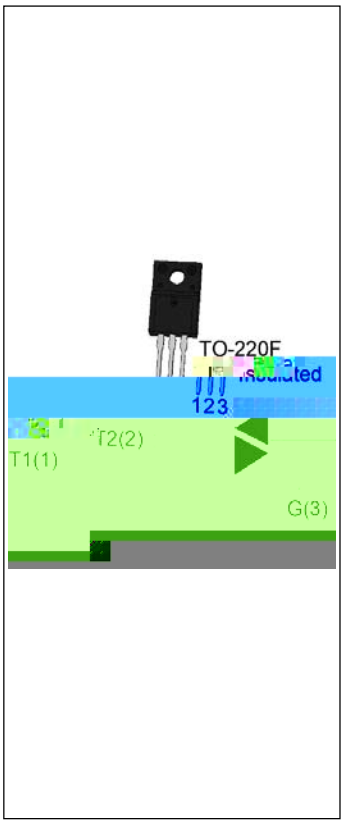
The JST12F-1200BW triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. JST12F-1200BW snubberless triac is especially recommended for use on inductive loads. By using an external plastic package, JST12F-1200BW provides a rated insulation voltage of 2000 VRMS, complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	12	A
V_{DRM} /V_{RRM}	1200	V
I_{GT} / /	50/50/50	mA

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}	1200	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	1200	V
RMS on-state current (T_C 085)	$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	120	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		132	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	72	A^2s
Critical rate of rise of on-state current (I_G=2 hI GT , f=100Hz , T_j=125)	dI/dt	100	A/µs
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

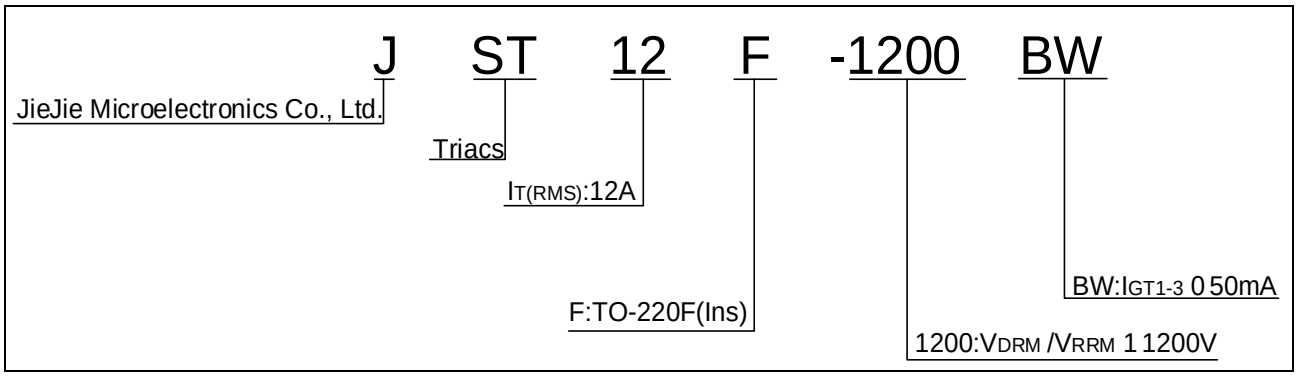
Peak gate power	P_{GM}	10	W
Peak pulse voltage (T_j=25 ; non-repetitive,off-state;FIG.7)	V_{pp}	4.5	kV

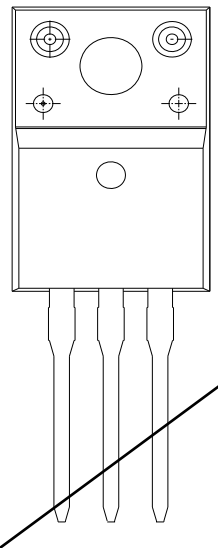
(T_j=25 unless otherwise specified)

I_{GT}	V_D =12V R_L =33Ω	- -	MAX.	50	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	V_D =V_{DRM} T_j =125 R_L =3.3kΩ	- -	MIN.	0.2	V
I_L	I_G =1.2I_{GT}	-	MAX.	70	mA
				90	
I_H	I_T =500mA		MAX.	50	mA
dV/dt	V_D=800V Gate Open T_j =125		MIN.	500	V/μs
(dI/dt)c	(dV/dt)c=20V/μs T_j=125		MIN.	20	A/ms
t_{on}	I_G=80mA I_A=400mA I_R=40mA T_j=25		TYP.	5	μs
t_{off}				50	

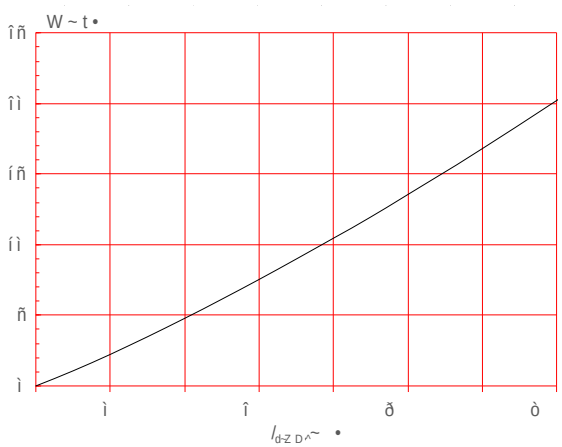
V_{TM}	I_{TM} =17A t_p=380μs	T_j=25	1 .5	V
V_{TO}	Threshold voltage	T_j=125	0 .78	V
R_D	Dynamic resistance	T_j=125	37	mΩ
I_{DRM}	V_D =V_{DRM} V_R =V_{RRM}	T_j=25	10	μA
I_{RRM}		T_j=125	2	mA

