

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	8.0	A
$V_{DRM} V_{RRM}$	600 / 800	V
V_{TM}	1.55	V

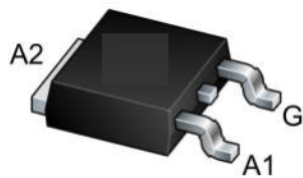
Feature

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

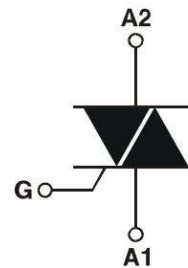
Washing machine, vacuums, massager, solid state relay, AC Motor speed regulation and so on.

Package

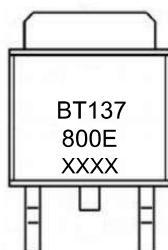


TO-252AB

Circuit diagram



Marking



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	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	65	A
I^2t value for fusing (tp=10ms)	I^2t	21	A ² s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di_T/dt	I - II - III	50
		IV	10
Peak gate current	I_{GM}	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Junction Temperature	T_J	-40 ~ +125	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

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

Parameter	Symbol	Test Condition		Value		Unit
Gate trigger current	I_{GT}	$V_D = 12V$ $I_T = 0.1A$ $T_j = 25^{\circ}C$	I - II -III	MAX.	10	mA
			IV		25	
			Gate trigger voltage	V_{GT}	I - II -III-IV	MAX.
Gate non-trigger voltage	V_{GD}	$V_D = V_{DRM}$ $T_j = 125^{\circ}C$		MIN.	0.2	V
latching current	I_L	$V_D = 12V$ $I_{GT} = 0.1A$ $T_j = 25^{\circ}C$	I -III-IV	MAX.	25	mA
			II		35	
Holding current	I_H	I - II -III-IV		MAX.	20	mA
Critical-rate of rise of commutation voltage	dV_D/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 125^{\circ}C$		MIN.	20	V/ μ s
STATIC CHARACTERISTICS						
Forward "on" voltage	V_{TM}	$I_{TM} = 10A$ $tp = 380\mu s$		MAX.	1.55	V
Repetitive Peak Off-State Current	I_{DRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^{\circ}C$	MAX.	5	μA
Repetitive Peak Reverse Current	I_{RRM}		$T_j = 125^{\circ}C$	MAX.	1	mA
THERMAL RESISTANCES						
Thermal resistance	Rth(j-c)	Junction to case(AC)		TYP.	1.6	$^{\circ}C/W$
	Rth(j-a)	Junction to ambient		TYP.	70	$^{\circ}C/W$

Typical Characteristics

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

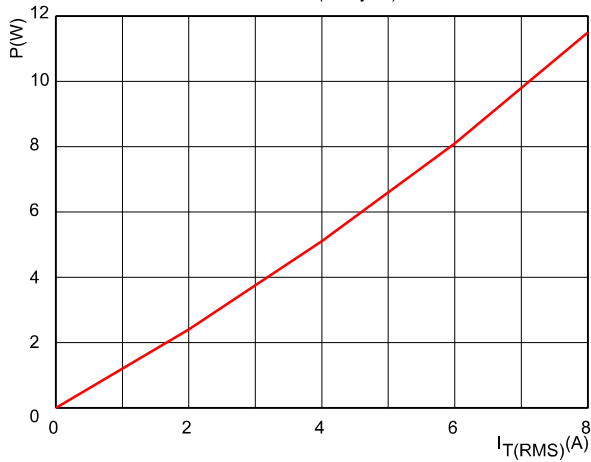


FIG.2: RMS on-state current versus case temperature (full cycle)

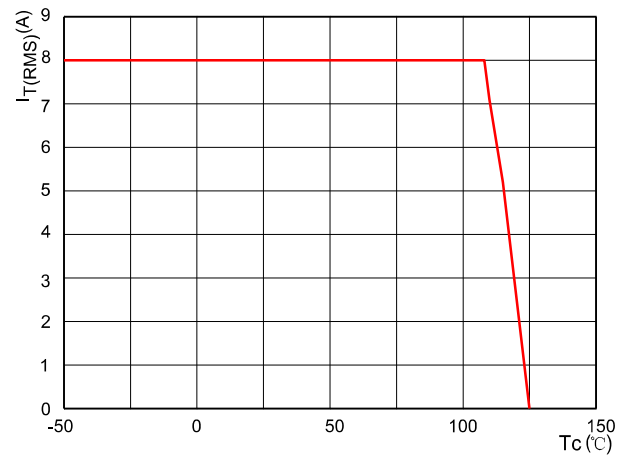


FIG.3: Surge peak on-state current versus number of cycles

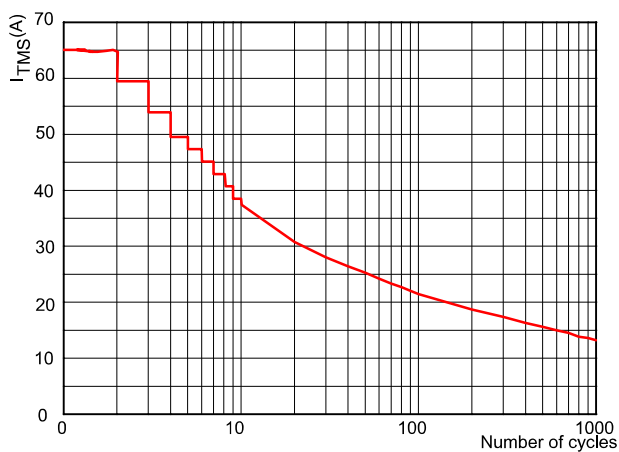


FIG.4: On-state characteristics (maximum values)

