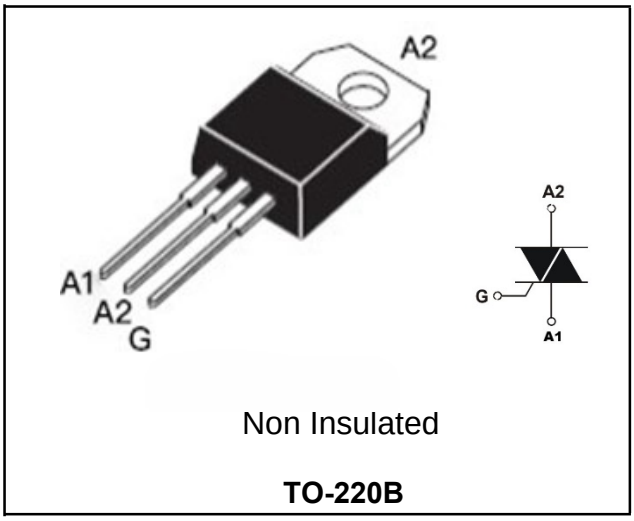
24A 4Quadrants TRIACs

Product Summary

Symbol	Value	Unit
$I_{T(AV)}$	24	A
V_{DRM} V_{RRM}	600/800	V
V_{TM}	1.55	V



Non Insulated

TO-220B

Features

⧫With high ability to withstand the shock loading of large current,With high commutation performances, 4 quadrants products especially recommended for use on inductive load.

Application

⧫Washing machine, vacuums, massager, solid state relay, AC Motor speed regulation and so on.

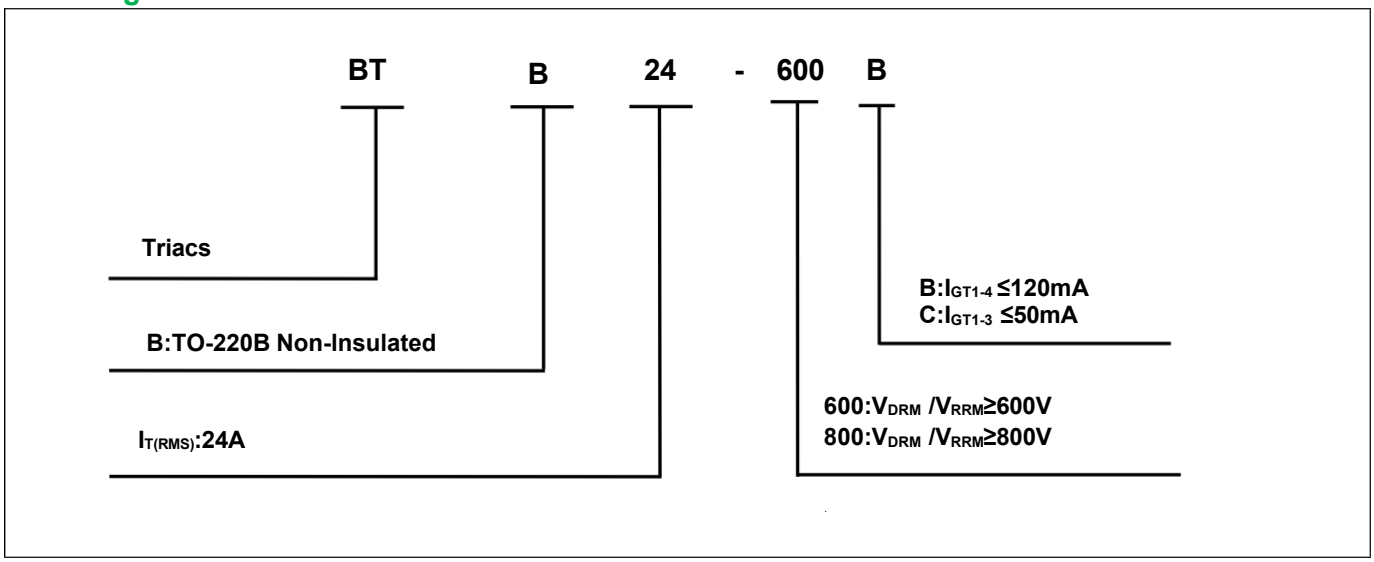
Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	V_{DRM}	600/800	V
Repetitive peak reverse voltage	V_{RRM}	600/800	V
RMS on-state current	$I_{T(RMS)}$	24	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	240	A
I^2t value for fusing (tp=10ms)	I^2t	288	A^2s
Critical rate of rise of on-state current (I_G =2 x I_{GT})	dI/dt	50	A/μs
Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Junction Temperature	T_J	-40 ~+125	°C
Storage Temperature	T_{STG}	-40 ~+150	°C

