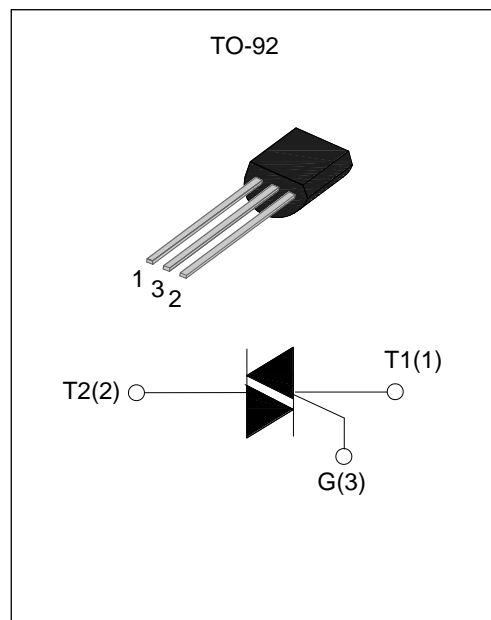


**Description**

BT131 series triacs with low holding and latching current are especially recommended for use on middle and small resistance type power load.

**MAIN FEATURES**

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
$I_{TSM}$	10	A
$V_{TM}$	1.6	V


**ABSOLUTE MAXIMUM RATINGS**

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40 - 150	°C
Operating junction temperature range	$T_j$	-40 - 125	°C
Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	700	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	700	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 ( $T_C=51^\circ\text{C}$ )	$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	10	A
$I^2t$ value for fusing ( $t_p=10\text{ms}$ )	$I^2t$	1.28	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	$di/dt$	10	$\text{A}/\mu\text{s}$
Peak gate current	$I_{GM}$	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W

Peak gate power	$P_{GM}$	5	W
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**ELECTRICAL CHARACTERISTICS** ( $T_j=25^\circ\text{C}$  unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
				T	E	
$I_{GT}$	$V_D=12\text{V } R_L=33\Omega$	I - II - III	MAX	5	5	mA
		IV		5	10	
$V_{GT}$		ALL	MAX	1.5		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		8	10	
$I_H$	$I_T=200\text{mA}$		MAX	5	7	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	15	20	V/ $\mu\text{s}$

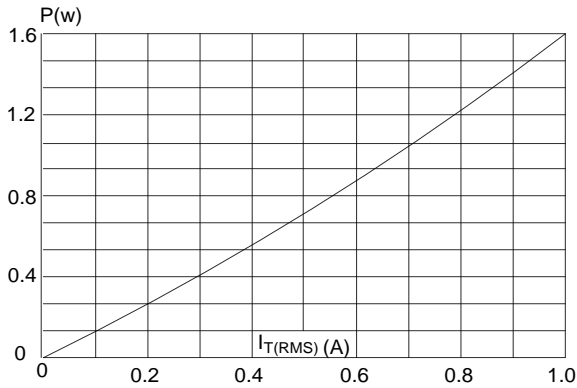
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=1.4\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.6	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	10	$\mu\text{A}$
$I_{RRM}$		$T_j=125^\circ\text{C}$	500	$\mu\text{A}$

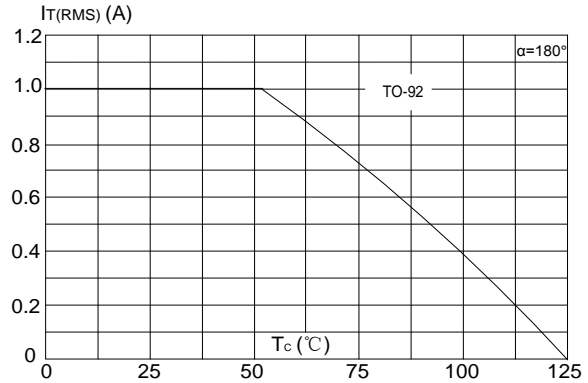
**THERMAL RESISTANCES**

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

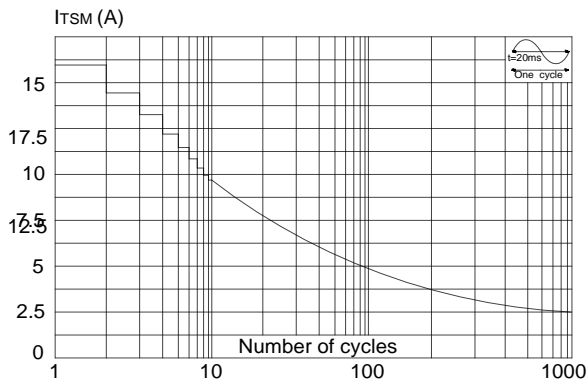
**FIG.1** Maximum power dissipation versus RMS on-state current