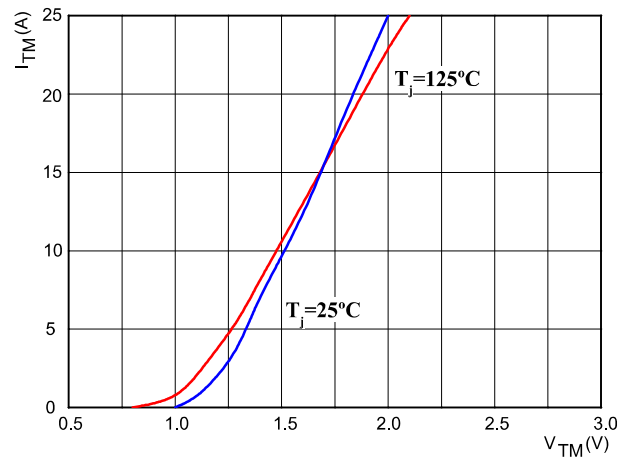


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$

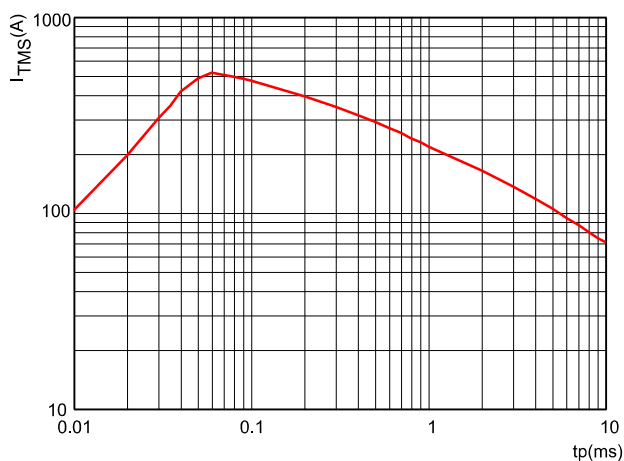
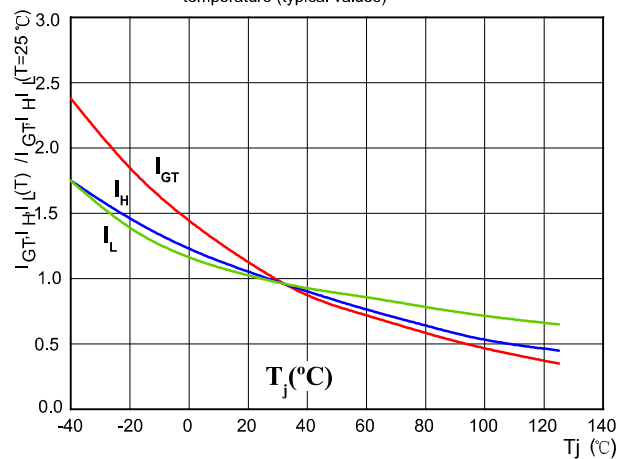
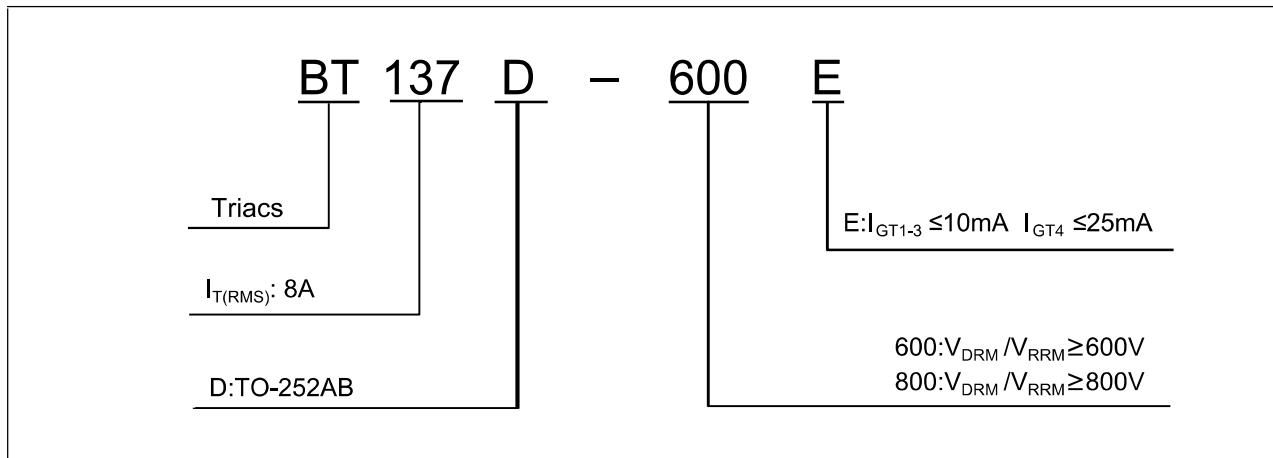


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Ordering Information



TO-252AB Package Information

