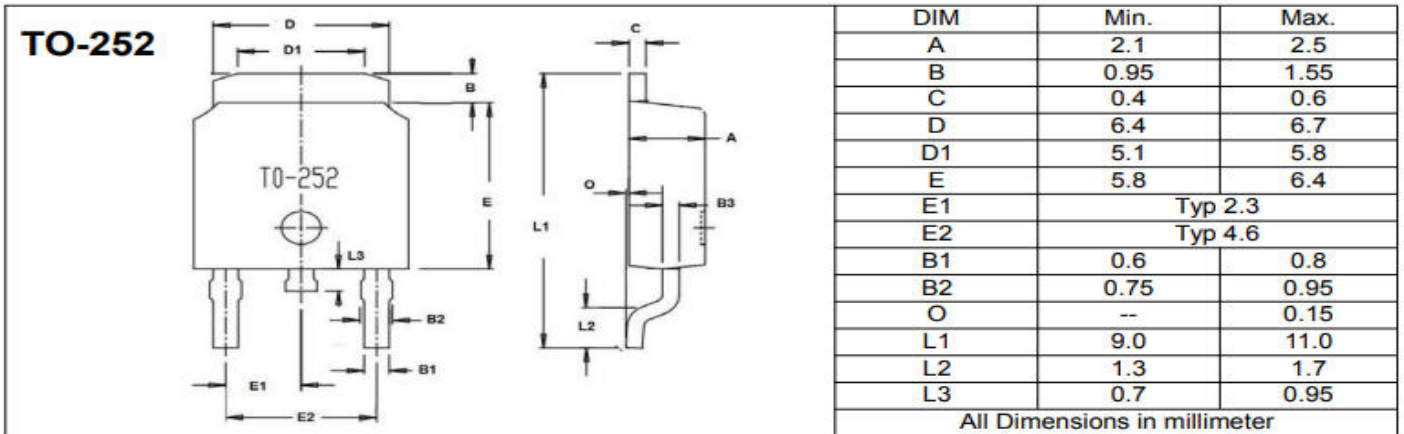
PARAMETER	SYMBOL	TEST CONDITIONS	Quadrants		RATINGS		UNIT
Gate Trigger Current	$I_{GT}$	$V_D=12V R_L=100\Omega$	I II III IV	MAX	I II III	IV	mA
					$\leq 35$	$\leq 80$	
Gate Trigger Voltage	$V_{GT}$			MAX	1.5		V
GateNon-Trigger Voltage	$V_{GD}$	$T_j=125^\circ C$		MIN	0.2		V
HoldingCurrent (Note 1)	$I_H$	$I_T=0.5A$		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)		$T_j=25^\circ C$ $I_{TM}=8A$	MAX	1.50	V
$V_{T0}$	Threshold voltage		$T_j=125^\circ C$	MAX	0.92	V
$R_d$	Resistance		$T_j=125^\circ C$	MAX	36.6	$m\Omega$
$I_{DRM}$ $I_{RRM}$	Repetitive Peak Off-State Current		$T_j=25^\circ C$ $T_j=125^\circ C$	MAX	5	$\mu A$
					0.5	mA
$R_{th(j-c)}$	Junction to Case (DC)		BTA		2.05	$^\circ C/W$
			BTB		1.25	

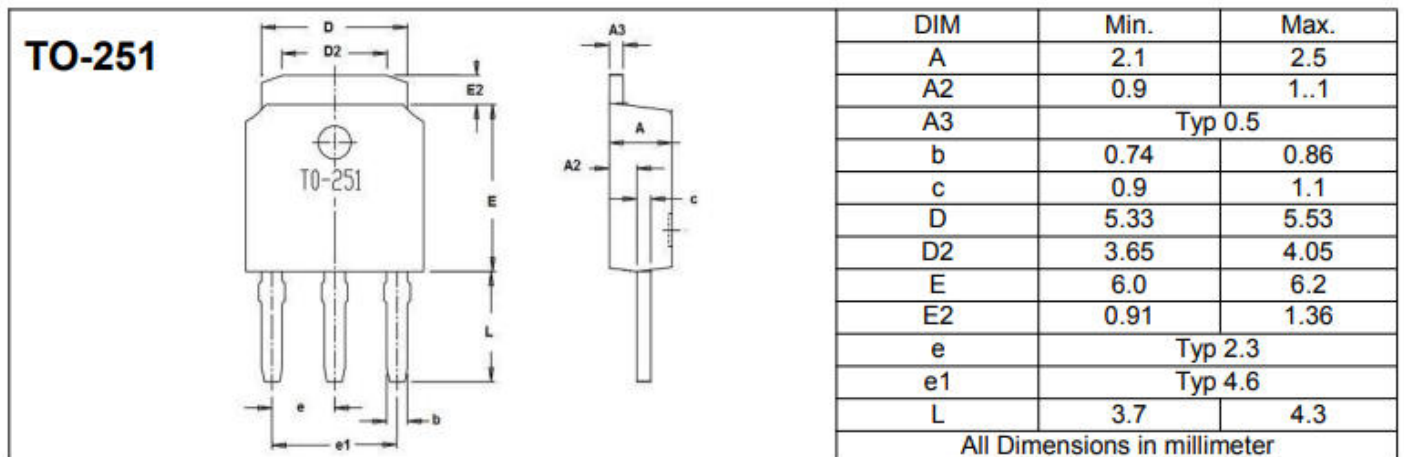
●T0-252 外形尺寸图:

单位: mm( $\pm 0.1$ )



●TO-251 外形尺寸

图: 单位: mm( $\pm 0.1$ )

