

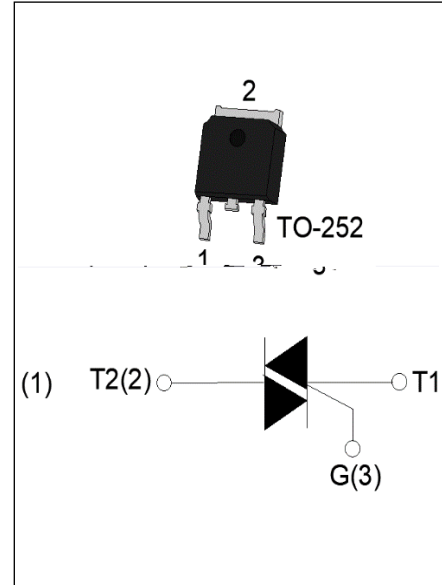


JST08K-800C 8A TRIAC

Rev.A.1.0

The JST08K-800C 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. Package TO-252 is RoHS compliant.

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
V_{DRM}/V_{RRM}	800	V
$I_{GT} / / /$	25/25/25/50	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 ($T_c = 91^\circ\text{C}$)		$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$)		I_{TSM}	80	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$)			88	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)		I^2t	32	A^2s
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	80	$\text{A}/\mu\text{s}$
	-		40	
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.8)		V_{PP}	1.5	kV

($T_j=25$ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12V$ $R_L=33\Omega$	- -	MAX.	25	mA
				50	
V_{GT}		ALL	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3K\Omega$	ALL	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	- -	MAX.	40	mA
				80	
I_H	$I_T=200mA$		MAX.	30	mA
dV/dt	$V_D=540V$ Gate Open $T_j=125$		MIN.	500	V/ μs
(dV/dt) _c	(dI/dt) _c =3.5A/ms, $T_j=125$		MIN.	6	V/ μs
t_{on}	$I_G=80mA$ $I_A=400mA$ $I_R=40mA$ $T_j=25$		TYP.	5	μs
t_{off}				30	

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=11A$ $t_p=380\mu s$	$T_j=25$	1.5	V
V_{TO}	Threshold voltage	$T_j=125$	0.8	V
R_D	Dynamic resistance	$T_j=125$	44	m Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	5	μA
I_{RRM}		$T_j=125$	0.35	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	3	/W
$R_{th(j-a)}$	junction to ambient (AC)	100	/W

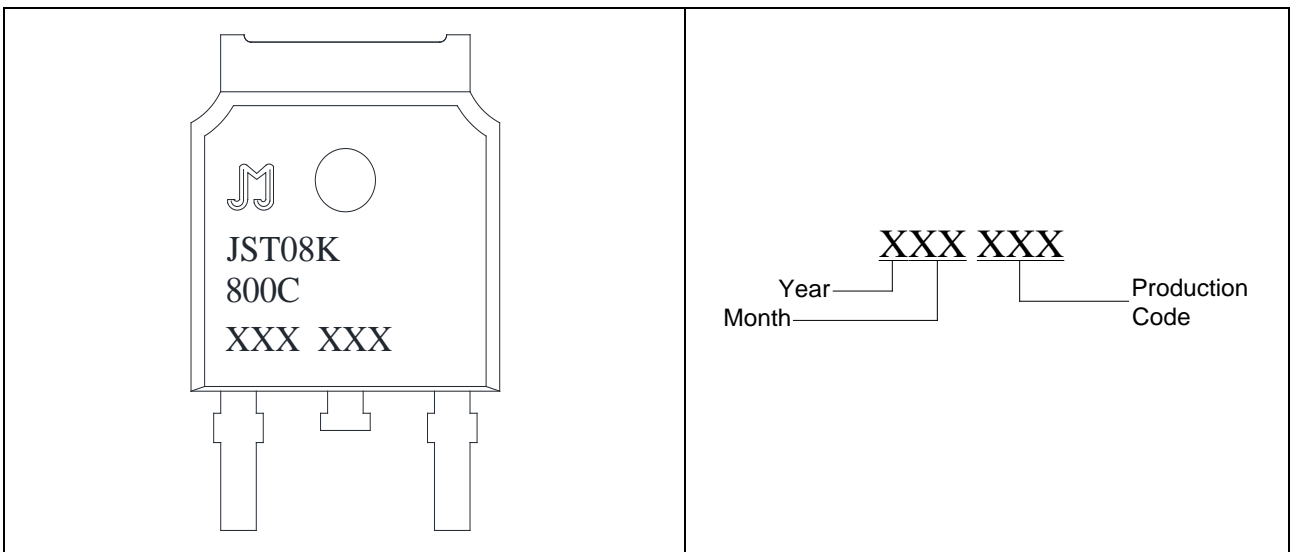
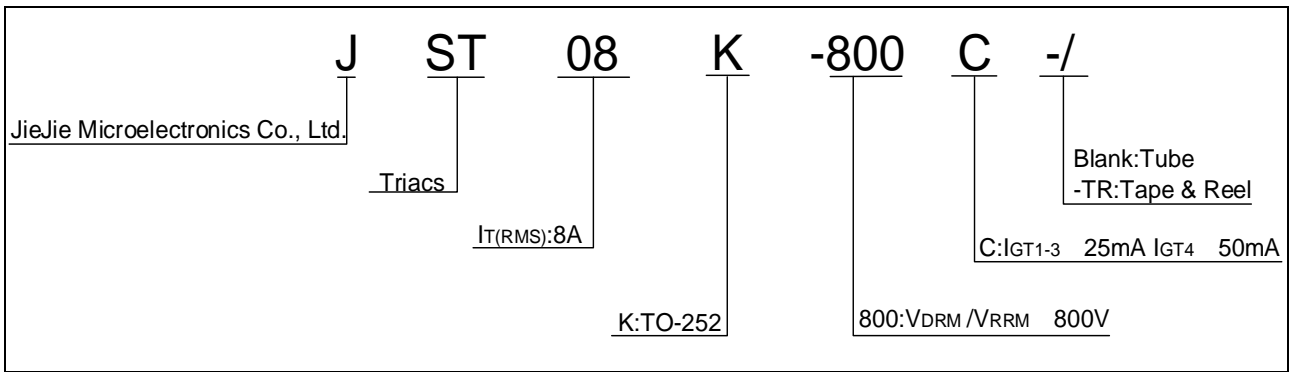


