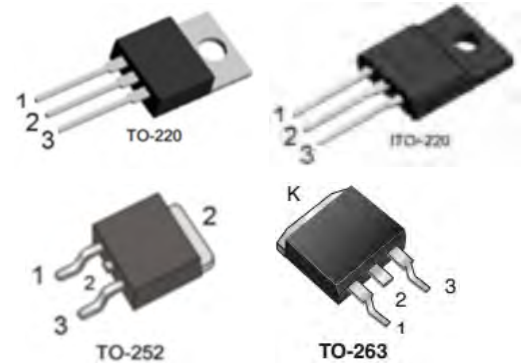
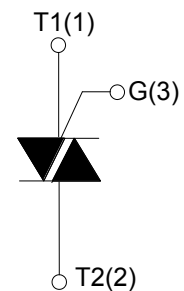


**DESCRIPTION:**

BTB08 series triacs, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3 quadrants products especially recommended for use on inductive load.).

**MAIN FEATURES**

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
V_{DRM}/V_{RRM}	600 / 800	V

**ORDERING INFORMATION**

	BT	B	08	-	600	BW
Triac series						
Insulation B = non insulated						
Current 08 = 8A						
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	$^{\circ}\text{C}$
Operating junction temperature range	T_j	-40 - 125	$^{\circ}\text{C}$
Repetitive peak off-state voltage ($T_j=25^{\circ}\text{C}$)	V_{DRM}	600/800	V
Repetitive peak reverse voltage ($T_j=25^{\circ}\text{C}$)	V_{RRM}	600/800	V
RMS on-state current $T_C=100^{\circ}\text{C}$	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)	I_{TSM}	80	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	36	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	50	$\text{A}/\mu\text{s}$
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 ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	est Condition	Quadrant		Value				Unit
				TW	SW	CW	BW	
I_{GT}	$V_D=12\text{V}$ $R_L=33\Omega$	I - II -III	MAX	5	10	35	50	mA
V_{GT}		I - II -III	MAX	1.3				V
V_{GD}	$V_D=V_{DRM}$ $T_j=125^{\circ}\text{C}$ $R_L=3.3\text{K}\Omega$	I - II -III	MIN	0.2				V
I_L	$I_G=1.2I_{GT}$	I -III	MAX	10	25	50	70	mA
		II		15	30	60	80	
I_H	$I_{TM}=100\text{mA}$			20	25	35	50	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	20	40	400	1000	$\text{V}/\mu\text{s}$



4 Quadrants

Symbol	Test Conditions	Quadrant		Value				Unit
				B	C	D	E	
$I_{GT}(1)$	$V_D = 12\text{ V}$ $R_L = 30\ \Omega$	I - II - III IV	MAX.	50 100	25 50	5 10	10 25	mA
V_{GT}		ALL	MAX.	1.3				V
V_{GD}	$V_D = V_{DRM}$ $R_L = 3.3\text{ k}\Omega$ $T_j = 125^\circ\text{C}$	ALL	MIN.	0.2				V
$I_H(2)$	$I_T = 500\text{ mA}$		MAX.	50	25	10	15	mA
I_L	$I_G = 1.2\ I_{GT}$	I - III - IV	MAX.	50	40	10	25	mA
		II		100	80	15	30	
$dV/dt(2)$	$V_D = 67\ \%V_{DRM}$ gate open $T_j = 125^\circ\text{C}$		MIN.	400	200	10	20	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM} = 11\text{ A}$ $t_p = 380\ \mu\text{s}$	$T_j = 25^\circ\text{C}$	1.55	V
I_{DRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$	5	μA
I_{RRM}		$T_j = 125^\circ\text{C}$	1	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220(Non-Ins) TO263	1.6	$^\circ\text{C/W}$
		ITO-220(Ins)	4.6	
		TO-252	2.1	

