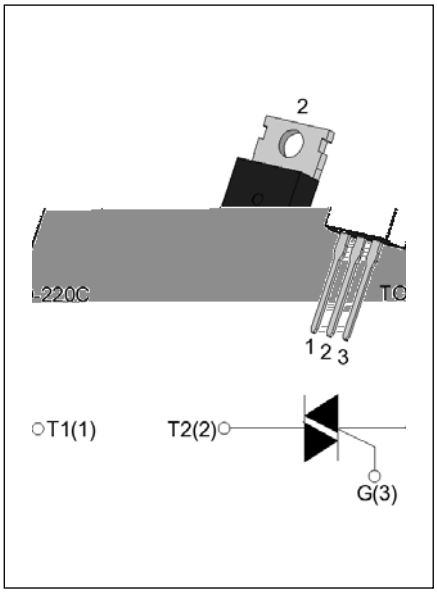
JST138C-800D 12A TRIAC

Rev.A.1.0

The JST138C-800D 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.



Symbol	Value	Unit
$I_{T(RMS)}$	12	A
V_{DRM} /V_{RRM}	800	V
I_{GT} / / /	5/5/5/10	mA

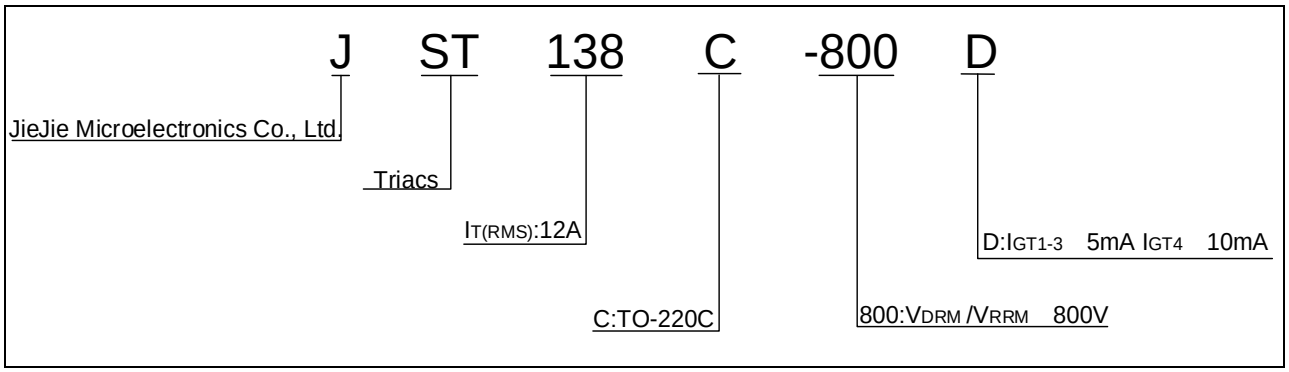
Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	-40-150	
Operating junction temperature range		T_j	-40-125	
Repetitive peak off-state voltage (T_j=25)		V_{DRM}	800	V
Repetitive peak reverse voltage (T_j=25)		V_{RRM}	800	V
RMS on-state current (T_C 98)		$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)		I_{TSM}	95	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)			105	
I^2t value for fusing (t_p=10ms , T_j=25)		I^2t	45	A^2s
Critical rate of rise of on-state current (I_G=2 I_{GT} , f=100Hz , T_j=125)	-	dI/dt	50	A/μs
	-		20	
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.7)		V_{pp}	3.5	kV

(T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	V_D=12V R_L=33Ω	- -	MAX.	5	mA
				10	
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.	15	mA
				20	
I_H	I_T=500mA		MAX.	10	mA
dV/dt	V_D=540V Gate Open T_j=125		MIN.	40	V/μs
(dV/dt)c	(dI/dt)c=5A/ms, T_j=110		MIN.	2	V/μs
t_{on}	I_G=20mA 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_{RRM}	T_j=25	5	μA
I_{RRM}		T_j=125	0.4	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	1.5	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W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138
C
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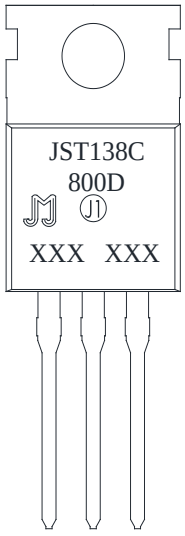
JieJie Microelectronics Co., Ltd.
Triacs
IT(RMS):12A
C:TO-220C
800:VDRM /VRRM 800V
D:IGT1-3 5mA IGT4 10mA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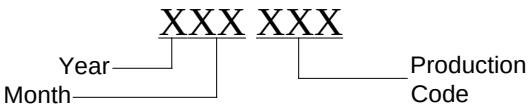
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FIG.1 Maximum power dissipation versus RMS on-state current