Electrical characteristics (T_A=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition		Value		Unit
				C	B	
Gate trigger current	I_{GT}	V_D=12V R_L=100Ω	I-II-III	≤50		mA
			IV		≤120	mA
Gate trigger voltage	V_{GT}		I-II-III-IV	≤1.5		V
Gate non-trigger voltage	V_{GD}	V_D =V_{DRM} Tj=125°C		≥0.2		V
latching current	I_L	I_G=1.2I_{GT}	I-III	≤60	≤80	mA
			II	≤80	≤100	
Holding current	I_H	I_T =500mA		≤50	≤80	mA
Critical-rate of rise of commutation voltage	dV_D/dt	V_D=2/3V_{DRM} Gate Open T_j=125°C		≥500	≥1000	V/μs
STATIC CHARACTERISTICS						
Forward "on" voltage	V_{TM}	I_{TM} =50A tp=380μs		≤1.55		V
Repetitive Peak Off-State Current	I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25°C	≤5		μA
Repetitive Peak Reverse Current	I_{RRM}		T_j=125°C	≤1		mA
THERMAL RESISTANCES						
Thermal resistance	Rth(j-c)	Junction to case(AC) BTB		1.25		°C/W

Ordering Information



Typical Characteristics

FIG.1: Maximum power dissipation versus RMS on-state current (full cycle)

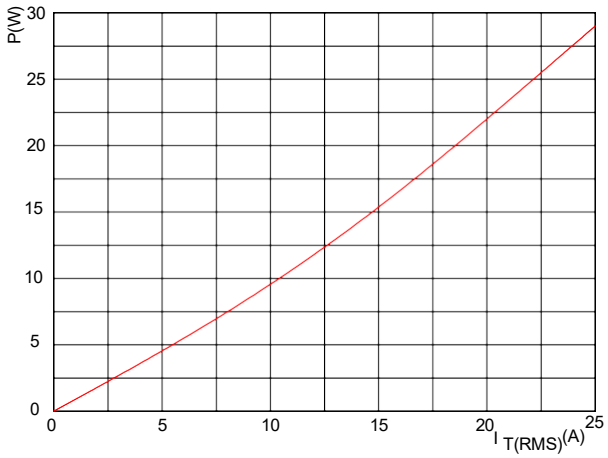


FIG.2: RMS on-state current versus case temperature (full cycle)

