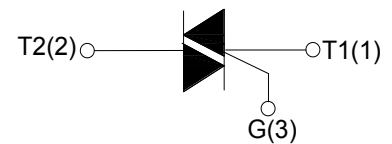
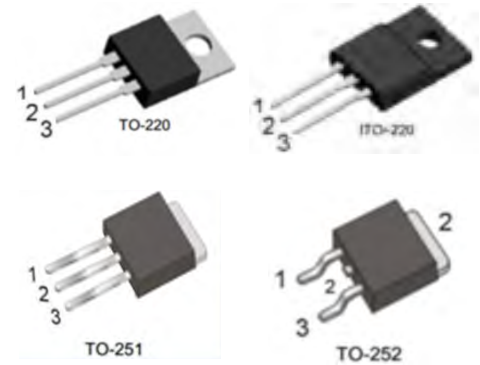


**DESCRIPTION:**

BTB04 series triacs, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference. With high commutation performances, 3 quadrants products especially recommended for use on inductive load.

MAIN FEATURES

Symbol	Value	Unit
V_{DRM}/V_{RRM}	600 and 800	V
$I_{T(RMS)}$	4	A

**ORDERING INFORMATION**

	BT	B	04	-	600	BW
Triac series						
Insulation						
B = non insulated						
Current						
04 = 4A						
Voltage						
600 = 600V						
800 = 800V						
Sensitivity and type						
SW = $I_{GT1-3} < 10mA$						
BW = $I_{GT1-3} < 50mA$						
CW = $I_{GT1-3} < 35mA$						
TW = $I_{GT1-3} < 5mA$						
B = $I_{GT1-3} < 50mA, I_{GT} < 100mA$						
C = $I_{GT1-3} < 25mA, I_{GT} < 50mA$						
D = $I_{GT1-3} < 5mA, I_{GT} < 10mA$						
E = $I_{GT1-3} < 10mA, I_{GT} < 25mA$						

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40 - 150	°C
Operating junction temperature range	T_j	-40 - 125	°C
Repetitive peak off-state voltage ($T_j=25^\circ C$)	V_{DRM}	600/800	V
Repetitive peak reverse voltage ($T_j=25^\circ C$)	V_{RRM}	600/800	V
Non repetitive surge peak Off-state voltage	V_{DSM}	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage	V_{RSM}	$V_{RRM} + 100$	V
RMS on-state current	$I_{T(RMS)}$	4	A
	TO-251/ TO-252 ($T_C=86^\circ C$)		



RMS on-state current	ITO-220FP (T _C =80°C)	I _{T(RMS)}	4	A
	TO-220(Non-ins) (T _C =95°C)			
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I _{TSM}	40	A
I ² t value for fusing (tp=10ms)		I ² t	8	A ² s
Critical rate of rise of on-state current (I _G = 2 × I _{GT})		di/dt	50	A/μs
Peak gate current		I _{GM}	4	A
Average gate power dissipation		P _{G(AV)}	1	W
Peak gate power		P _{GM}	5	W

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant		Value				Unit
				TW	SW	CW	BW	
I _{GT}	V _D = 12V R _L = 33Ω	I - II - III	MAX	5	10	35	50	mA
V _{GT}		I - II - III	MAX	1.5				V
V _{GD}	V _D = V _{DRM} T _j = 125°C R _L = 3.3KΩ	I - II - III	MIN	0.2				V
I _L	I _G = 1.2I _{GT}	I - III	MAX	10	20	50	70	mA
		II		15	35	60	80	
I _H	I _T = 100mA		MAX	10	15	35	60	mA
dV/dt	V _D = 2/3V _{DRM} Gate Open T _j = 125°C		MIN	20	40	400	1000	V/μs

Standard (4 quadrants)

Symbol	Test Conditions	Quadrant		Value				Unit
				B	C	D	E	
I _{GT} (1)	V _D = 12 V R _L = 30 Ω	I - II - III IV	MAX.	50 100	25 50	5 10	10 25	mA
V _{GT}		ALL	MAX.	1.3				V
V _{GD}	V _D = V _{DRM} R _L = 3.3 kΩ T _j = 125°C	ALL	MIN.	0.2				V
I _H	I _T = 500 mA		MAX.	50	25	10	15	mA
I _L	I _G = 1.2 I _{GT}	I - III - IV	MAX.	50	40	10	15	mA
		II		100	80	15	20	
dV/dt	V _D = 67%V _{DRM} gate open T _j = 125°C		MIN.	400	200	10	20	V/μs

