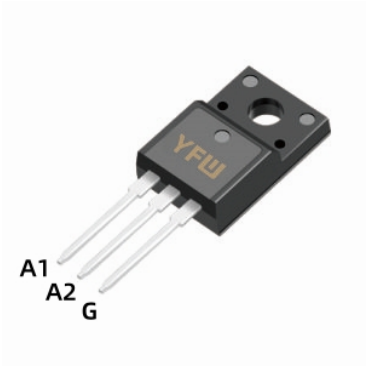
4A 4Quadrants TRIACs

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM} V_{RRM}	600/800	V
V_{TM}	1.55	V



TO-220F

Features

With high ability to withstand the shock loading of large current, Provide high dv/dt rate with strong resistance to electromagnetic interference.

Application

Power charger, T-tools, massager, solid state relay, AC Motor speed regulation and so on.

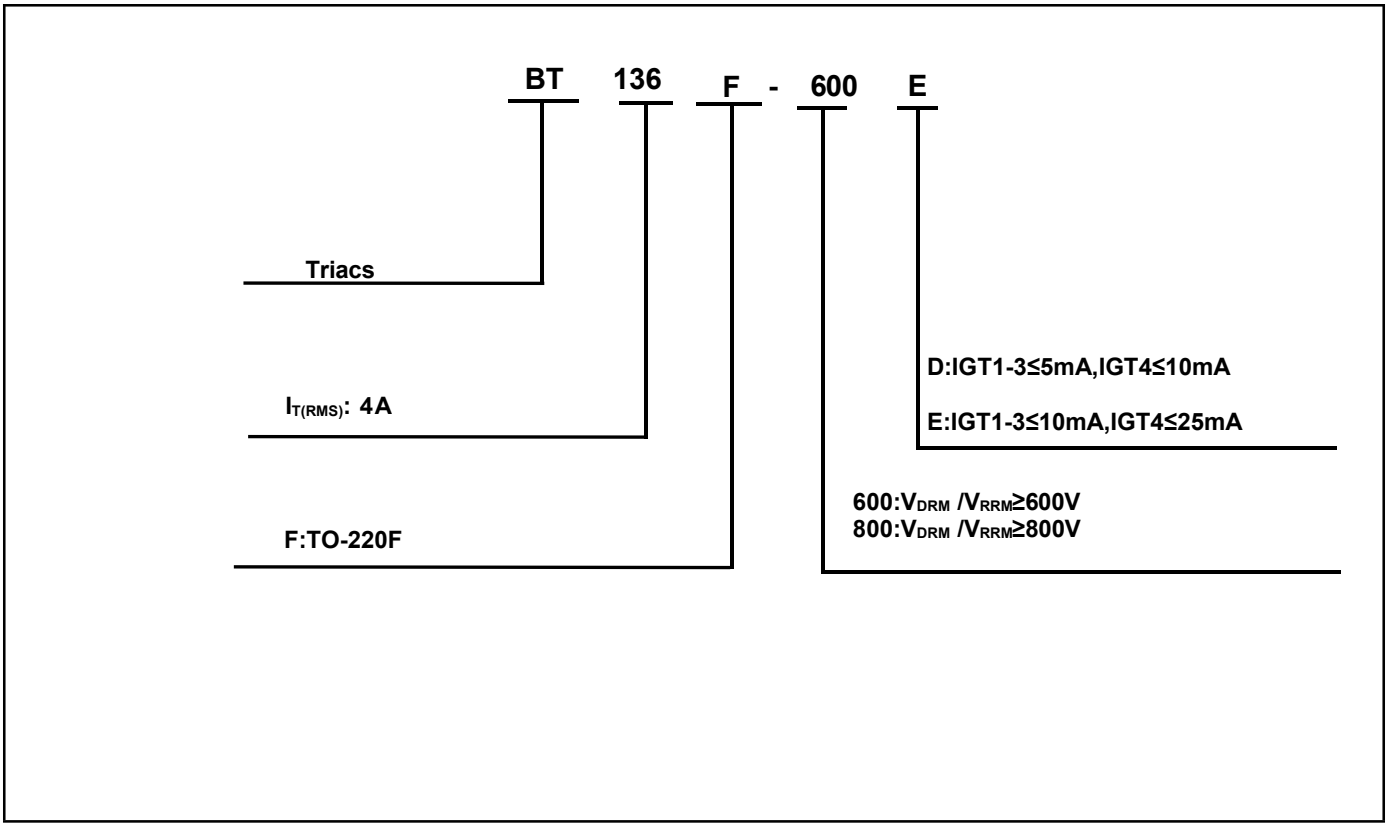
Absolute maximum ratings (Ta=25°C unless otherwise noted)

