



The JST02UR-1000SW 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. JST02UR-1000SW snubberless triac is especially recommended for use on inductive loads. It can be driven directly through the MCU I/O port. Package TO-92UR is RoHS compliant.

Symbol	Value	Unit
$I_{T(RMS)}$	2	A
V_{DRM}/V_{RRM}	1000	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 ($T_j=25^\circ\text{C}$)	V_{DRM}	1000	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	1000	V
RMS on-state current	$I_{T(RMS)}$	2	A
Non repetitive surge peak on-state current (full cycle, $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	25	A
Non repetitive surge peak on-state current (full cycle, $t_p=16.6\text{ms}$, $T_j=25^\circ\text{C}$)		27.5	
I^2t value for fusing ($t_p=10\text{ms}$, $T_j=25^\circ\text{C}$)	I^2t	3.7	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100\text{Hz}$, $T_j=125^\circ\text{C}$)	di/dt	100	$\text{A}/\mu\text{s}$
Peak gate current ($t_p=20\mu\text{s}$, $T_j=125^\circ\text{C}$)	I_{GM}	2	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 ($T_j=25$; non-repetitive, off-state; FIG.7)	V_{pp}	4	kV
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(T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	$V_D=12V$ $R_L=33\Omega$	- -	MAX.	10	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3k\Omega$	- -	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	$V_D=670V$ Gate Open $T_j=125$		MIN.	300	V/ μs
$(dI/dt)_c$	$(dV/dt)_c=10V/\mu s$ $T_j=125$		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}	$I_{TM}=3A$ $t_p=380\mu s$	$T_j=25$	1.5	V
V_{TO}	Threshold voltage	$T_j=125$	0.93	V
R_D	Dynamic resistance	$T_j=125$	146	m Ω
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25$	8	μA
I_{RRM}		$T_j=125$	0.2	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	65	/W
$R_{th(j-a)}$	junction to ambient (AC)	160	/W



J	ST	02	UR	-1000	SW	-/
JieJie Microelectronics Co., Ltd.	Triacs	$I_{T(RMS)}: 2A$				
			UR:TO-92UR			
						Blank: Bulk Pack -TR: Tape & Reel
					SW: $I_{GT1-3} \leq 10mA$	
				1000: $V_{DRM}/V_{RRM} \geq 1000V$		

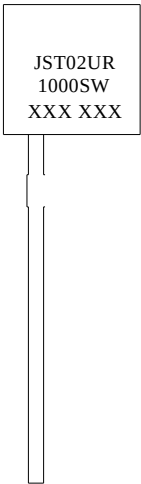




FIG.1: Maximum power dissipation versus RMS on-state current

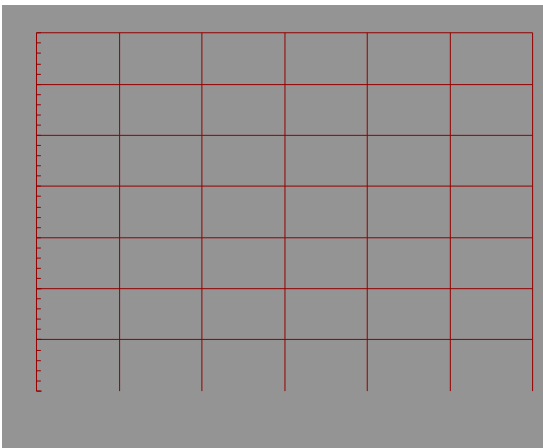


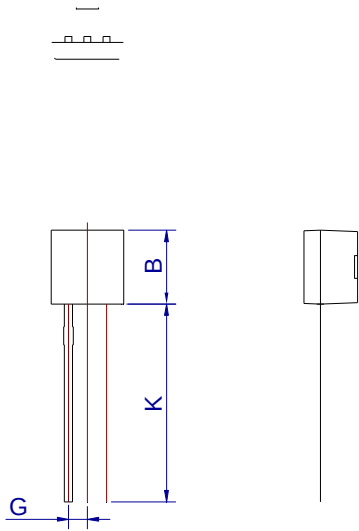
FIG.2: RMS on-state current versus case temperature



Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
JST02UR-1000SW	1000	10	TO-92UR	1,000	Bulk Pack
JST02UR-1000SW-TR				2,000	Tape & Reel

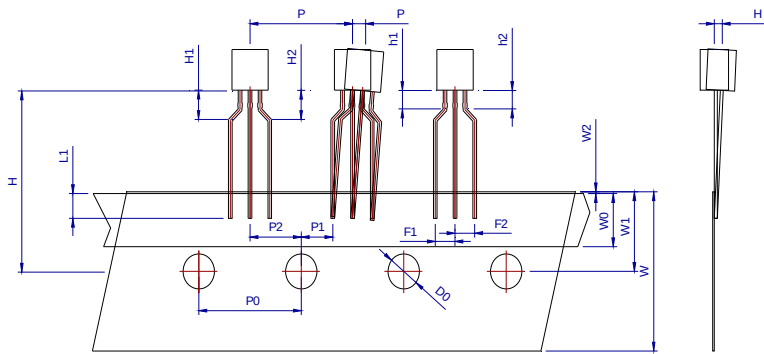
Document Revision History

Date	Revision	Changes
Apr.10, 2023	A.1.0	Last updated
Apr.3, 2025	A.2.0	Renew PACKAGE MECHANICAL DATA
Sept.28, 2025	A.2.1	Revise PACKAGE MECHANICAL DATA





PACKAGE	OUTLINE	BAG (PCS)	INNER BOX (PCS)	CARTON BOX (PCS)
TO-92UR	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	-1.00	0	1.00	-0.039	0	0.039
F1 F2	2.30	2.50	2.70	0.090	0.098	0.106
F1-F2	-0.10	0	0.10	-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			1.00			0.039
D0	3.80	4.00	4.20	0.150	0.157	0.165
H	-1.00	0	1.00	-0.039	0	0.039
L1	2.50			0.098		
H	18.00	19.00	20.00	0.709	0.748	0.787
H1 H2			3.00			0.119
H1-H2	-0.50		0.50	-0.020		0.020
h1 h2			1.00			0.040
h1-h2	-0.20		0.20	-0.008		0.008

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



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