**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM} = 5.5A$ $t_p = 380\mu s$	$T_j = 25^\circ C$	1.55	V
I_{DRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ C$	10	μA
I_{RRM}		$T_j = 125^\circ C$	0.75	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-251/ TO-252	4.2	$^\circ C/W$
		TO-220(Non-Ins)	2.4	
		ITO-220(Ins)	4.5	



FIG.1: Maximum power dissipation versus RMS on-state current

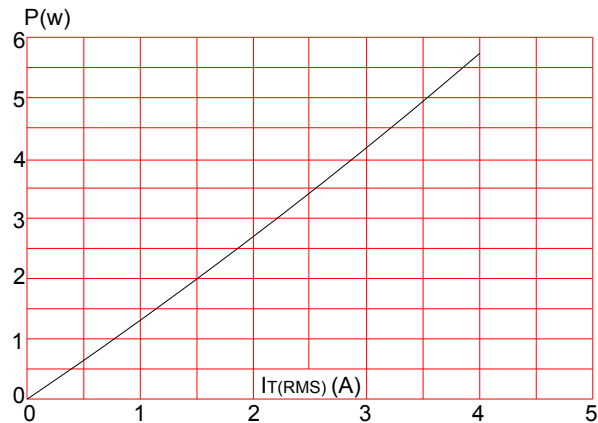


FIG.3: Surge peak on-state current versus number of cycles

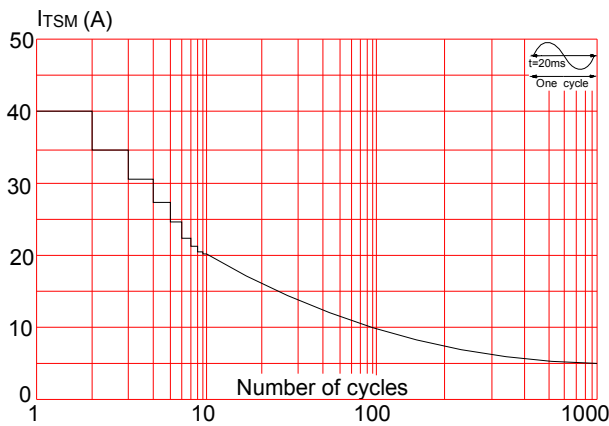


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$ and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

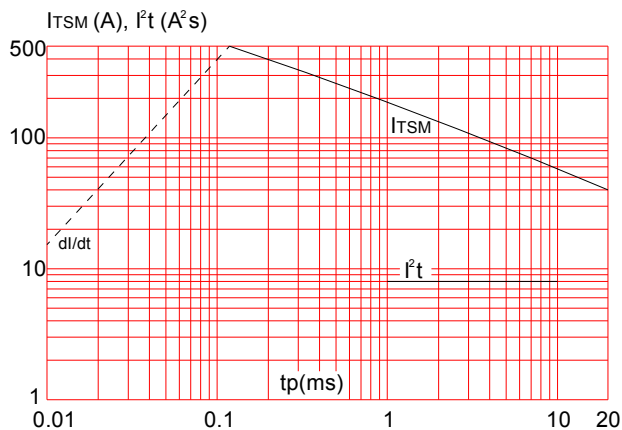


FIG.2: RMS on-state current versus case temperature

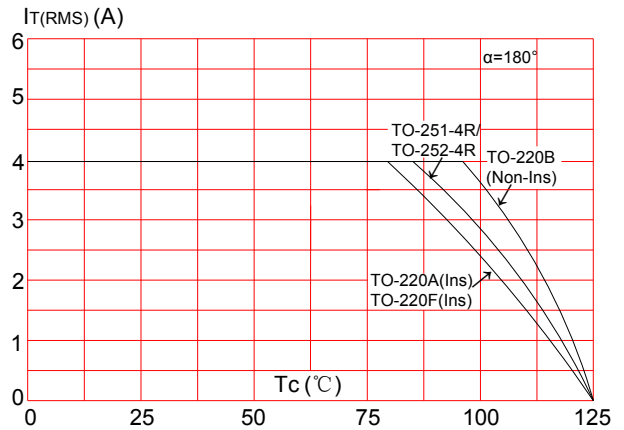


FIG.4: On-state characteristics (maximum values)

