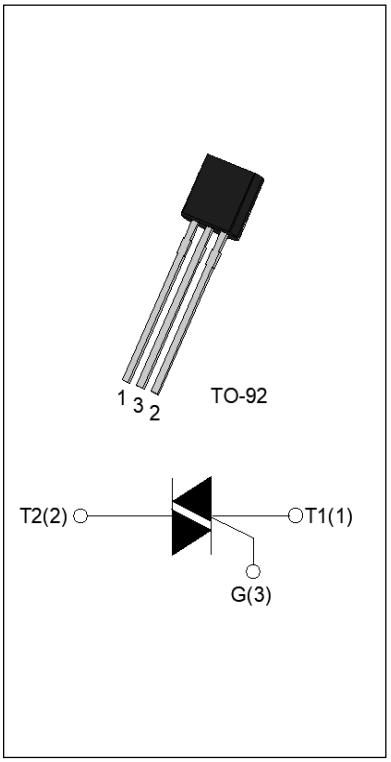
JST02U-800SW 2A TRIAC

Rev.A.1.0

The JST02U-800SW 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. JST02U-800SW snubberless triac is especially recommended for use on inductive loads. It can be driven directly through the MCU I/O port. Package TO-92 is RoHS compliant.



Symbol	Value	Unit
$I_{T(RMS)}$	2	A
V_{DRM} /V_{RRM}	800	V
I_{GT} / /	10/10/10	mA

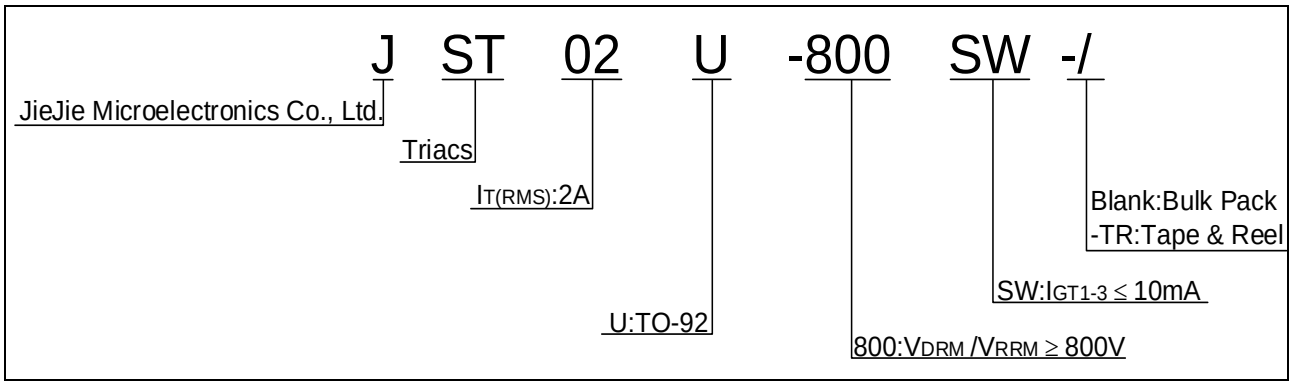
Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125	
Repetitive peak off-state voltage (T_j=25)	V_{DRM}	800	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	800	V
RMS on-state current	$I_{T(RMS)}$	2	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	25	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		27.5	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	3.7	A^2s
Critical rate of rise of on-state current (I_G=2 I_{GT} , f=100Hz , T_j=125)	dI/dt	100	A/μs
Peak gate current (t_p=20μs , T_j=125)	I_{GM}	2	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	kV

(T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	V_D =12V R_L =33Ω	- -	MAX.	10	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.	20	mA
				30	
I_H	I_T =100mA		MAX.	15	mA
dV/dt	V_D=540V Gate Open T_j =125		MIN.	500	V/μs
(dI/dt)c	(dV/dt)c=10V/μs T_j=125		MIN.	1.5	A/ms
t_{on}	I_G=20mA I_A=200mA I_R=20mA T_j=25		TYP.	2.5	μs
t_{off}				25	

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM} =3A t_p=380μs	T_j=25	1.5	V
V_{TO}	Threshold voltage	T_j=125	0.93	V
R_D	Dynamic resistance	T_j=125	146	mΩ
I_{DRM}	V_D =V_{DRM} V_R =V_{RRM}	T_j=25		


J ST 02 U -800 SW -/
JieJie Microelectronics Co., Ltd.
Triacs
IT(RMS):2A
U:TO-92
800:VDRM /VRRM ≥ 800V
SW:IGT1-3 ≤ 10mA
Blank:Bulk Pack
-TR:Tape & Reel

