



JST138C-600E 12A TRIAC

Rev.A.1.0

The JST138C-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. From T2 terminals to external heatsink. Package TO-220C is RoHS compliant.

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 ($T_j=25$)			

(T_j=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.	25	mA
				35	
I _H	I _T =500mA		MAX.	25	mA
dV/dt	V _D =400V Gate Open T _j =125		MIN.	150	V/μs
(dV/dt) _c	(dI/dt) _c =5A/ms, T _j =110		MIN.	5	V/μs
t _{on}	I _G =40mA I _A =200mA I _R =20mA T _j =25		TYP.	3	μs
t _{off}				30	

Symbol	Parameter		Value(MAX.)	Unit
V _{TM}	I _{TM} =15A t _p =380μs	T _j =25	1.6	V
V _{TO}	Threshold voltage	T _j =125	0.8	V
R _D	Dynamic resistance	T _j =125	41	mΩ
I _{DRM}	V _D =V _{DRM} V _R =V _{RDM}	T _j =25	5	μA
I _{RDM}		T _j =125	0.4	mA

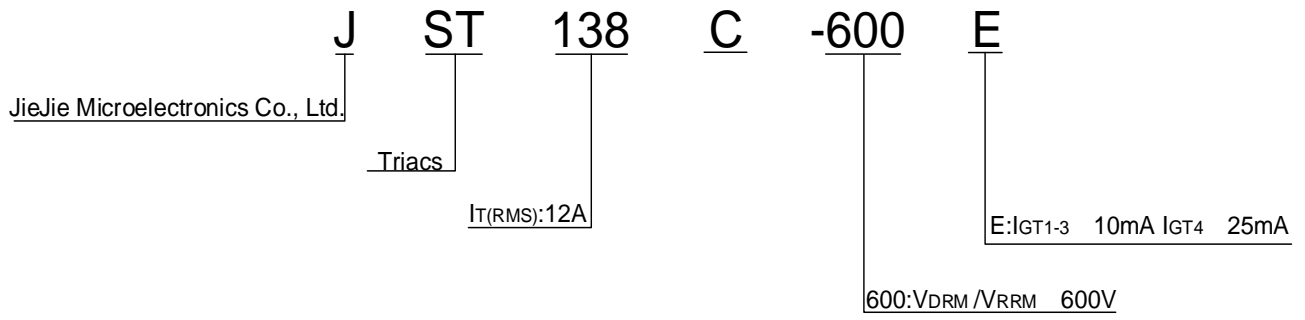
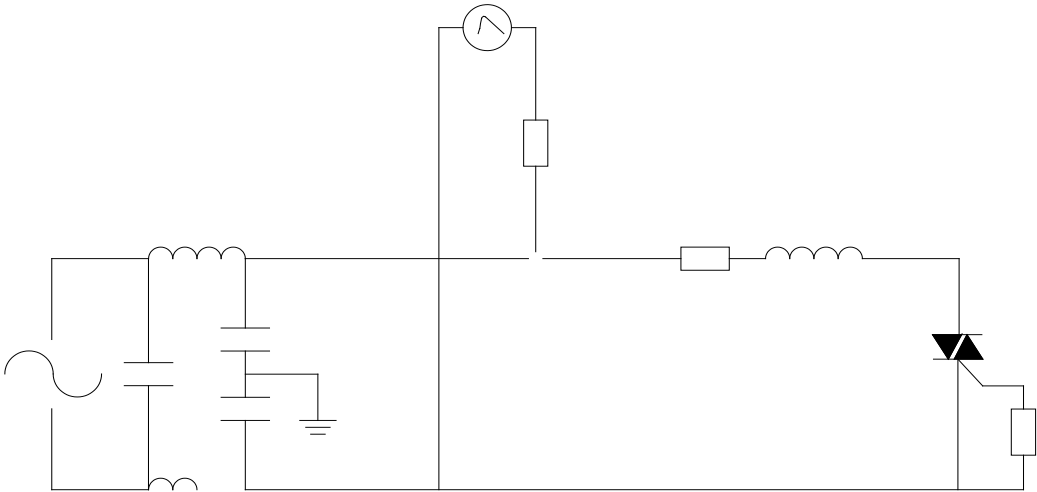


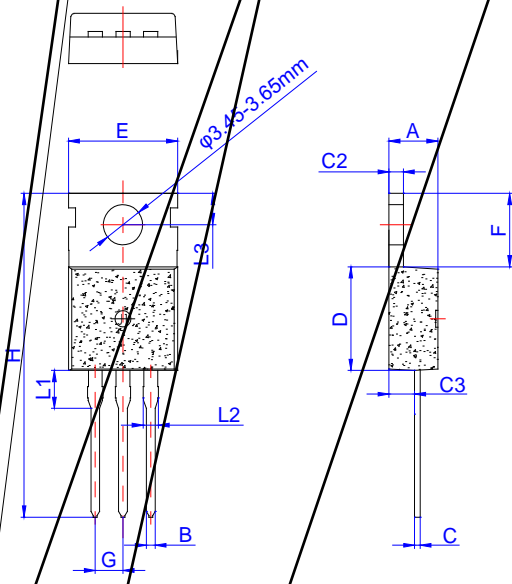
FIG.1 Maximum power dissipation versus RMS on-state current



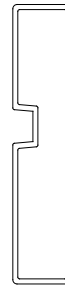
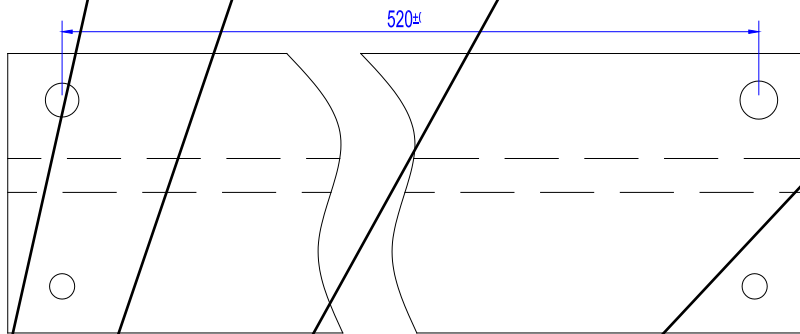
FIG.2: RMS on-state current versus case temperature

FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards





Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.25		1.35	0.049		0.053
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G	2.40		2.70	0.094		0.106
H	28.0		29.8	1.102		1.173
L1	2.70		3.30	0.106		0.130
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116



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