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

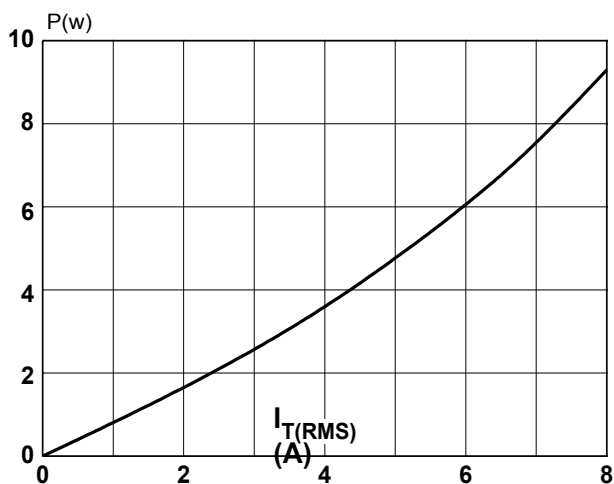


FIG.2: RMS on-state current versus case temperature

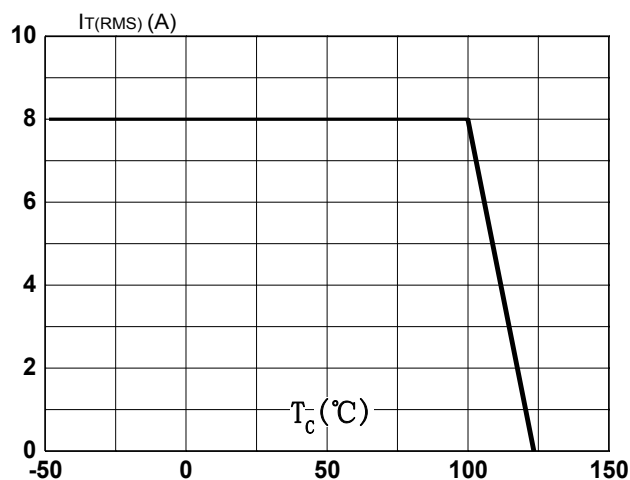
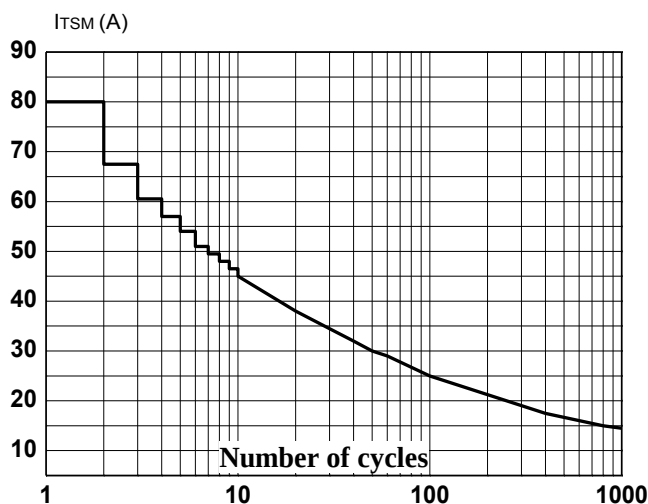
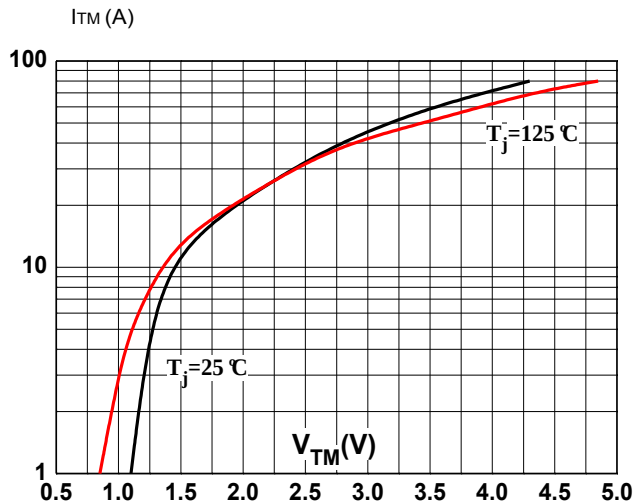
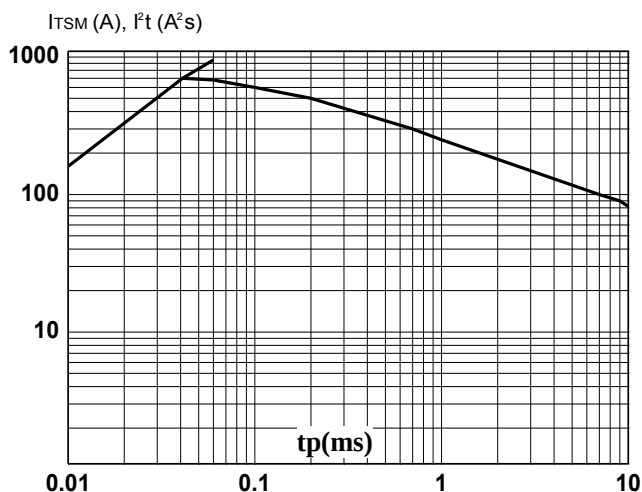
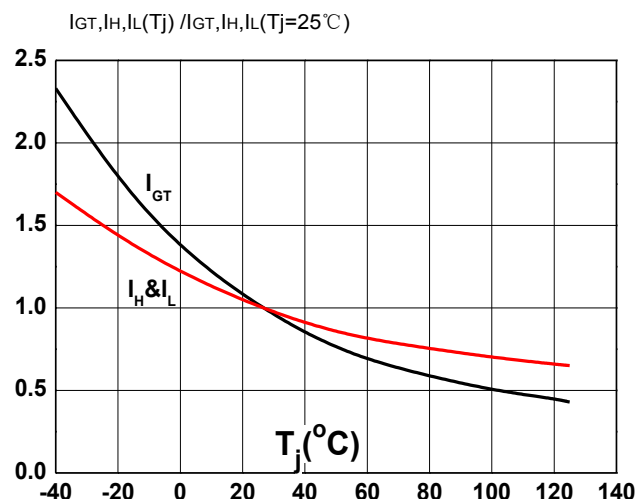
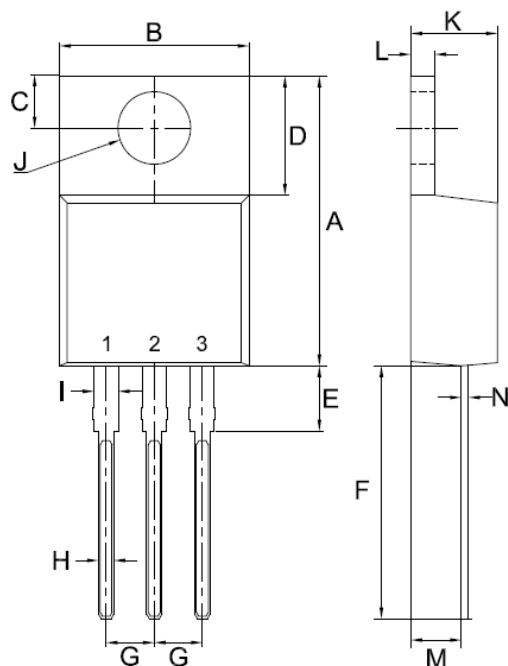
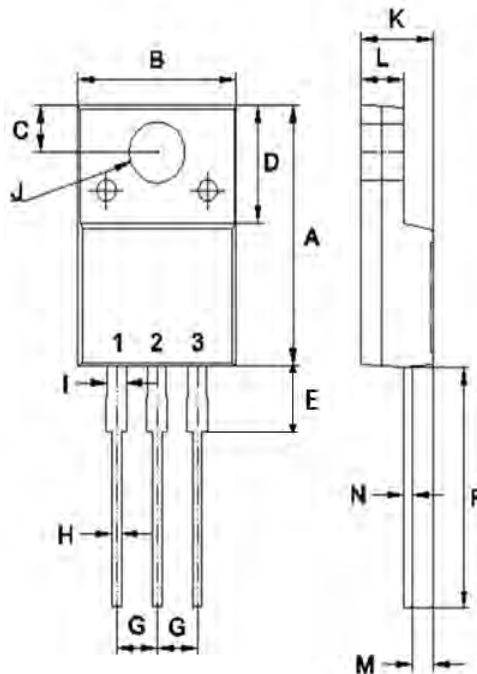