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	$I_{T(RMS)}$	4		A
Non repetitive surge peak on-state current	I_{TSM}	25		A
I^2t value for fusing (tp=10ms)	I^2t	3.1		A^2s
Critical rate of rise of on-state current (I_G =2 x I_{GT})	dI_T/dt	I - II -III	50	A/μs
		IV	10	
Peak gate current	I_{GM}	2		A
Average gate power dissipation	$P_{G(AV)}$	5		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
				D	E	
Gate trigger current	I_{GT}	V_D=12V, I_T=0.1A, T_j=25℃, Fig. 6	Ⅰ-Ⅱ-Ⅲ	≤5	≤10	mA
			Ⅳ	≤10	≤25	mA
Gate trigger voltage	V_{GT}		Ⅰ-Ⅱ-Ⅲ-Ⅳ	≤1.3		V
Non-triggering gate voltage	V_{GD}	V_D=V_{DRM} T_j=125℃		≥0.2		V
Holding current	I_H	V_D=12V, I_{GT}=0.1A, T_j=25℃, Fig. 6	Ⅰ-Ⅱ-Ⅲ-Ⅳ	≤10	≤15	mA
Latching current	I_L		Ⅰ-Ⅲ-Ⅳ	≤10	≤15	mA
			Ⅱ	≤15	≤20	
Critical-rate of rise of commutation voltage	dV_D/dt	V_D=67%V_{DRM}, T_j=125℃		≥10	≥20	V/μs
STATIC CHARACTERISTICS						
On-state Voltage	V_{TM}	I_{TM}=6A, tp=380μs, Fig. 4		≤1.55		V
Repetitive Peak Off-State Current	I_{DRM}	V_D=V_{DRM}= V_{RRM}	T_j=25℃	≤10	10	μA
Repetitive Peak Reverse Current	I_{RRM}		T_j=125℃	≤1	≤01	mA
THERMAL RESISTANCES						
Ihermal resistance	$R_{th\ (j-c)}$	Junction to case		TYP.	4.0	℃/W
	$R_{th\ (j-a)}$	Junction to ambient		TYP.	60	℃/W

