

4A 4Quadrants TRIACs

Product Summary

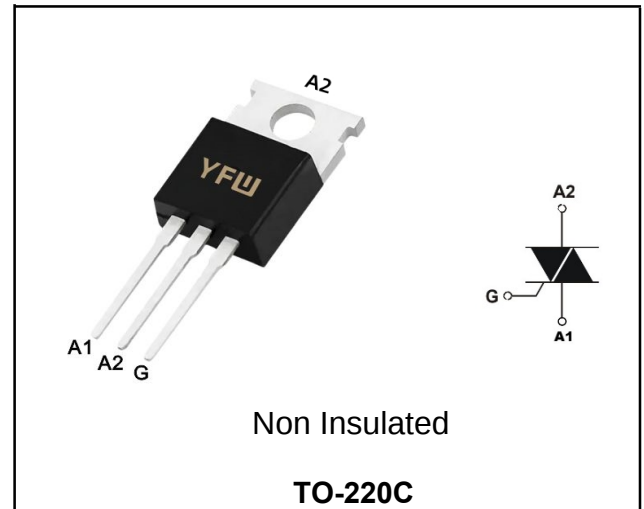
Symbol	Value	Unit
$I_{T(AV)}$	4	A
$V_{DRM} V_{RRM}$	600/800	V
V_{TM}	1.55	V

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 staterelay, 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 (full cycle, F=50Hz)	I_{TSM}	25	A
I^2t value for fusing (tp=10ms)	I^2t	3.1	A ² s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di/dt	I - II - III	50
		IV	10
Peak gate current	I_{GM}	2	A
Gate peak power	P_{GM}	5	W
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Junction Temperature	T_J	-40~+150	°C
Storage Temperature	T_{STG}	-40 ~+125	°C

Electrical characteristics (TA=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°C, Fig.6	I - II -III	≤5	≤10	mA
			IV	≤10	≤25	
Gate trigger voltage	V _{GT}		I - II -III-IV	≤1.3		V
Gate non-trigger voltage	V _{GD}	V _D =V _{DRM} , T _j =125°C		≥0.2		V
Holding current	I _H	V _D =12V, I _{GT} =0.1A, T _j =25°C, Fig.6	I - II -III-IV	≤10	≤15	mA
latching current	I _L		I -III-IV	≤10	≤15	mA
			II	≤15	≤20	mA
Critical-rate of rise of commutation voltage	dV _D /dt	V _D =2/3V _{DRM} , T _j =125°C		≥10	≥20	V/us

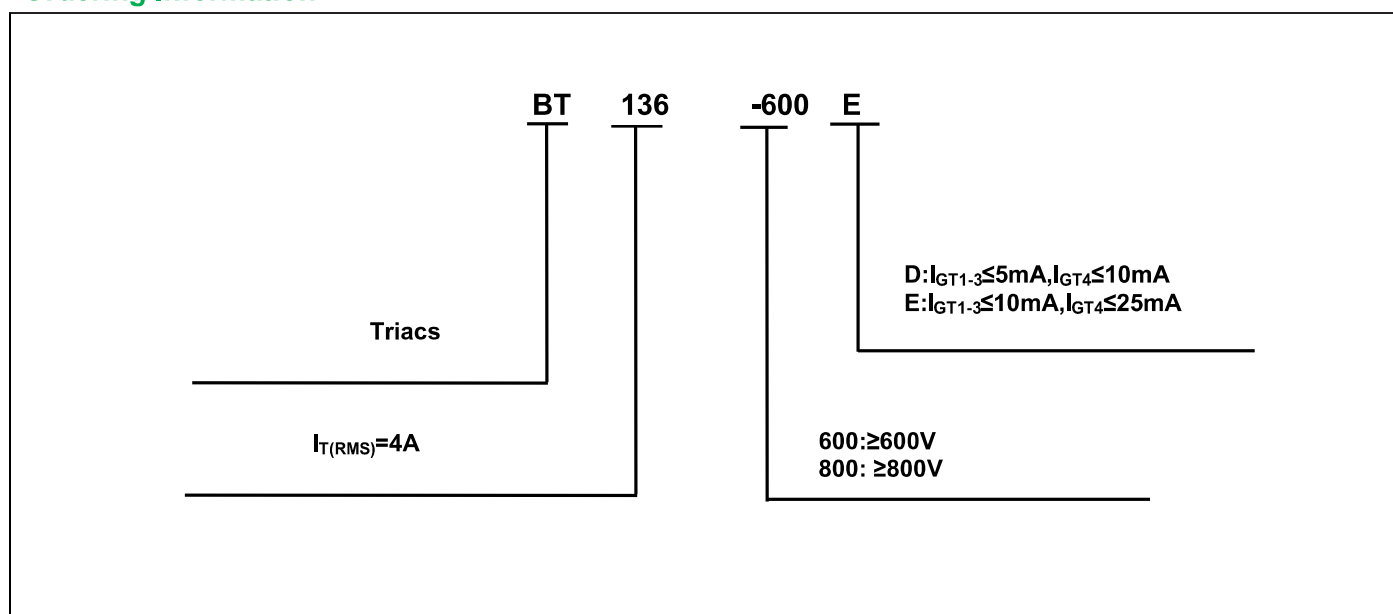
STATIC CHARACTERISTICS

Forward "on" voltage	V_{TM}	$I_{TM}=6A$, $t_p=380\mu s$, Fig.4		≤ 1.55		V
Repetitive Peak Off-State Current	I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ C$	≤ 5	≤ 5	uA
Repetitive Peak Reverse Current	I_{RRM}		$T_j=125^\circ C$	≤ 0.5	≤ 0.5	mA

