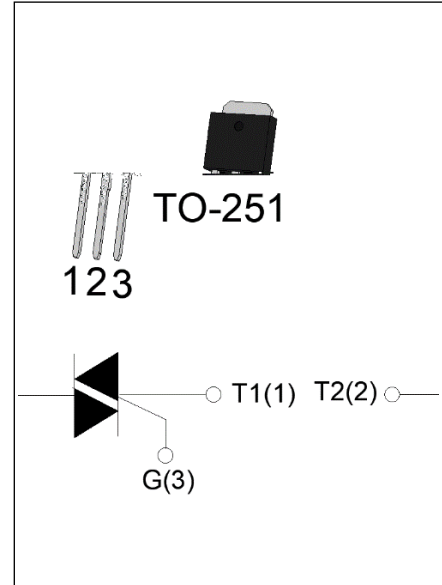


The JST138H-800F triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. From T2 terminals to external heatsink. Package TO-251 is RoHS compliant.

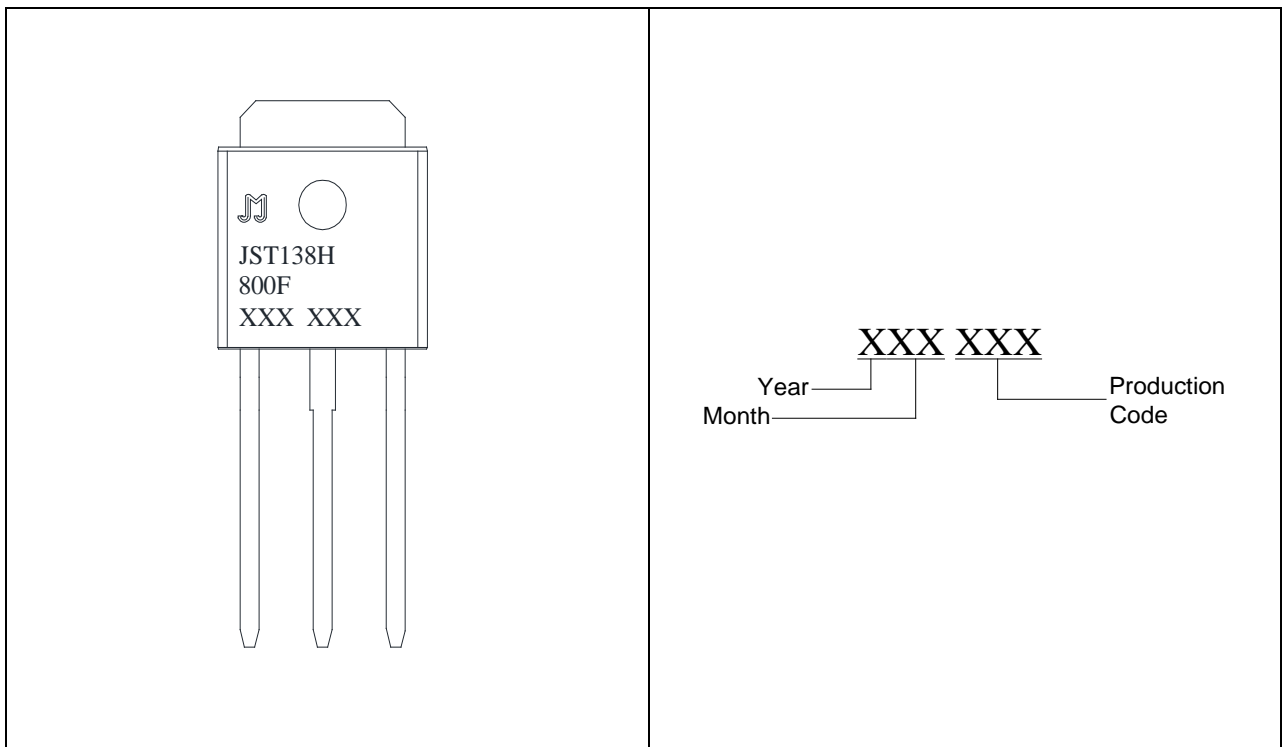
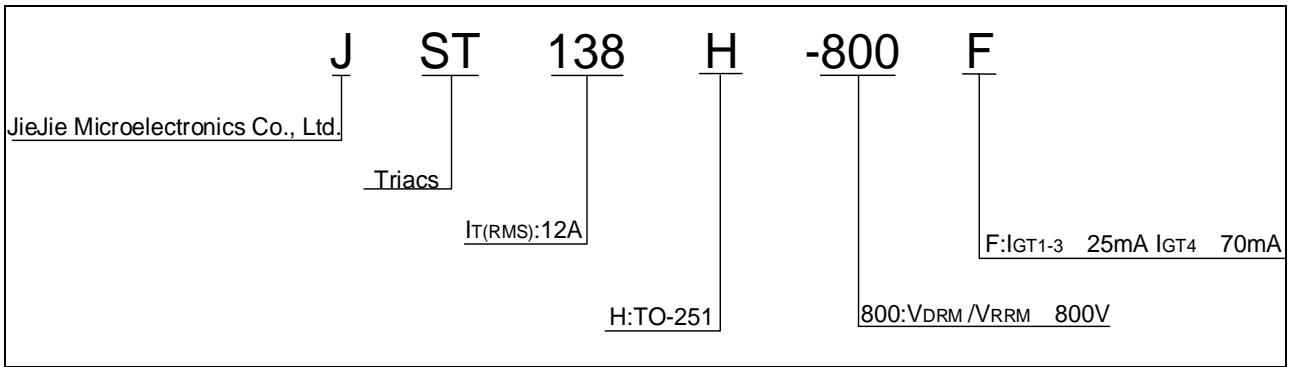
Symbol	Value	Unit
$I_{T(RMS)}$	12	A
$V_{DRM}/V_{RRM}$	800	V
$I_{GT} / / /$	25/25/25/70	mA