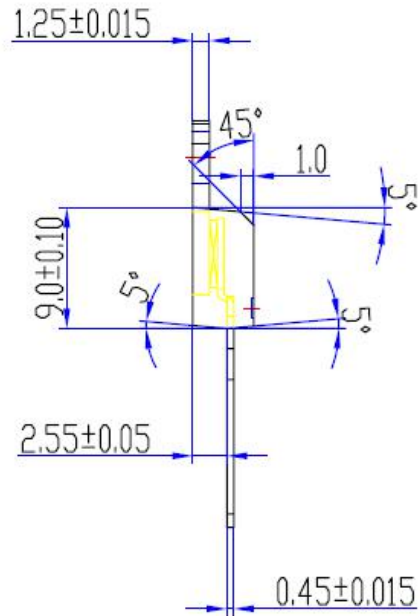
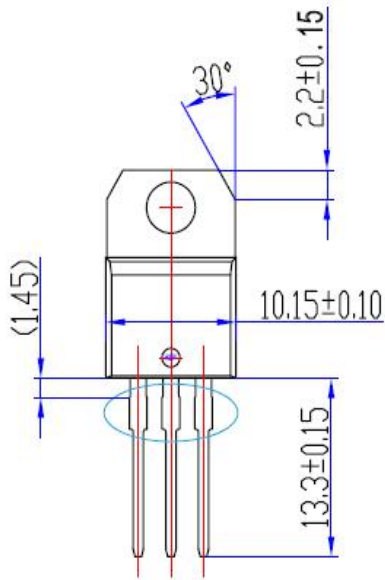


PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

TO-220

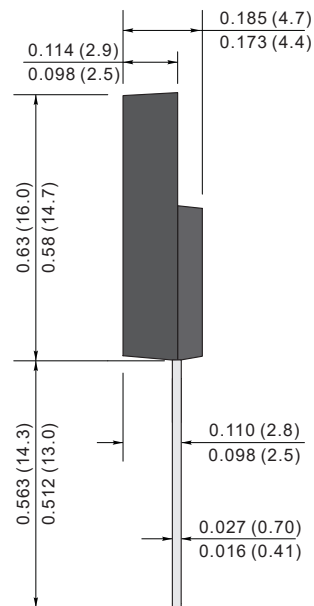
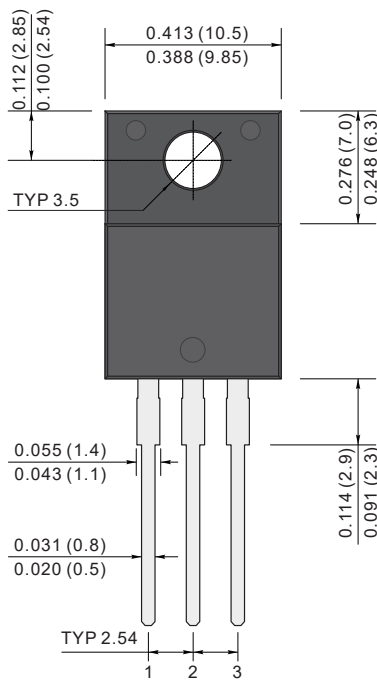
● 单位: mm(±0.1)



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

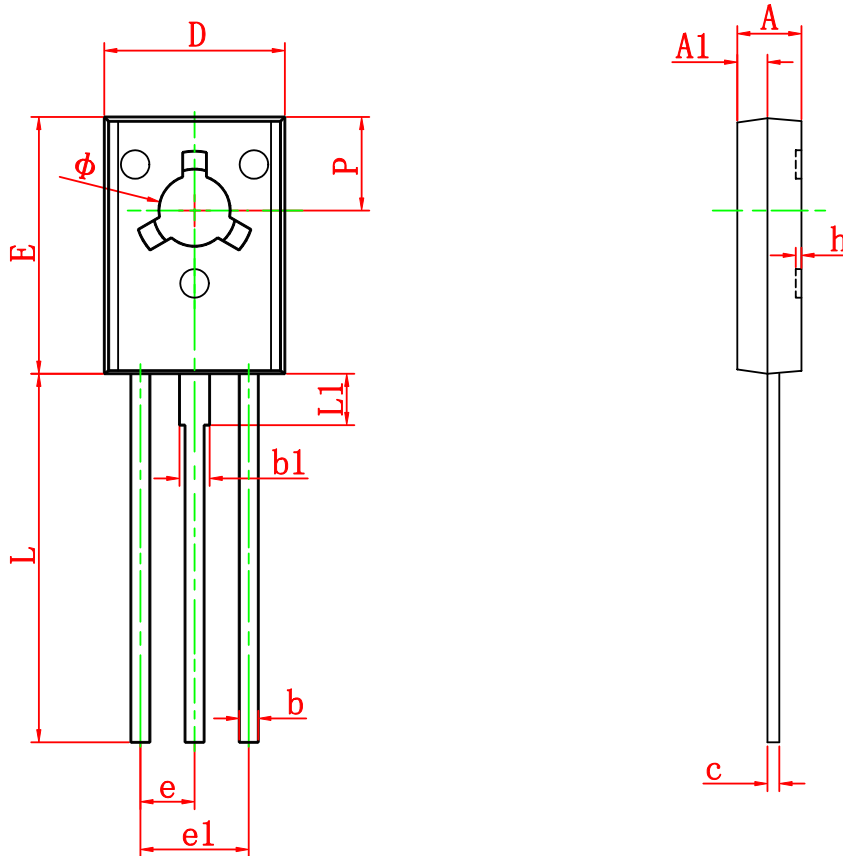
TO-220F



Unit: inch (mm)

●TO-126 外形尺寸图:

单位: mm( $\pm 0.1$ )



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
φ	3.000	3.200	0.118	0.126