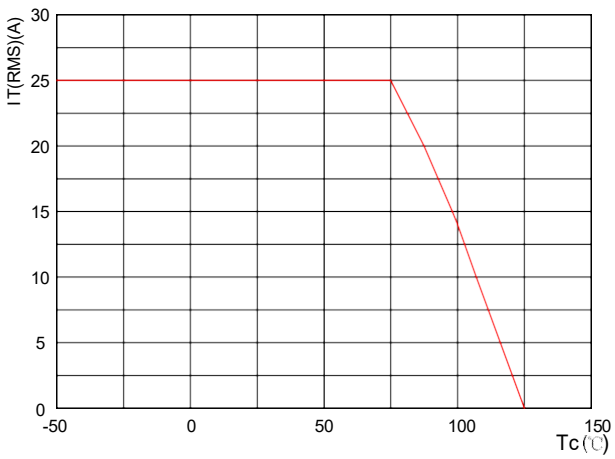


FIG.3: Surge peak on-state current versus number of cycles

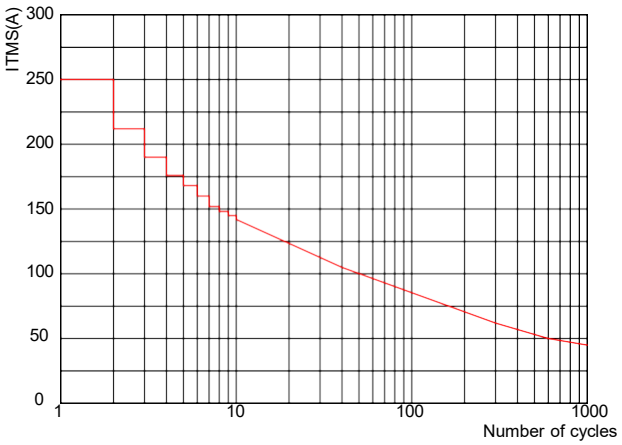


FIG.4: On-state characteristics (maximum values)

