

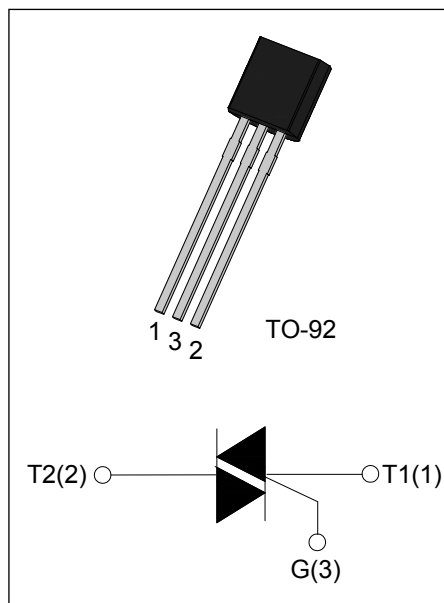


### DESCRIPTION:

With low holding and latching current, JST131 series triacs are especially recommended for use on middle and small resistance type power load.

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
$I_{TSM}$	16	A
$V_{TM}$	$\leq 1.5$	V



### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40 - 150	$^{\circ}C$
Operating junction temperature range	$T_j$	-40 - 125	$^{\circ}C$
Repetitive peak off-state voltage ( $T_j=25^{\circ}C$ )	$V_{DRM}$	600/800	V
Repetitive peak reverse voltage ( $T_j=25^{\circ}C$ )	$V_{RRM}$	600/800	V
Non repetitive surge peak off-state voltage	$V_{DSM}$	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage	$V_{RSM}$	$V_{RRM} + 100$	V
RMS on-state current	$I_{T(RMS)}$	1	A
TO-92 ( $T_c=50^{\circ}C$ )			
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	16	A
$I^2t$ value for fusing ( $t_p=10ms$ )	$I^2t$	1.28	$A^2s$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	$di/dt$	20	$A/\mu s$
Peak gate current	$I_{GM}$	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	$P_{GM}$	5	W

**ELECTRICAL CHARACTERISTICS** ( $T_j=25^{\circ}\text{C}$  unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
				T	D	
$I_{GT}$	$V_D=12\text{V } R_L=33\Omega$	I - II -III	MAX	5	5	mA
		IV		5	10	
$V_{GT}$		ALL	MAX	1.3		V
$V_{GD}$	$V_D=V_{DRM} T_j=125^{\circ}\text{C}$ $R_L=3.3\text{K}\Omega$	ALL	MIN	0.2		V
$I_L$	$I_G=1.2I_{GT}$	I -III	MAX	5	5	mA
		II -IV		10	20	
$I_H$	$I_T=200\text{mA}$		MAX	5	7	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	15	20	V/ $\mu\text{s}$

**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=1.4\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	$\mu\text{A}$
$I_{RRM}$		$T_j=125^{\circ}\text{C}$	500	$\mu\text{A}$

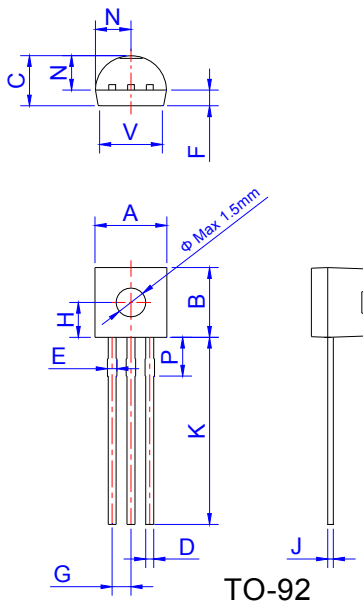
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-92	60	$^{\circ}\text{C/W}$

**ORDERING INFORMATION**

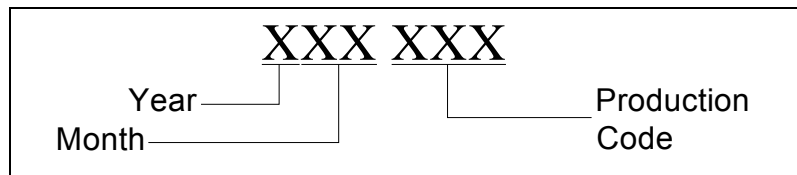
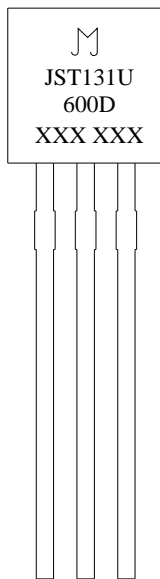
J	ST	131	U	-600	D
JieJie Microelectronics Co.,Ltd	TRIACs	$I_{T(RMS)}:1\text{A}$	U:TO-92	600: $V_{DRM}/V_{RRM}\geq 600\text{V}$ 800: $V_{DRM}/V_{RRM}\geq 800\text{V}$	T: $I_{GT1-4}\leq 5\text{mA}$ D: $I_{GT1-3}\leq 5\text{mA } I_{GT4}\leq 10\text{mA}$

**PACKAGE MECHANICAL DATA**



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	-	1.1	-	-	0.043	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
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	1.86		2.06	0.073		0.081
V	-		4.3	-		0.169