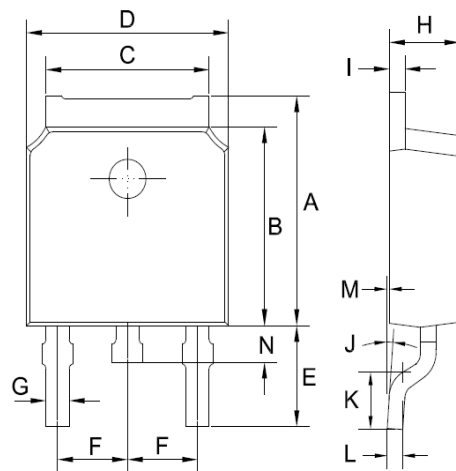
**FIG.3:** Surge peak on-state current versus number of cycles**FIG.4:** On-state characteristics (maximum values)**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature

**TO-220 Mechanical Drawing**

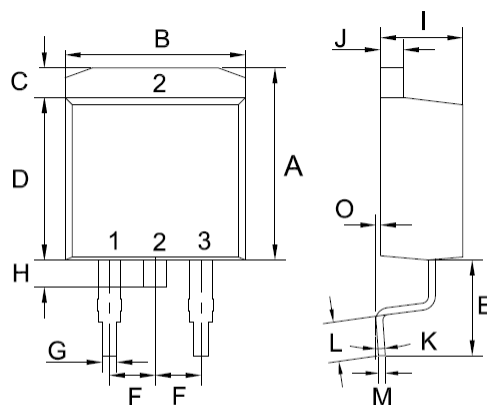
TO-220AB		
Unit:mm		
DIM	MIN	MAX
A	14.80	15.80
B	9.57	10.57
C	2.54	2.94
D	5.80	6.80
E	2.95	3.95
F	12.70	13.40
G	2.34	2.74
H	0.51	1.11
I	0.97	1.57
J	3.54 ϕ	4.14 ϕ
K	4.27	4.87
L	1.07	1.47
M	2.03	2.92
N	0.30	0.64

ITO-220 Mechanical Drawing

ITO-220AB Unit:mm		
DIM	MIN	MAX
A	14.50	15.50
B	9.50	10.50
C	2.50	2.90
D	6.30	7.30
E	3.30	4.30
F	13.00	14.00
G	2.35	2.75
H	0.30	0.90
I	0.90	1.50
J	3.20	3.80
K	4.24	4.84
L	2.52	2.92
M	1.09	1.49
N	0.47	0.64

**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-263 Mechanical Drawing

TO-263 (D ² PAK)		
Unit:mm		
DIM	MIN	MAX
A	10.44	10.84
B	9.81	10.21
C	1.44	1.84
D	8.80	9.20
E	4.46	4.66
F	2.44	2.64
G	0.61	1.01
H	0.70	1.30
I	4.27	4.87
J	1.07	1.47
K	0°	8°
L	2.10	2.50
M	0.30	0.46
O	0	0.25