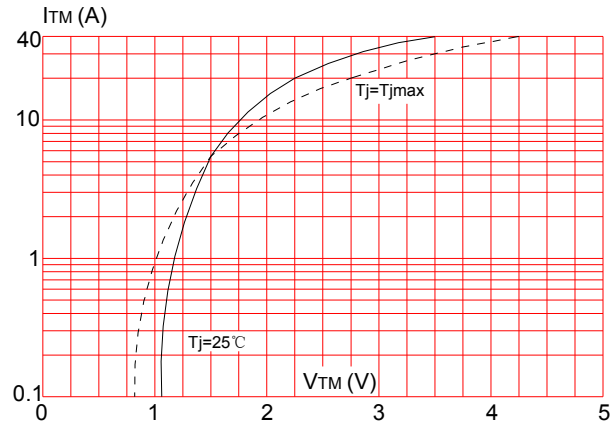
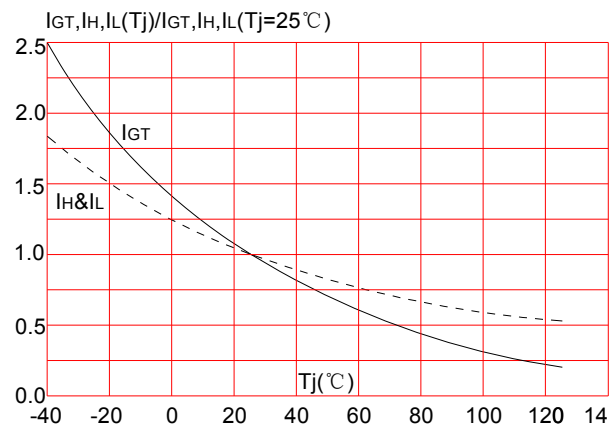
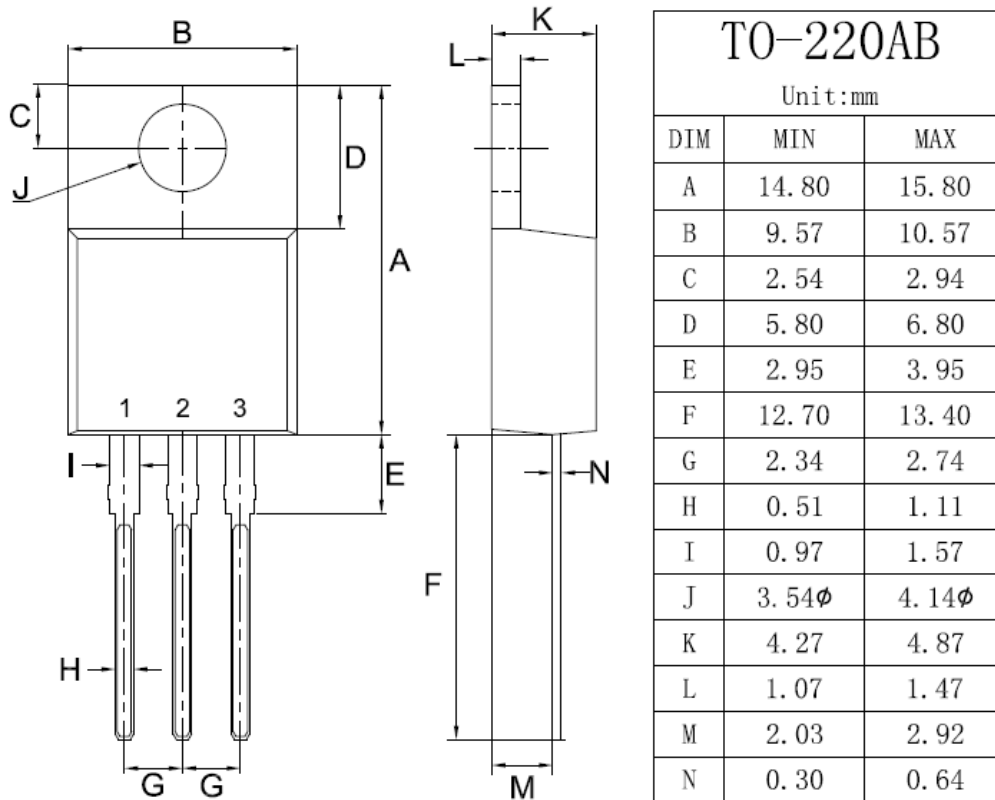