Ordering Information



Typical Characteristics

FIG1 Maximum power dissipation versus RMS on-state current

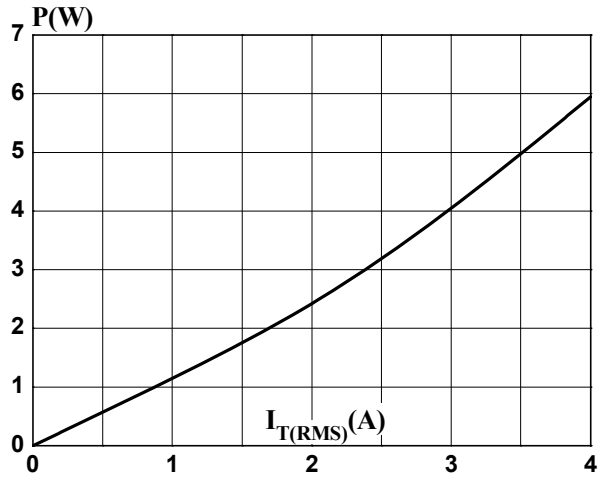


FIG2 RMS on-state current versus case temperature

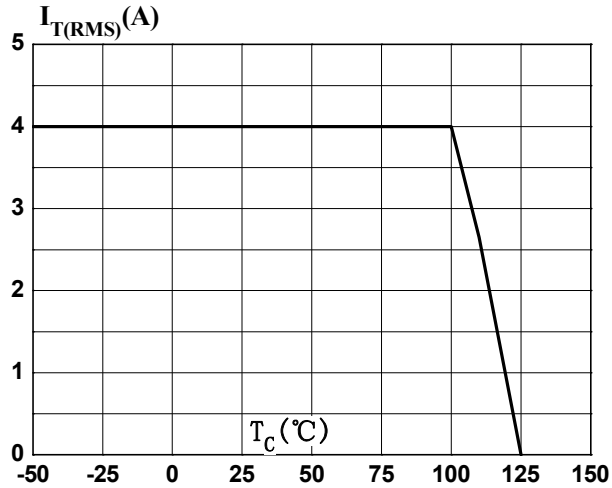


FIG3 Surge peak on-state current versus number of cycles

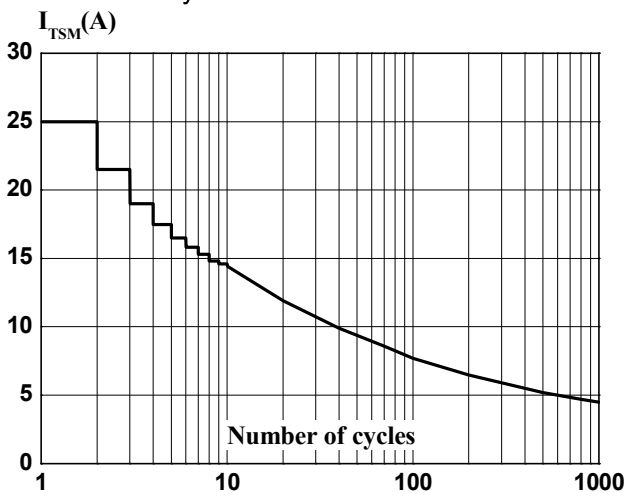


FIG4 On-state characteristics (maximum values)

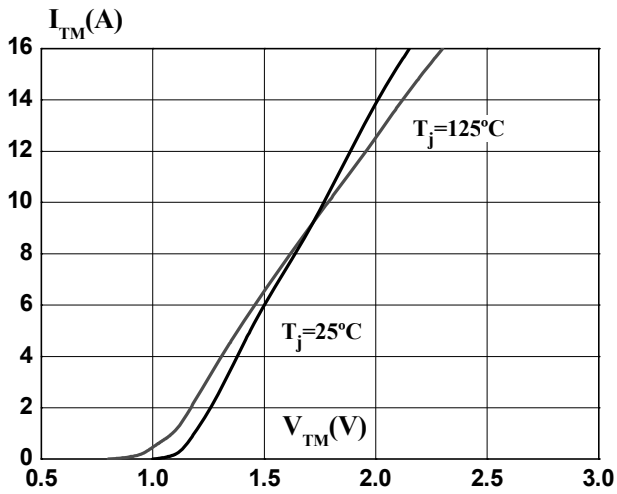


FIG5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 100A/μs)