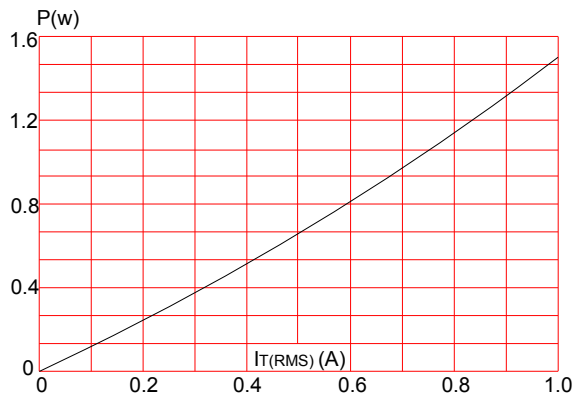
**MARKING**



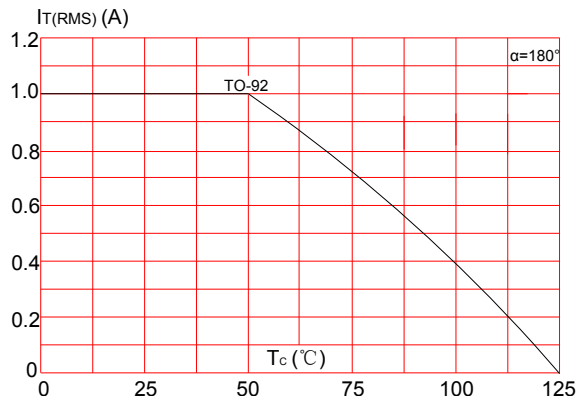
**PACKAGE INFORMATION**

PACKAGE	WEIGHT (PER PCS)	OUTLINE	BAG (PCS)	INNER BOX (PCS)	PER CARTON
TO-92	0.1894g	Shielding Bag	1,000	10,000	30,000

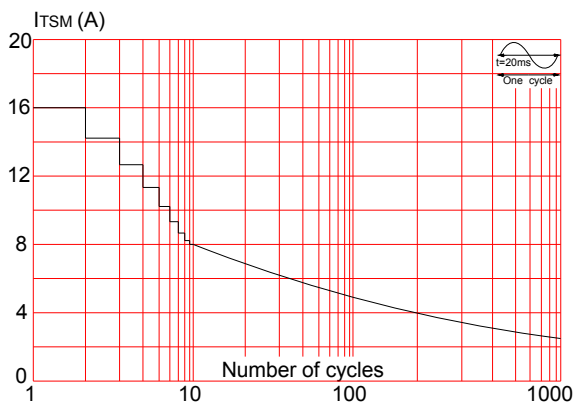
**FIG.1:** Maximum power dissipation versus RMS on-state current



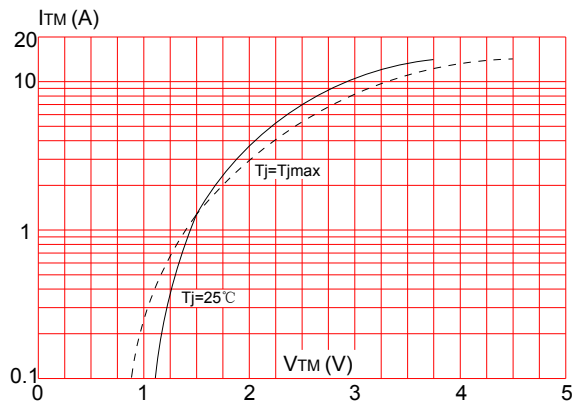
**FIG.2:** RMS on-state current versus case temperature



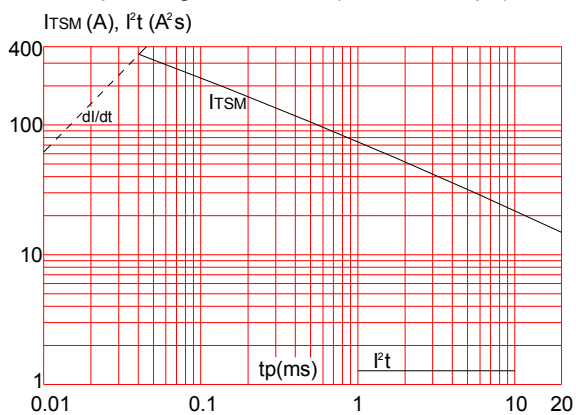
**FIG.3:** Surge peak on-state current versus number of cycles



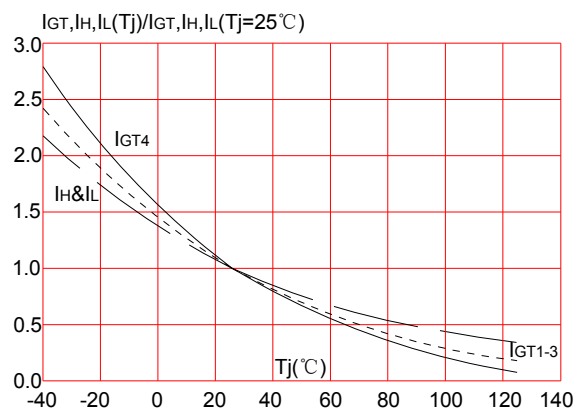
**FIG.4:** On-state characteristics (maximum values)




**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$  and corresponding value of  $I^2t$  ( $di/dt < 20\text{A}/\mu\text{s}$ )



**FIG.6:** Relative variations of gate trigger current, holding current and latching current versus junction temperature



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