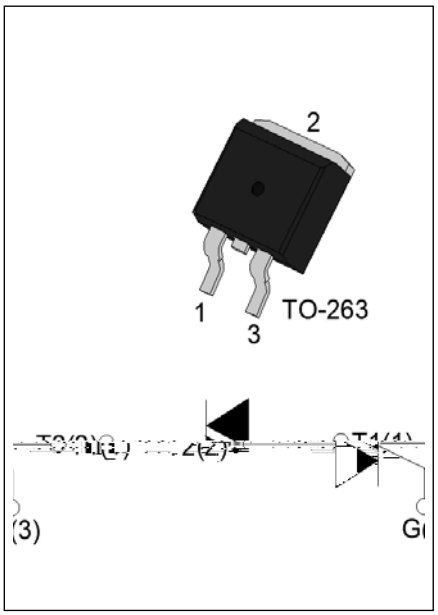
JST137E-600E 8A TRIAC

Rev.A.1.1

DESCRIPTION:

The JST137E-600E 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. Package TO-263 is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
V_{DRM} /V_{RRM}	600	V
I_{GT} / / /	10/10/10/25	mA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125	
Repetitive peak off-state voltage (T_j=25)	V_{DRM}	600	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	600	V
RMS on-state current (T_C 100)	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	65	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		72	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	21	A^2s
Critical rate of rise of on-state current (I_G=2 $_{GT}$, f=100Hz , T_j=125) - -	dI/dt	80	A/μs
		40	
Peak gate current (t_p=20μs , T_j=125)	I_{GM}	4	A
Average gate power dissipation (T_j=125)	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	10	W
Peak pulse voltage (T_j=25 ; non-repetitive,off-state;FIG.8)	V_{pp}	4	kV

ELECTRICAL CHARACTERISTICS (Tj=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	V_D=12V R_L=33Ω	- -	MAX.	10	mA
				25	
V_{GT}		ALL	MAX.	1	V
V_{GD}	V_D=V_{DRM} T_j=125 R_L=3.3kΩ	ALL	MIN.	0.2	V
I_L	I_G=1.2I_{GT}	- -	MAX.	20	mA
				35	
I_H	I_T=500mA		MAX.	20	mA
dV/dt	V_D=400V Gate Open T_j=125		MIN.	250	V/μs
(dV/dt)c	(dI/dt)c=2.7A/ms, T_j=125		MIN.	5	V/μs
t_{on}	I_G=40mA I_A=200mA I_R=20mA T_j=25		TYP.	1.5	μs
t_{off}				15	

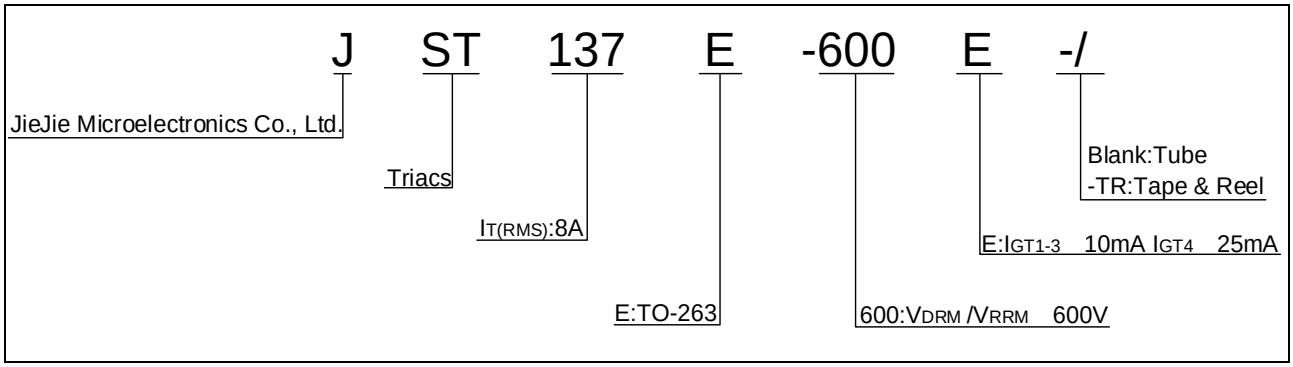
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM}=10A t_p=380μs	T_j=25	1.5	V
V_{TO}	Threshold voltage	T_j=125	0.8	V
R_D	Dynamic resistance	T_j=125	53	mΩ
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25	5	μA
I_{RRM}		T_j=125	0.35	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	2.2	/W
$R_{th(j-a)}$	junction to ambient (AC, in free air, S=2cm^2)	60	/W

ORDERING INFORMATION



MARKING

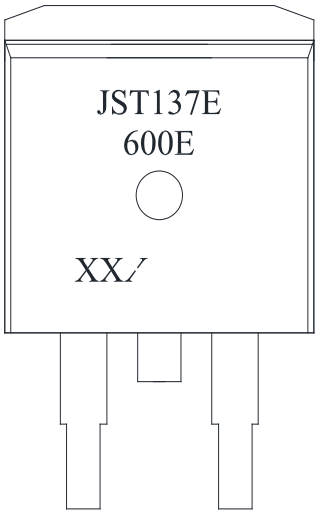


FIG.1: Maximum power dissipation versus RMS on-state current

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

FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

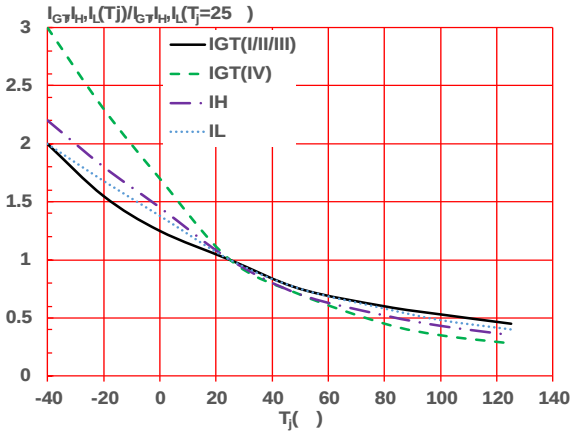


FIG.8: Test circuit for inductive and resistive loads to IEC-61000-4-

ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		-	-			
JST137E-600E	600	10	25	TO-263	50	Tube
JST137E-600E-TR					800	Tape & Reel

Document Revision History

Date	Revision	Changes
Apr.14, 2023	A.1.0	Last updated
Oct.21, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA

PKE MECHANICAL DATA

Ref	Dmensi					
	Mileters			Inches		
	Mi	Typ.	Max.	Mi	Typ.	Max.
A						

DELIVERY MODE