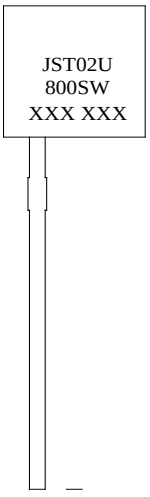

JST02U
800SW
XXX XXX

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

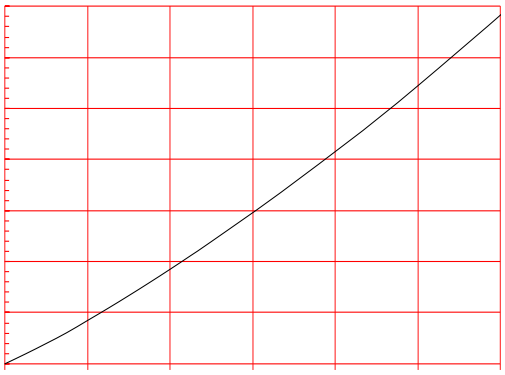


FIG.2: RMS on-state current versus case temperature

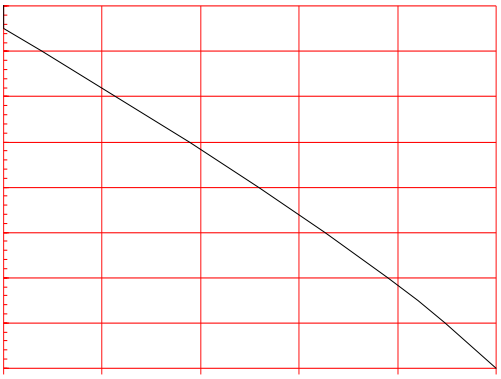


FIG.3: Surge peak on-state current versus number of cycles

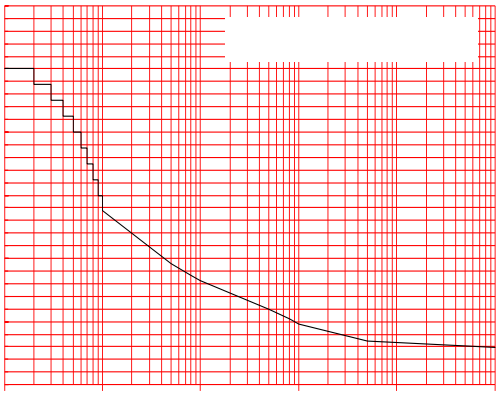
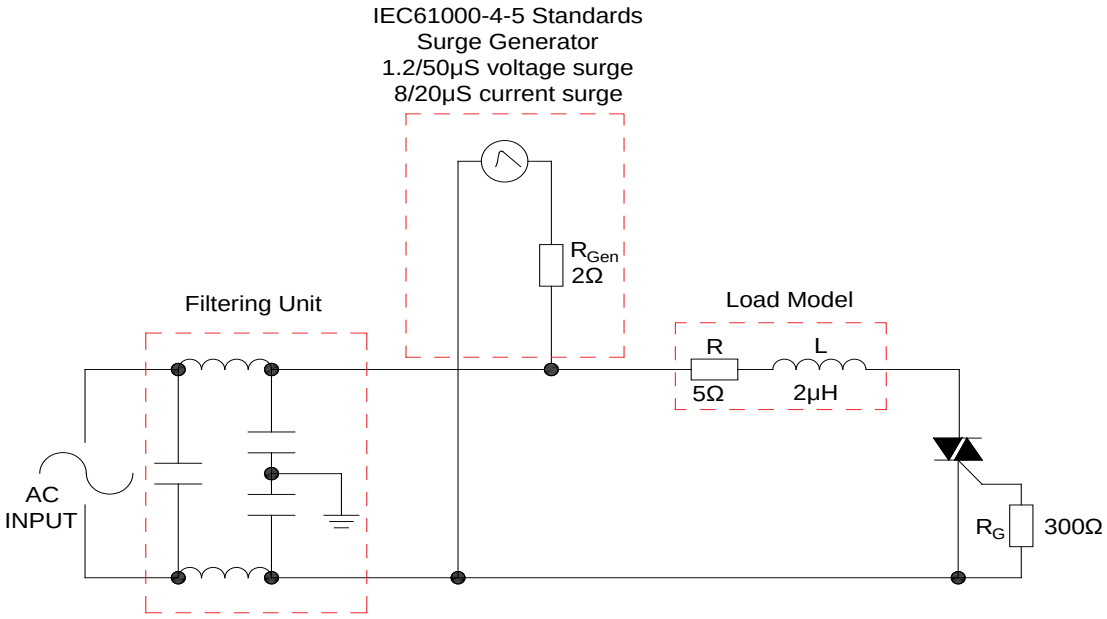