FIG.1 Maximum power dissipation versus RMS on-state current

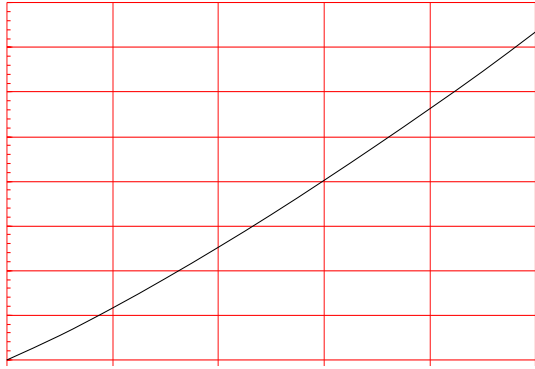


FIG.2: RMS on-state current versus case temperature

FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

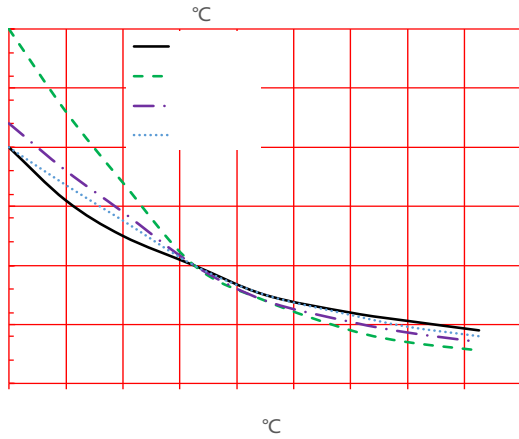
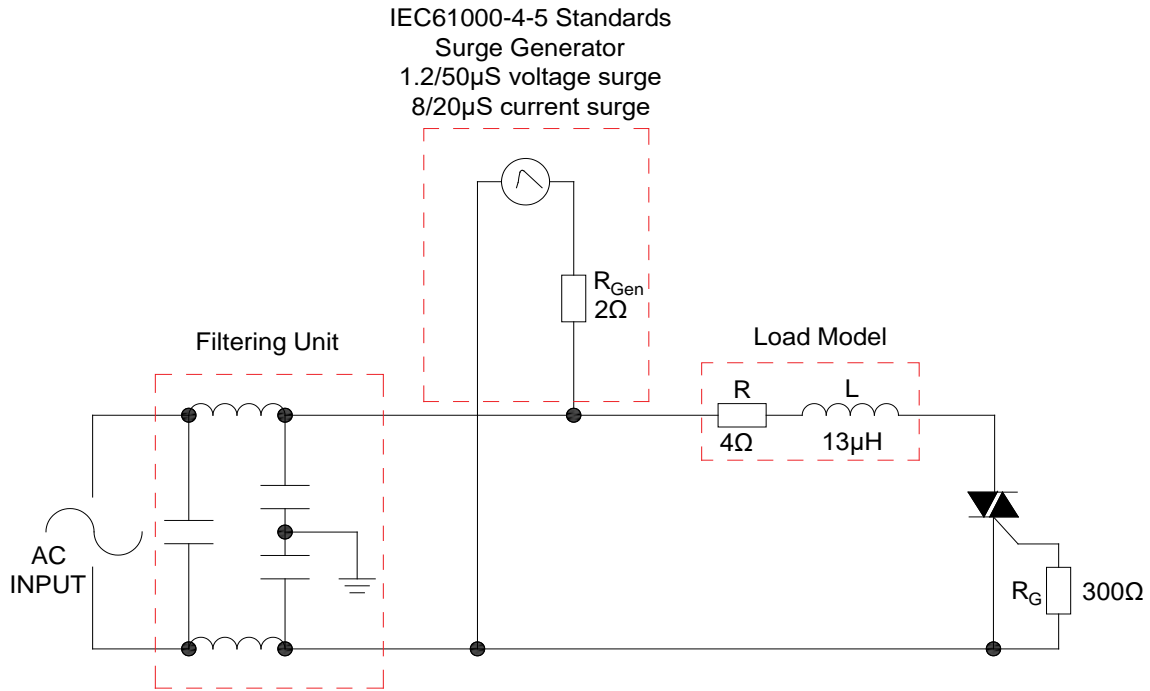
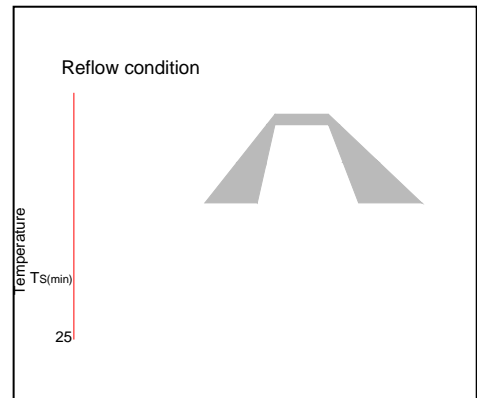


FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



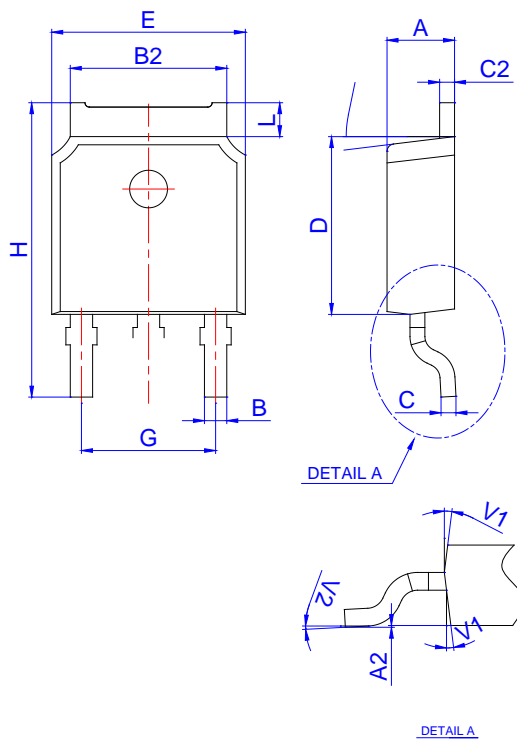
Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min (T _{s(min)})	+150
	-Temperature Max(T _{s(max)})	+200
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T _L)to peak)		3 /sec. Max
T _{s(max)} to T _L - Ramp-up Rate		3 /sec. Max
Reflow	-Temperature(T _L) (Liquidus)	+217
	-Temperature(t _L)	60-150 secs.
Peak Temp (T _p)		+260(+0/-5)
Time within 5° of actual Peak Temp (t _p)		20-40secs.
Ramp-down Rate		6 /sec. Max
Time 25° to Peak Temp (T _P)		8 min. Max
Do not exceed		+260



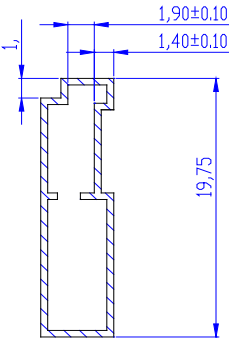
Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		-	-			
JST08K-800C	800	25	50	TO-252	80	Tube
JST08K-800C-TR					2,500	Tape & Reel

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	2.10		2.50	0.083		0.098
A2	0		0.15	0		0.006
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1						
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°



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