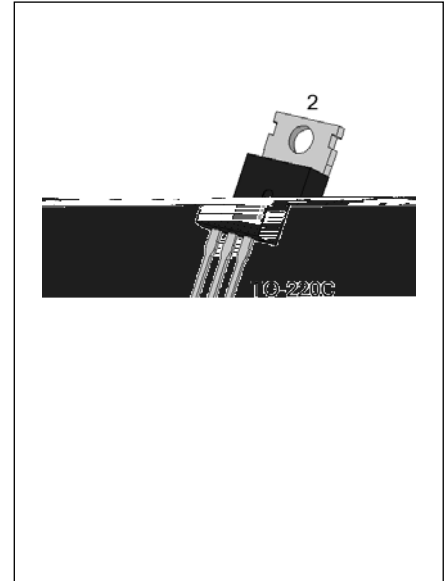


DESCRIPTION:

The JST138C-800F 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.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	12	A
V_{DRM}/V_{RRM}	800	V
$I_{GT} / / /$	25/25/25/70	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}	800	V
Repetitive peak reverse voltage (T _j =25 °)		V _{RRM}	800	V
RMS on-state current (T _c 098 °)		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 ² t value for fusing (t _p =10ms , T _j =25 °)		I ² t	45	A ² s
Critical rate of rise of on-state current (I _G =2×I _{GT} , f=100Hz , T _j =125 °)	-	dI/dt	100	A / s
	-		70	
Peak gate current (t _p =20 μs , 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}	1	kV

ELECTRICAL CHARACTERISTICS (unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12V$ $R_L=33$	- -	MAX.	25	mA
				70	
V_{GT}		ALL	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3k$	ALL	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	- -	MAX.	40	mA
				90	
I_H	$I_T=500mA$		MAX.	40	mA
dV/dt	$V_D=540V$ Gate Open $T_j=125$		MIN.	200	V/s
$(dV/dt)_c$	$(dI/dt)_c=5A/ms$, $T_j=110$		MIN.	8	9 V
t_{on}	$I_G=80mA$ $I_A=400mA$ $I_R=40mA$ $T_j=25$		TYP.	5	s
t_{off}				30	

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=15A$ $t_p=380$ s	$T_j=25$	1.6	V
V_{TO}	Threshold voltage	$T_j=125$	0.8	V
R_D	Dynamic resistance	$T_j=125$	41	P

JST138C-800F

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

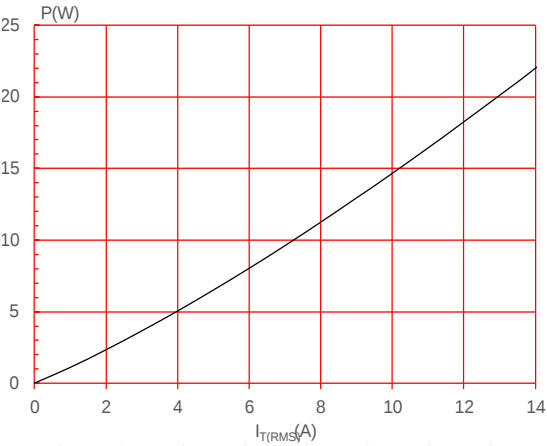
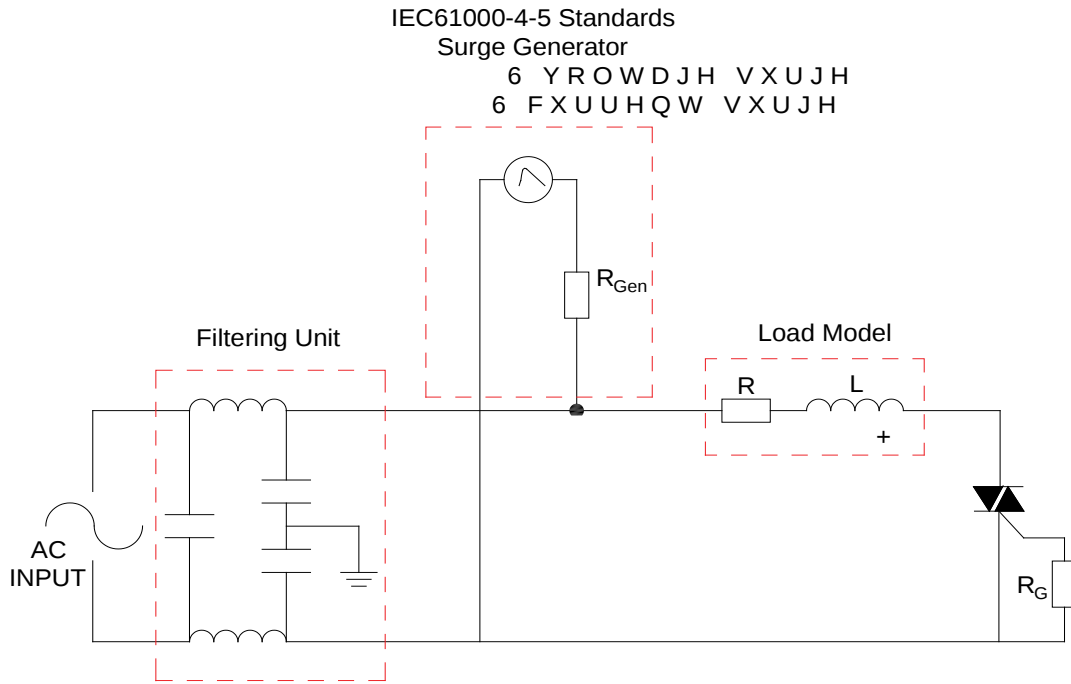


FIG.2: RMS on-state current versus case temperature

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



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



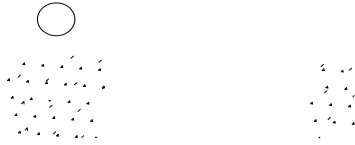
ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		H- I- J	K			
JST138C-800F	800	25	70	TO-220C	50	Tube

Document Revision History

Date	Revision	Changes
Apr.14, 2023	A.1.0	Last updated
Oct.16, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA

PACKAGE MECHANICAL DATA



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