

8A 4Quadrants TRIACs

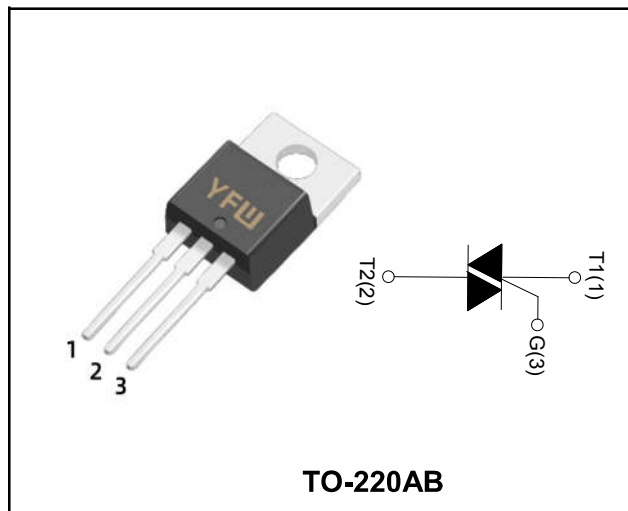
Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
$V_{DRM} V_{RRM}$	600/800	V
V_{TM}	1.60	V

FEATURES

The BT137 triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. From T2 terminals to external heatsink.

Package TO-220AB is RoHS compliant.



Absolute maximum ratings

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 ($T_C \leq 90^\circ C$)	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, $t_p=20ms$, $T_J=25^\circ C$)	I_{TSM}	80	A
I^2t value for fusing ($t_p=10ms$)	I^2t	64	A ² S
Critical rate of rise of on-state current ($T_J=125^\circ C$)	di_T/dt	50	A/ μs
Peak gate current($t_p=20\mu s$, $T_J=125^\circ C$)	I_{GM}	4	A
Average gate power dissipation ($T_J=125^\circ C$)	$P_{G(AV)}$	1	W
Operating junction temperature range	T_J	-40~+125	$^\circ C$
Storage junction temperature range	T_{STG}	-40 ~+150	$^\circ C$

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

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Gate trigger current	I _{GT}	V _D =12V, R _L =100Ω	I - II - III	-	5	mA
			IV	-	10	mA
Gate trigger voltage	V _{GT}	ALL	-	-	1	V
Non-triggering gate voltage	V _{GD}	V _D =V _{DRM} , R _L =100Ω, T _j =125°C	ALL	0.2	-	V
Latching current	I _L	I _G =1.2I _{GT}	I - III-IV	-	60	mA
			II	-	100	
Holding current	I _H	I _T =500mA	-	-	60	mA
Critical-rate of rise of commutation voltage	dV _D /dt	V _D =2/3V _{DRM} T _j =125°C	500	-	-	V/μs

STATIC CHARACTERISTICS

On-state Voltage	V _{TM}	I _{TM} =12A ,	T _j =25°C	-	-	1.60	V
Repetitive Peak Off-State Current	I _{DRM}	V _D =V _{DRM} = V _{RRM}	T _j =25°C	-	-	5	μA
Repetitive Peak Reverse Current	I _{RRM}		T _j =125°C	-	-	1	mA

THERMAL RESISTANCES

lhermal resistance	R _{th} (j-c)	Junction to case	TYP.	1.25	°C/W
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Ordering Information