FIG.4: On-state characteristics

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

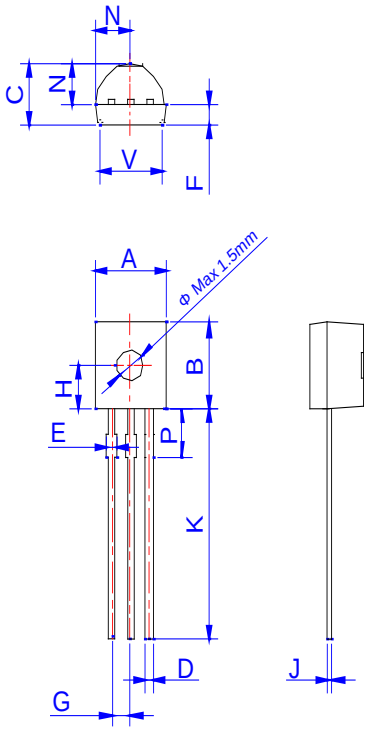


Refer to Instructions for installation of plastic-sealed in-line power devices released by JieJie

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		-	+			
JST02U-800SW	800		10	TO-92	1,000	Bulk Pack
JST02U-800SW-TR					2,000	Tape & Reel

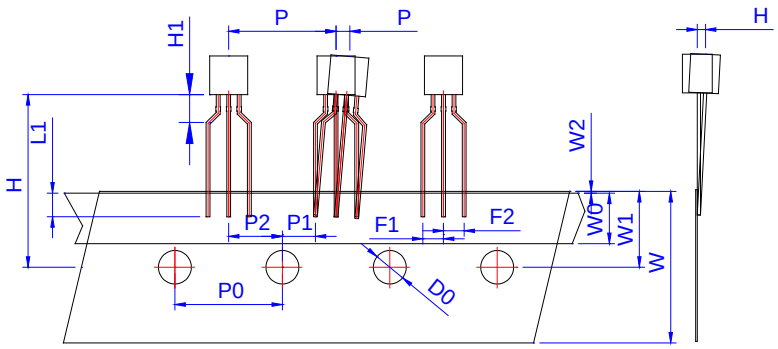
Document Revision History

Date	Revision	Changes
Apr.10, 2023	A.1.0	Last updated



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.407		0.533	0.016		0.021
E	0.50		0.70	0.020		0.028
F	1.10		1.30			0.051
G	1.10		1.40	0.043		0.055
H	2.20		2.40	0.087		0.094
J	0.36		0.50	0.014		0.020
K	12.70		15.0	0.500		0.591
N	2.04		2.66	0.080		0.105
P	1.80		2.30	0.071		0.091
V	4.10		4.50	0.161		0.177

PACKAGE	OUTLINE	BAG (PCS)	INNER BOX (PCS)	CARTON BOX (PCS)
TO-92	Bulk Pack	1,000	10,000	50,000



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
P	12.40	12.70	13.00	0.488	0.500	0.512
P0	12.40	12.70	13.00	0.488	0.500	0.512
P1	3.55	3.85	4.15	0.140	0.152	0.163
P2	5.95	6.35	6.75	0.233	0.250	0.265
P	-1.0	0	1.0	-0.039	0	0.039
F1 F2	2.30	2.50	2.70	0.090	0.098	0.106
F1-F2	-0.1	0	0.1	-0.004	0	0.004
W	17.50	18.00	19.00	0.689	0.709	0.748
W0	5.50	6.00	6.50	0.217	0.236	0.256
W1	8.50	9.00	9.50	0.335	0.354	0.374
W2			1.0			0.039
D0	3.80	4.0	4.20	0.150	0.157	0.165
H	-1.0	0	1.0	-0.039	0	0.039
L1	2.5			0.098		
H	18.0	19.0	20.0	0.709	0.748	0.787
H1			2.70			0.106

PACKAGE	OUTLINE	REEL (PCS)	INNER BOX (PCS)	CARTON BOX (PCS)
TO-92	Tape & Reel	/	2,000	20,000

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