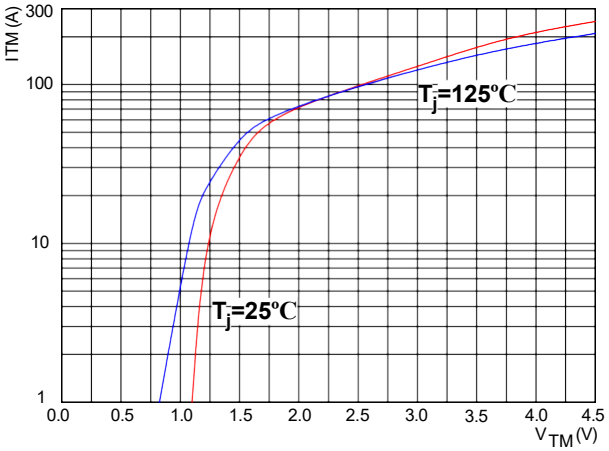


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms

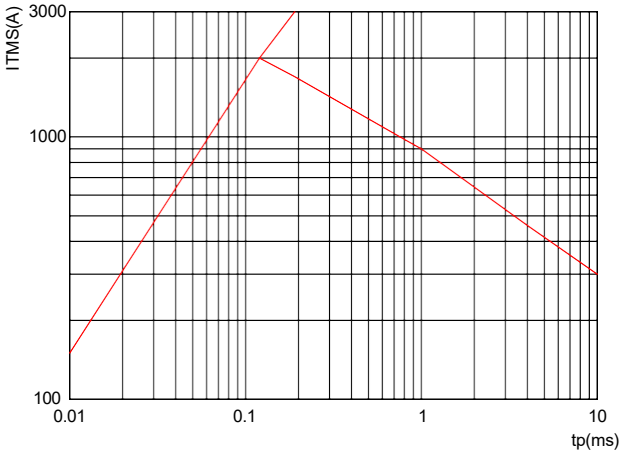
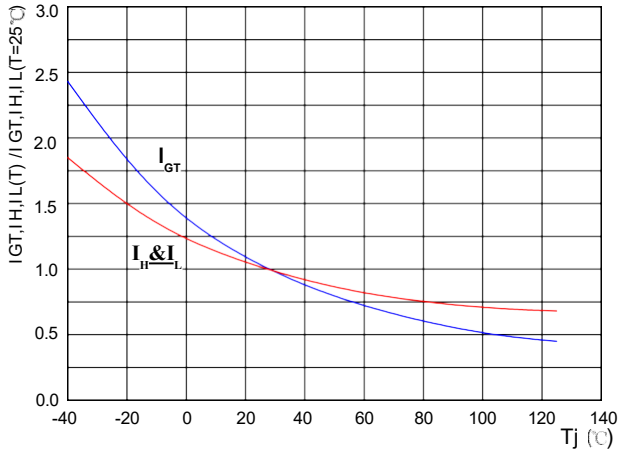
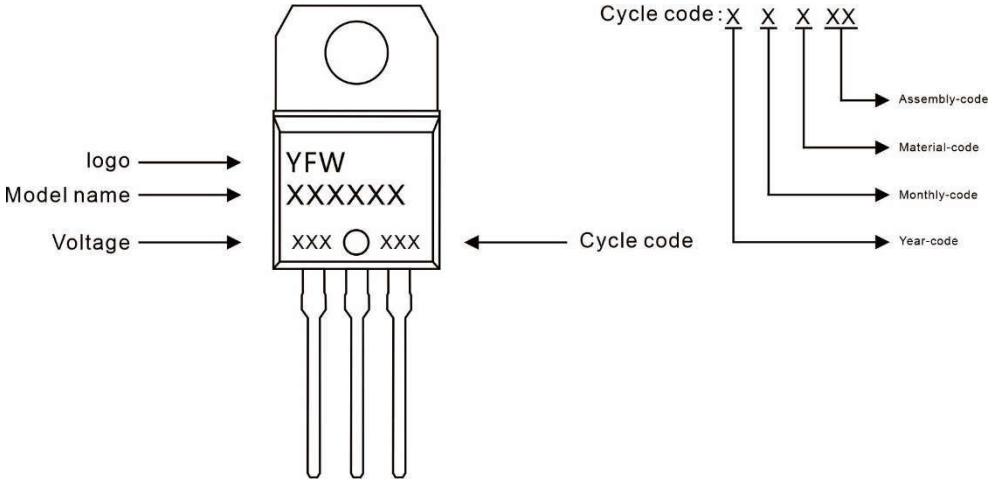


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Marking Diagram



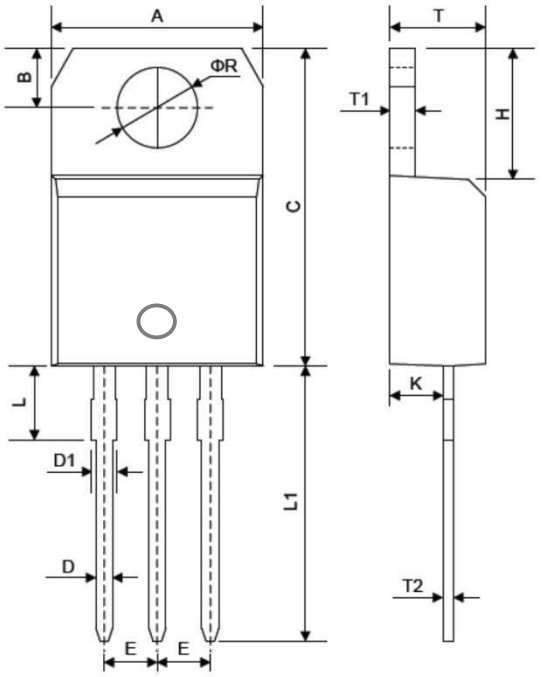
Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
BTB24	TO-220B	0.07oz(1.96g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220B(Non Insulated)

(Non Insulated)



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	9.80	10.40	0.386	0.409
B	2.65	3.10	0.104	0.122
C	14.80	16.10	0.583	0.634
D	0.70	0.92	0.028	0.036
D1	1.18	1.42	0.047	0.056
E	2.40	2.70	0.095	0.106
L	2.80	4.20	0.11	0.17
L1	13.05	13.60	0.514	0.535
H	5.85	6.82	0.23	0.27
K	2.35	2.75	0.093	0.108
T	4.38	4.61	0.172	0.181
T1	1.15	1.36	0.045	0.054
T2	0.35	0.65	0.014	0.026
ΦR	3.75	3.95	0.148	0.156

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