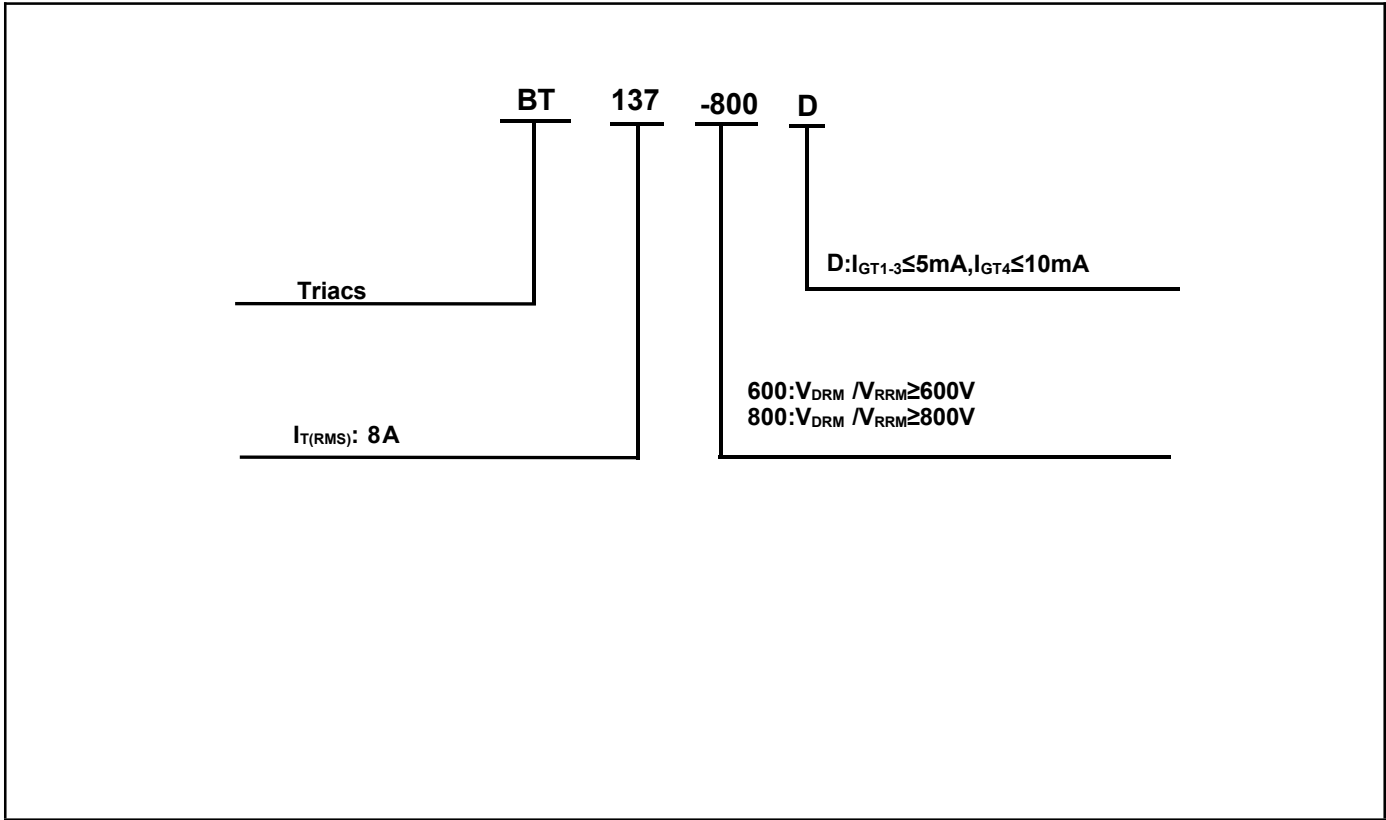


FIG.1 Maximum power dissipation versus RMS on-state current

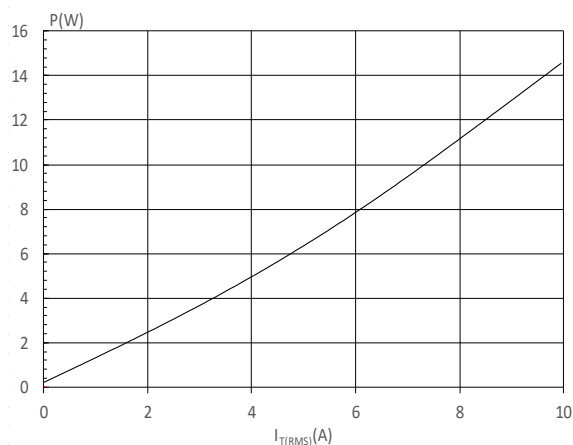


FIG.3: Surge peak on-state current versus number of cycles

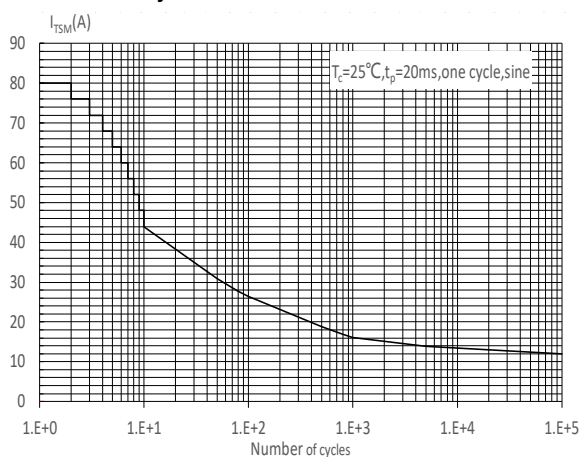


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of I^2t (I - II: $di/dt < 80A/\mu s$; III-IV: $di/dt < 40A/\mu s$)