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

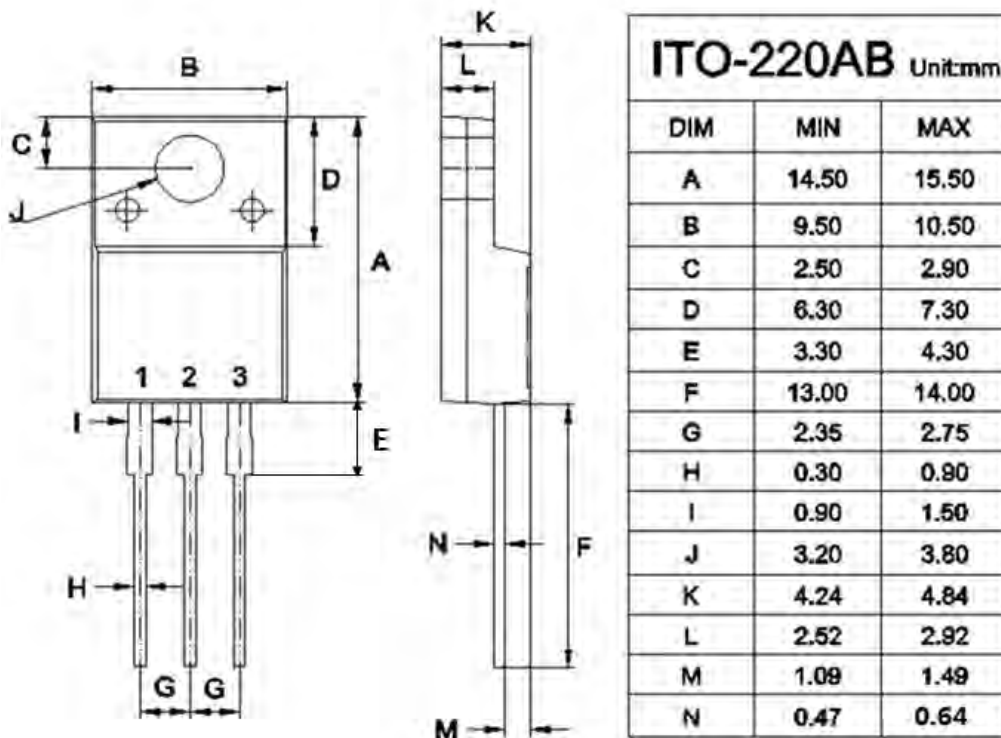




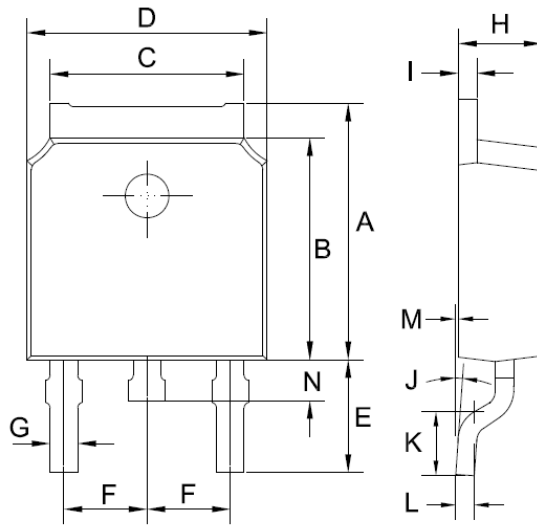
TO-220 Mechanical Drawing



ITO-220 Mechanical Drawing

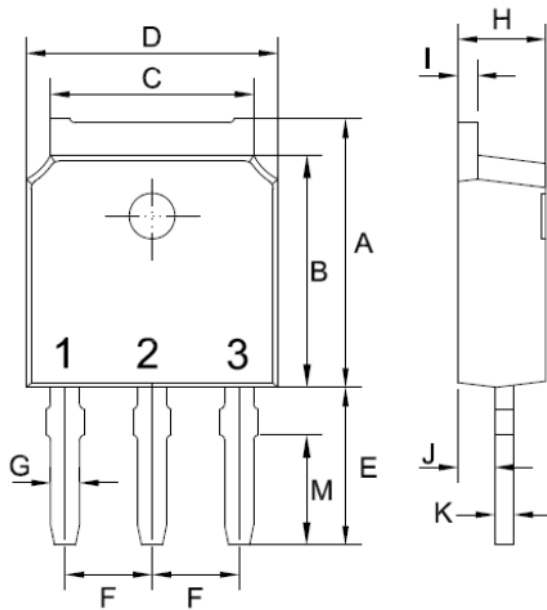


TO-252 Mechanical Drawing



TO-252 (DPAK)		
Unit:mm		
DIM	MIN	MAX
A	6.85	7.25
B	5.90	6.30
C	5.13	5.53
D	6.40	6.80
E	2.90	3.30
F	2.19	2.39
G	0.45	0.85
H	2.20	2.40
I	0.41	0.61
J	0°	8°
K	1.45	1.85
L	0.41	0.61
M	0.00	0.12
N	0.60	1.00

TO-251 Mechanical Drawing



TO-251(IPAK)		
Unit:mm		
DIM	MIN	MAX
A	6.85	7.25
B	5.90	6.30
C	5.13	5.53
D	6.40	6.80
E	3.95	4.35
F	2.19	2.39
G	0.45	0.85
H	2.20	2.40
I	0.41	0.61
J	0.71	1.31
K	0.41	0.61
M	2.96	3.16