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

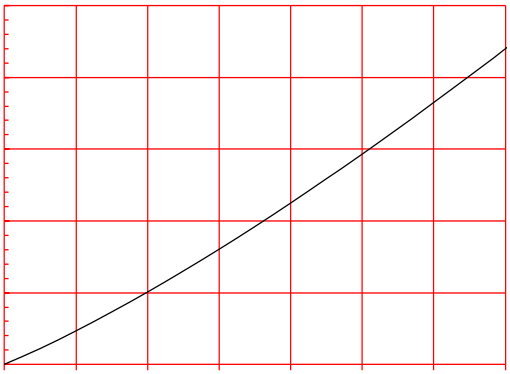
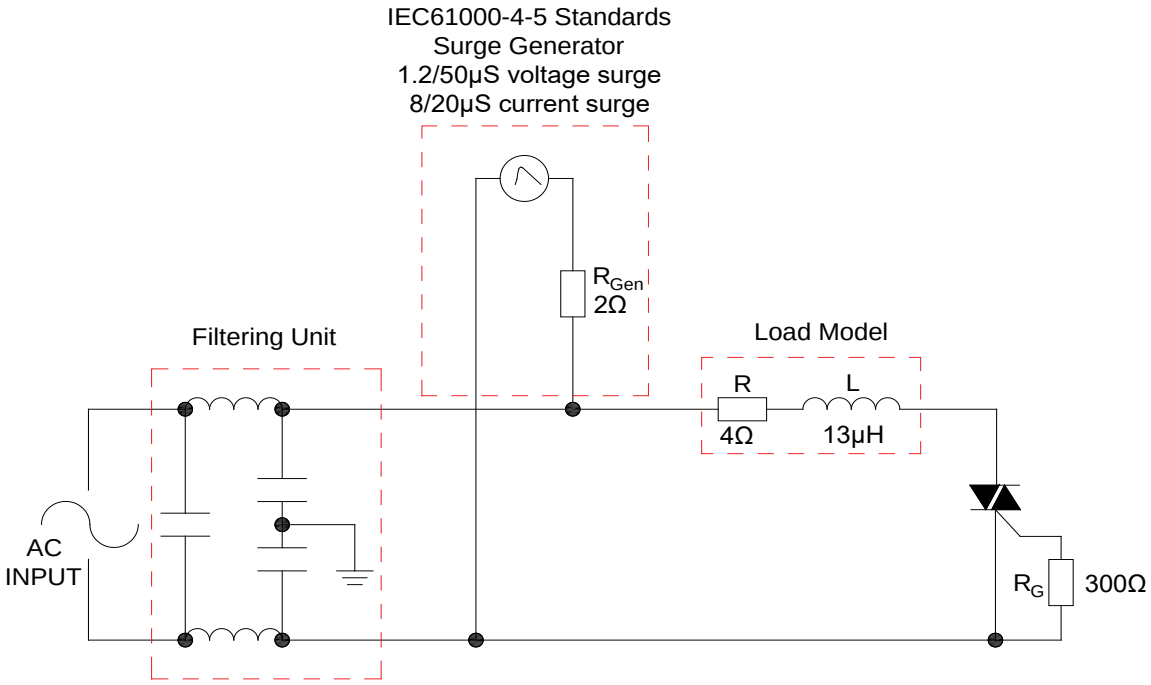


FIG.3: Surge peak on-state current versus number of cycles

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

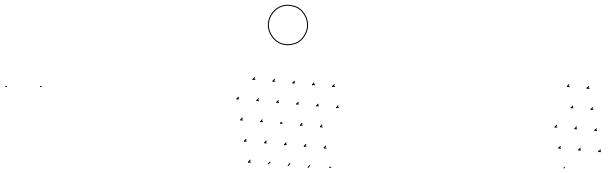


Refer to Instructions for installation of plastic-sealed in-line power devices released by JieJie.

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		- -				
JST138C-800D	800	5	10	TO-220C	50	Tube

Document Revision History

Date	Revision	Changes
Apr.14, 2023	A.1.0	Last updated



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