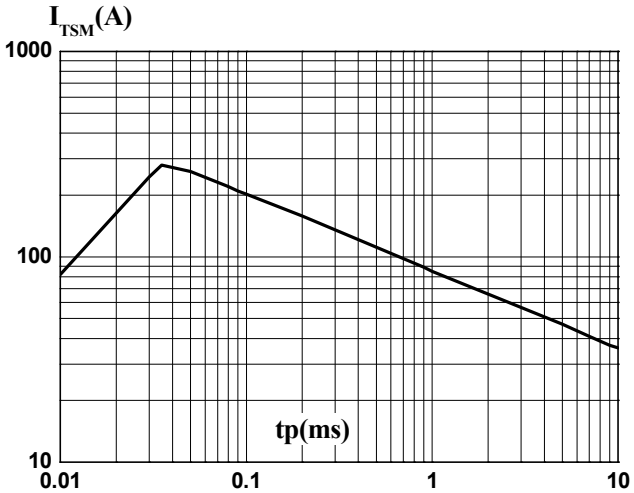
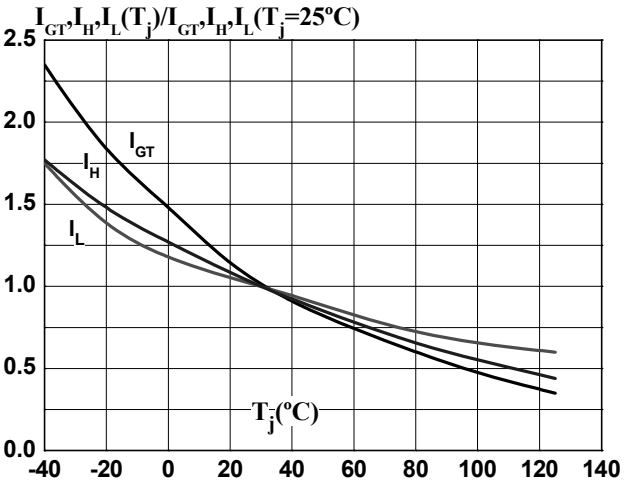
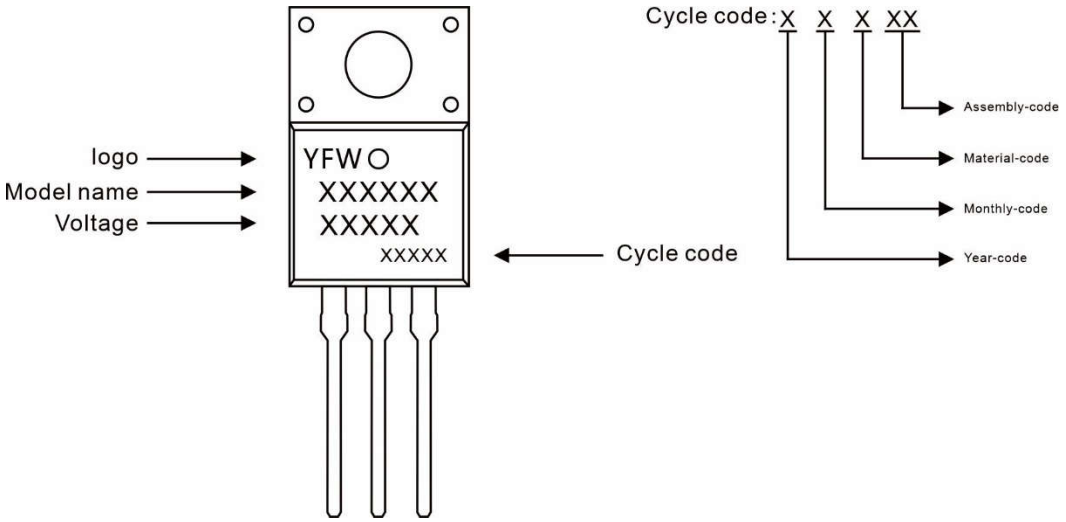


FIG6 Relative variations of gate trigger current, holding current and latching current versus junction temperature



Marking Diagram

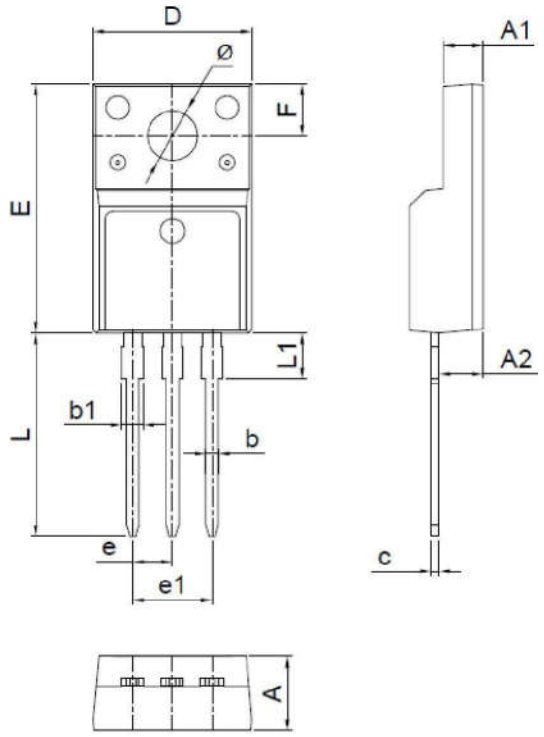


Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
BT136F	TO-220F	0.06oz(1.74g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220F



Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.50	4.90	0.177	0.193
A1	2.34	2.74	0.092	0.108
A2	2.66	2.86	0.105	0.113
b	0.75	0.85	0.030	0.033
b1	1.24	1.44	0.049	0.057
c	0.40	0.60	0.016	0.024
D	10.00	10.32	0.394	0.406
E	15.75	16.05	0.620	0.632
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	3.10	3.5	0.122	0.138
L	13.50	13.90	0.531	0.547
L1	2.90	3.30	0.114	0.130
Φ	3.10	3.30	0.122	0.130

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