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 ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	800	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	800	V
RMS on-state current ( $T_c = 70^\circ\text{C}$ )	$I_{T(RMS)}$	12	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I_{TSM}$	95	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$ , $T_j=25^\circ\text{C}$ )		105	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ , $T_j=25^\circ\text{C}$ )	$I^2t$	45	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 I_{GT}$ , $f=100\text{Hz}$ , $T_j=125^\circ\text{C}$ )	$di/dt$	100	$\text{A}/\mu\text{s}$
		70	
Peak gate current ( $t_p=20\mu\text{s}$ , $T_j=125^\circ\text{C}$ )	$I_{GM}$	4	A
Average gate power dissipation ( $T_j=125^\circ\text{C}$ )	$P_{G(AV)}$	0.5	W
Peak gate power	$P_{GM}$	10	W
Peak pulse voltage ( $T_j=25^\circ\text{C}$ ; non-repetitive, off-state; FIG.7)	$V_{pp}$	1.5	kV

(T<sub>j</sub>=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I <sub>GT</sub>	V <sub>D</sub> =12V R <sub>L</sub> =33	- -	MAX.	25	mA
				70	
V <sub>GT</sub>		ALL	MAX.	1	V
V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> T <sub>j</sub> =125 R <sub>L</sub> =3.3K	ALL	MIN.	0.2	V
I <sub>L</sub>	I <sub>G</sub> =1.2I <sub>GT</sub>	- -	MAX.	40	mA
				90	
I <sub>H</sub>	I <sub>T</sub> =500mA		MAX.	40	mA
dV/dt	V <sub>D</sub> =540V Gate Open T <sub>j</sub> =125		MIN.	200	V/μs
(dV/dt) <sub>c</sub>	(dI/dt) <sub>c</sub> =5A/ms, T <sub>j</sub> =110		MIN.	8	V/μs
t <sub>on</sub>	I <sub>G</sub> =80mA I <sub>A</sub> =400mA I <sub>R</sub> =40mA T <sub>j</sub> =25		TYP.		



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

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

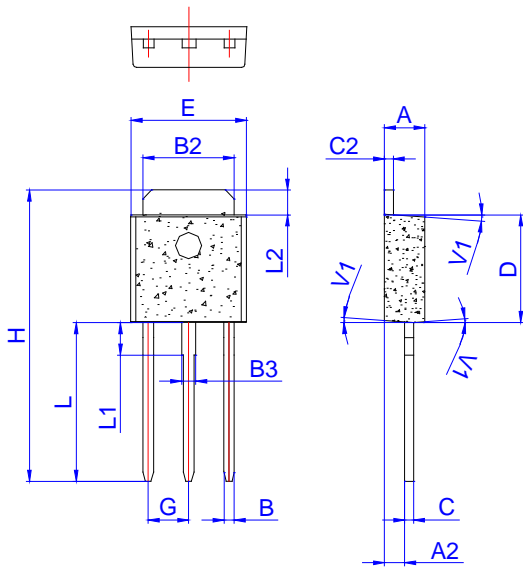
FIG.7 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



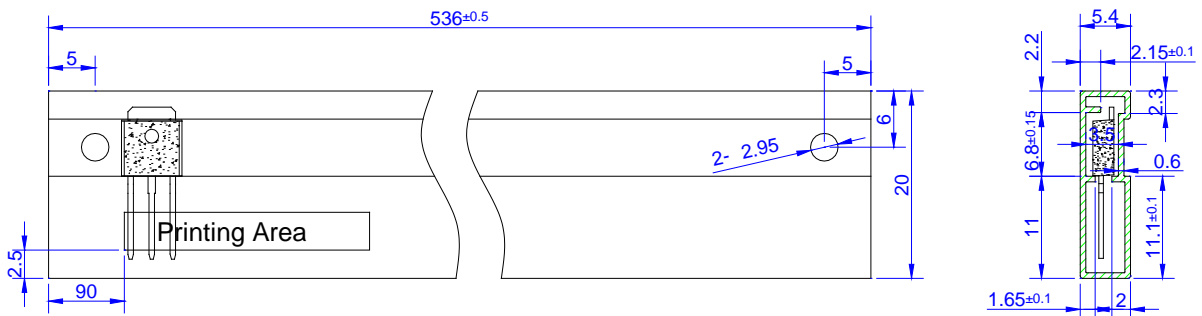
Order code	Voltage $V_{DRM}/V_{RRM}$ (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		-	-			
JST138H-800F	800	25	70	TO-251	80	Tube

**Document Revision History**

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



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	1.00		1.30	0.039		0.051
B	0.50		0.70	0.020		0.028
B2	5.10		5.40	0.200		0.213
B3	0.70		1.00	0.028		0.039
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	2.20		2.40	0.087		0.094
H	16.0		17.0	0.630		0.669
L	8.90		9.40	0.350		0.370
L1	1.80		2.20	0.071		0.087
L2	1.25		1.55	0.049		0.061
V1		4°			4°	



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-251	TUBE	80	4,000	20,000

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