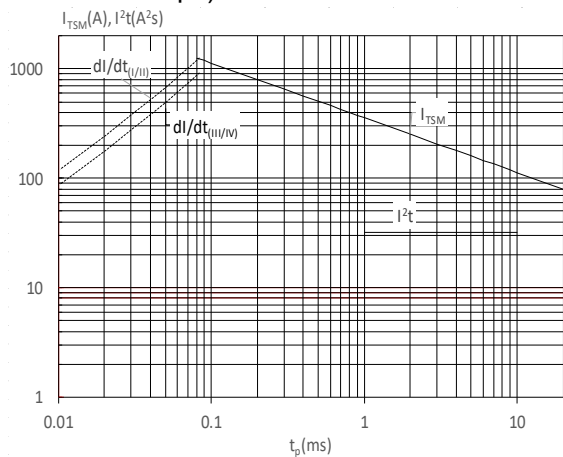


FIG.2: RMS on-state current versus case temperature

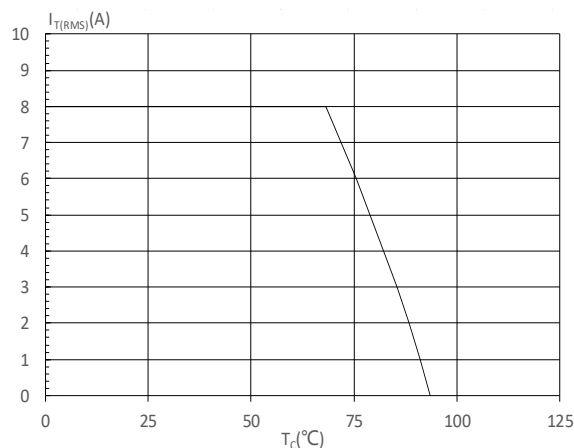


FIG.4: On-state characteristics

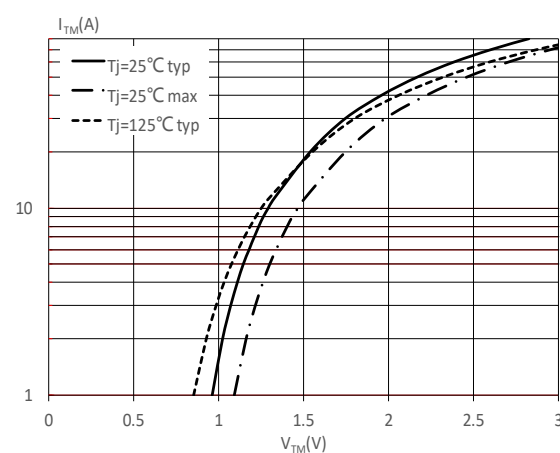
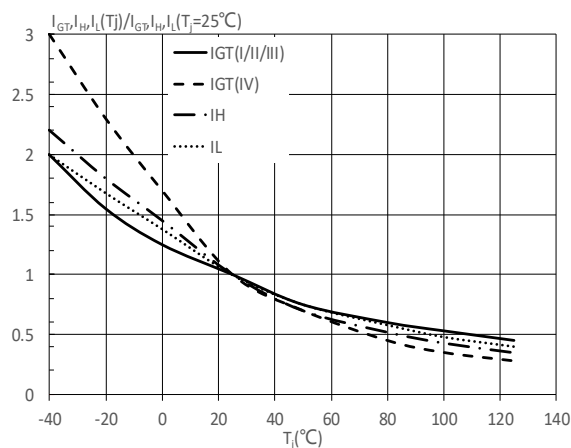
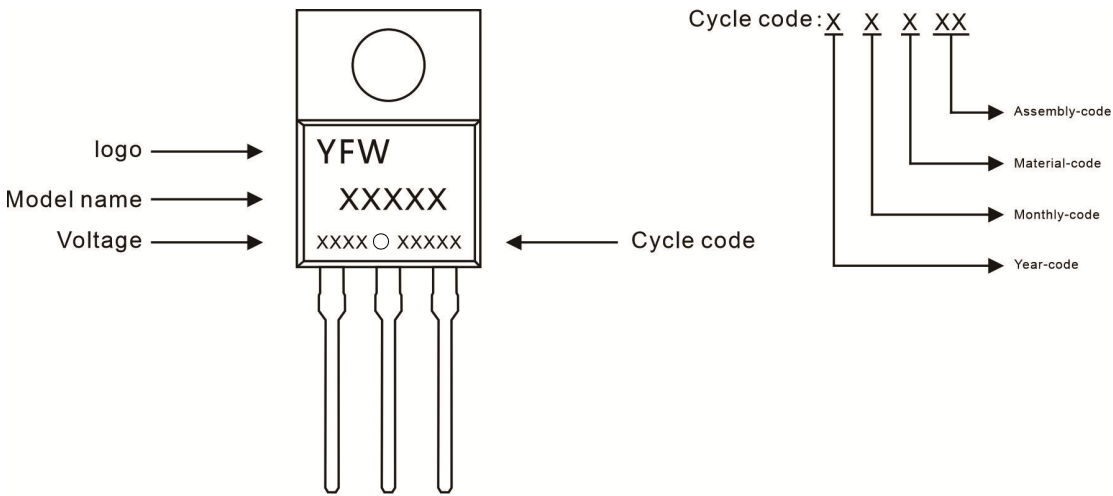


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
BT137	TO-220AB	0.07oz(1.96g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions
TO-220AB

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	2.52	2.82	0.099	0.111
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.30	0.50	0.012	0.020
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
E1	12.00	12.50	0.472	0.492
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	2.60	2.80	0.102	0.110
L	13.20	13.80	0.520	0.543
L1	3.80	4.20	0.150	0.165
Φ	3.60	3.96	0.142	0.156

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