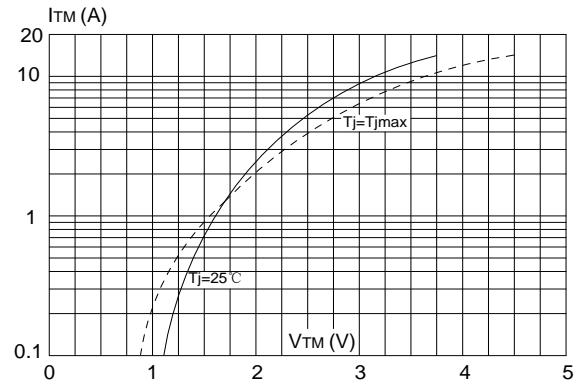
**FIG.2:** RMS on-state current versus case temperature



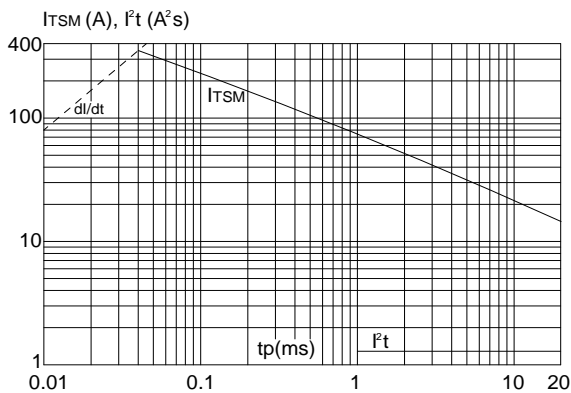
**FIG.3:** Surge peak on-state current versus number of cycles



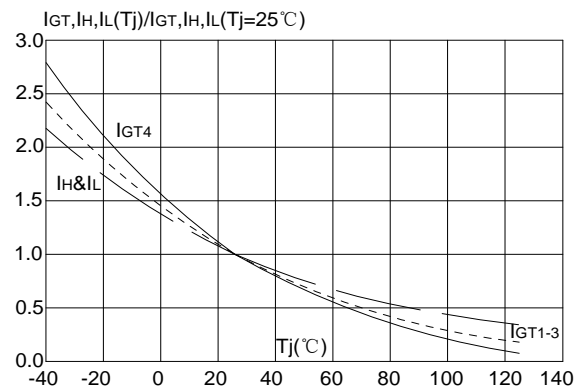
**FIG.4:** On-state characteristics (maximum values)

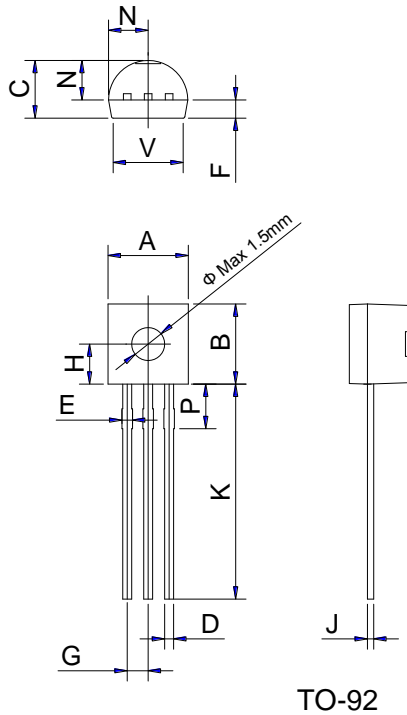


**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20ms$  and corresponding value of  $I^2 t$  ( $di/dt < 10A/\mu s$ )



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



**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	0.60		0.80	0.024		0.031
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