THERMAL RESISTANCES

Thermal resistance	Rth(j-c)	Junction to case	TYP.	2.6	$^\circ C/W$
	Rth(j-a)	Junction to ambient	TYP.	60	$^\circ C/W$

Ordering Information



Typical Characteristics

FIG1 Maximum power dissipation versus RMS on-state current

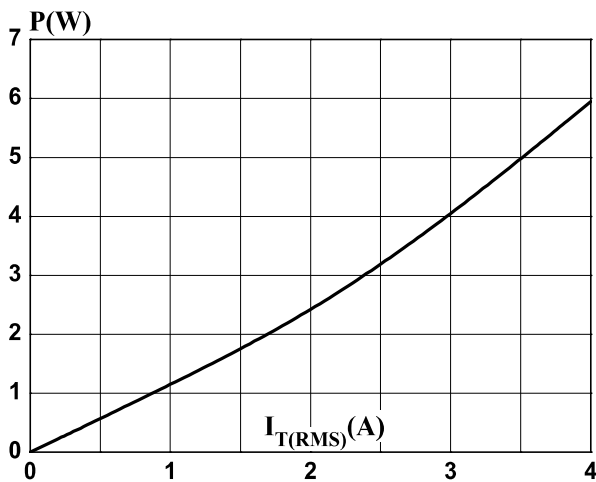


FIG2 RMS on-state current versus case temperature

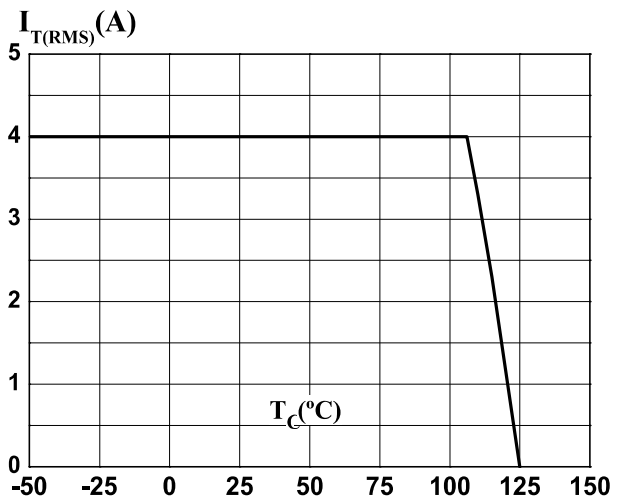


FIG3 Surge peak on-state current versus number of cycles

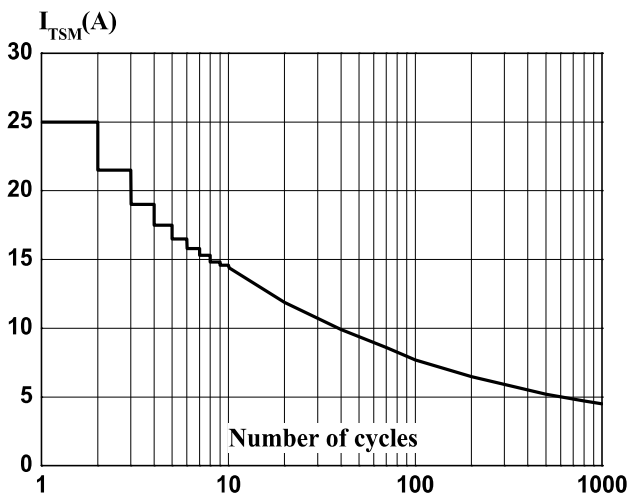


FIG5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of I^2t ($dI/dt < 100A/\mu s$)

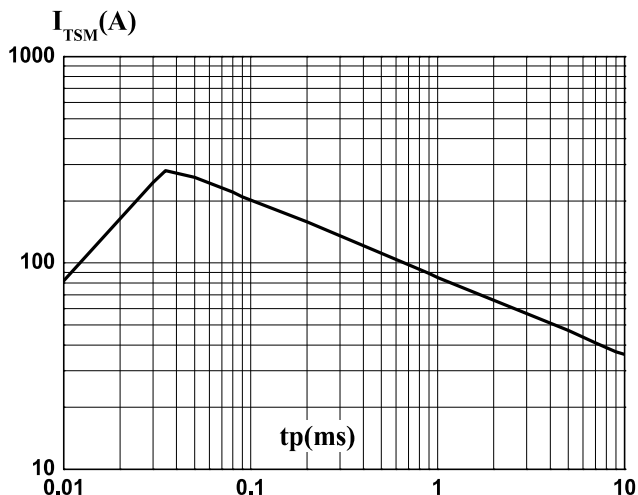


FIG4 On-state characteristics (maximum values)