$R_{th(j-c)}$	junction to case (AC)	2.4	/W
$R_{th(j-a)}$	junction to ambient (AC)	60	/W

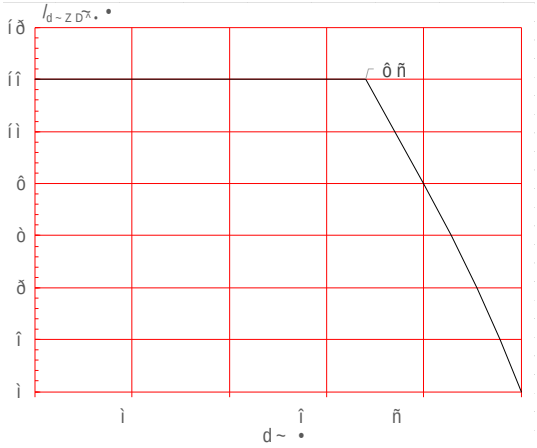

J
ST
12
F
-1200
BW
JieJie Microelectronics Co., Ltd.
Triacs
IT(RMS):12A
F:TO-220F(Ins)
1200:VDRM /VRRM 1 1200V
BW:IGT1-3 0 50mA



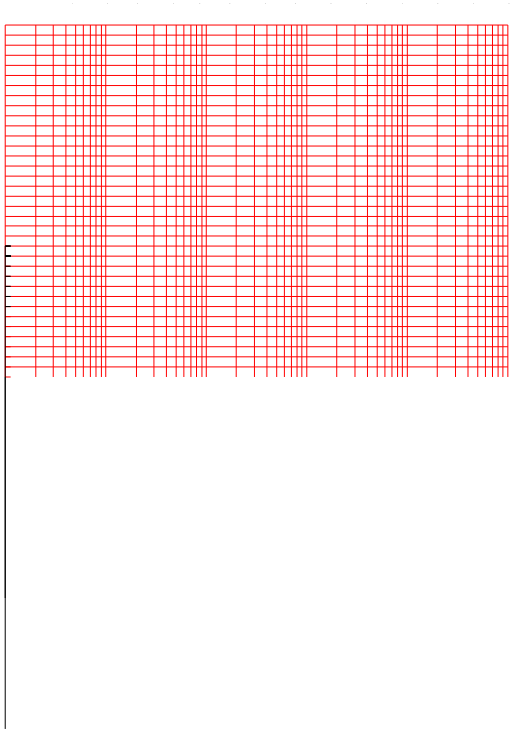
Maximum power dissipation versus RMS on-state current



RMS on-state current versus case temperature

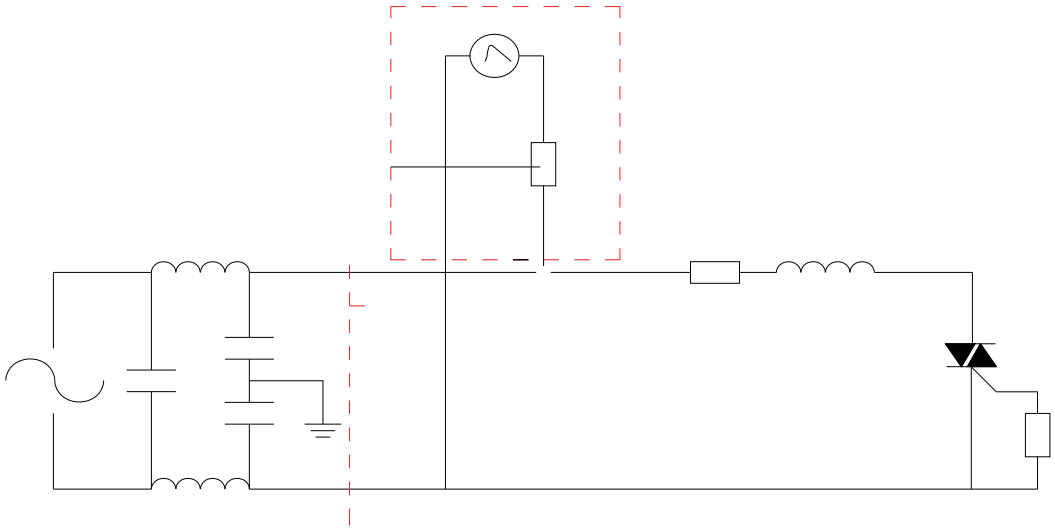


Surge peak on-state current versus number of cycles



On-state characteristics

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



Date	Revision	Changes
Apr.11, 2023	A.1.0	Last updated
Oct.13, 2025	A.1.1	Revise PACKAGE MECHANICAL DATA