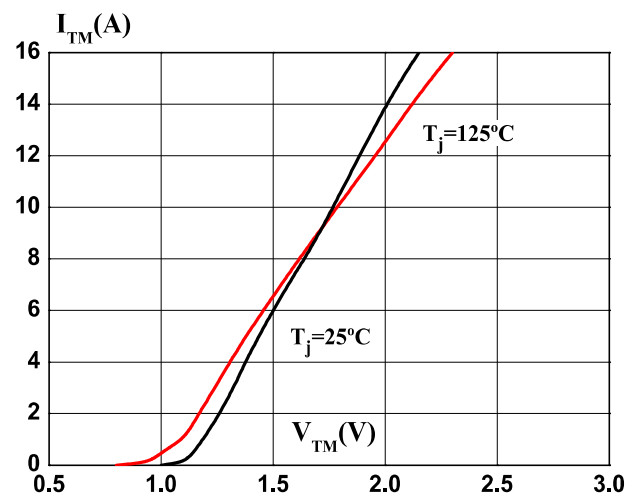
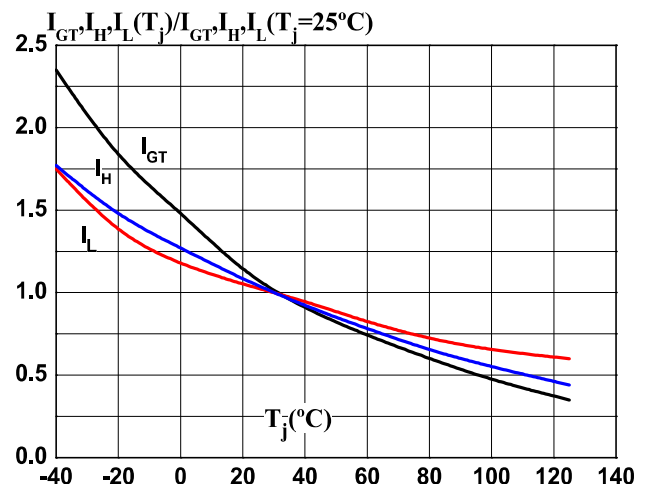
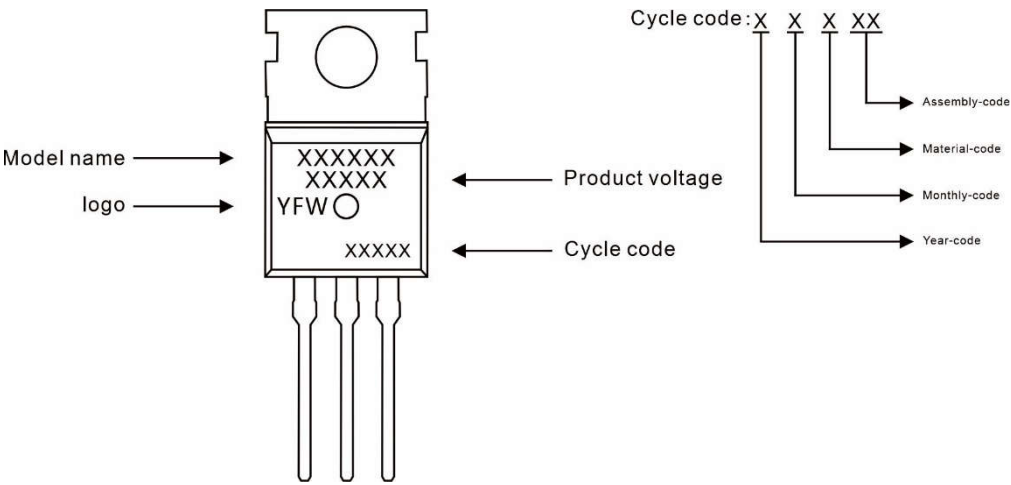


FIG6 Relative variations of gate trigger current, holding current and latching current versus junction temperature



Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
BT136	TO-220C	0.07oz(1.96g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions
TO-220C

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	9.70	10.40	0.382	0.409
B	6.13	6.82	0.241	0.269
C	9.00	9.40	3.54	0.37
D	0.70	0.92	0.0276	0.0362
D1	1.18	1.45	0.047	0.057
D2	1.22	1.32	0.048	0.052
E	2.34	2.74	0.092	0.108
L	15.70	16.14	0.62	0.64
L1	9.60	10.60	0.38	0.42
L2	12.60	13.60	0.50	0.54
K	2.20	2.75	0.087	0.108
T	4.30	4.71	0.169	0.185
T1	1.20	1.42	0.0472	0.056
T2	0.38	0.65	0.015	0.026
ΦR	3.55	3.78	0.14	0.15