

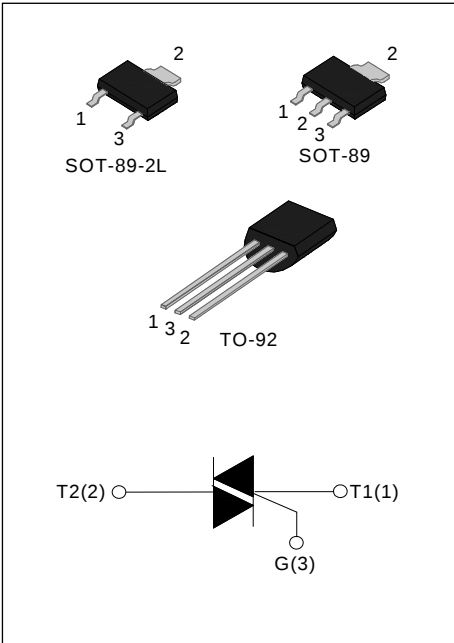
1A TRIACs

DESCRIPTION:

With low holding and latching current, YR131 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}	"1.5	V



ABSOLUTE MAXIMUM RATINGS

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 ($T_j=25\text{ }^{\circ}\text{C}$)		V_{DRM}	600/800	V
Repetitive peak reverse voltage ($T_j=25\text{ }^{\circ}\text{C}$)		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	TO-92 ($T_C=51\text{ }^{\circ}\text{C}$)	$I_{T(RMS)}$	1	A
	SOT-89 SOT-89-2L/ ($T_C=70\text{ }^{\circ}\text{C}$)			
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)		I_{TSM}	16	A
I^2t value for fusing ($t_p=10\text{ms}$)		I^2t	1.28	A^2s
Critical rate of rise of on-state current ($I_G=2\text{ h } I_{GT}$)		di/dt	20	A/s

1A TRIACs

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 (Tj=25 unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
				T	D	
I_{GT}	$V_D=12V$ $R_L=33$	- -	MAX	5	5	mA
				5	10	
V_{GT}		ALL	MAX	1.3		V
V_{GD}	$V_D=V_{DRM}$ $T_j=125$ $R_L=3.3K$	ALL	MIN	0.2		V
I_L	$I_G=1.2I_{GT}$	-	MAX	5	5	mA
		-		10	20	
I_H	$I_T=200mA$		MAX	5	7	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125$		MIN	15	50	V/ s

STATIC CHARACTERISTICS

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

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-92	60	/W
		SOT-89 SOT-89-2L	31	

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

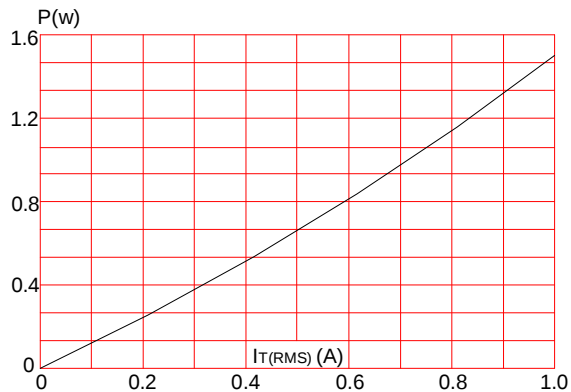


FIG.2: RMS on-state current versus case temperature

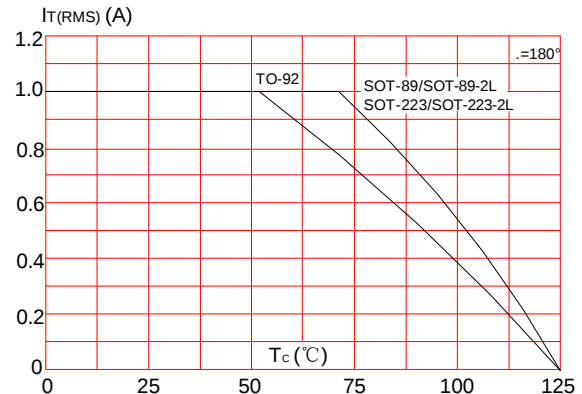


FIG.3: Surge peak on-state current versus number of cycles

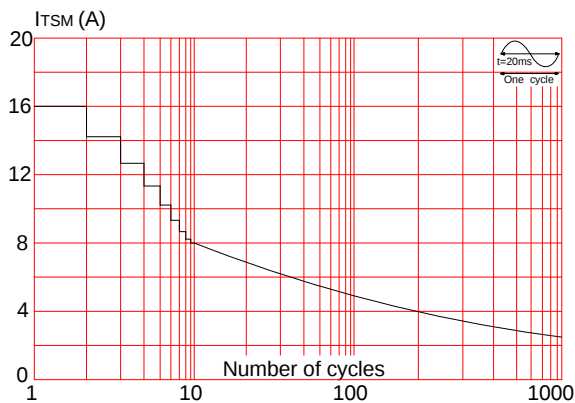


FIG.4: On-state characteristics (maximum values)

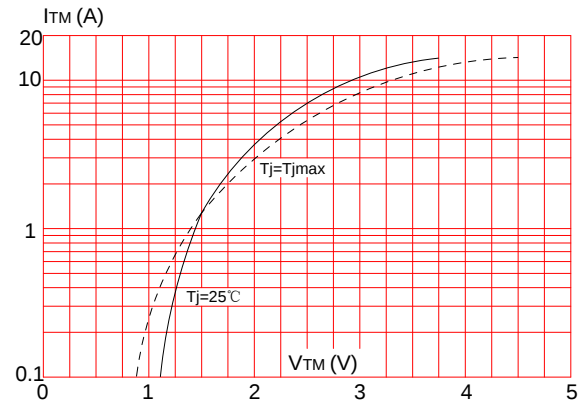


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$ and corresponding value of $I^2 t$ ($di/dt < 20A/s$)

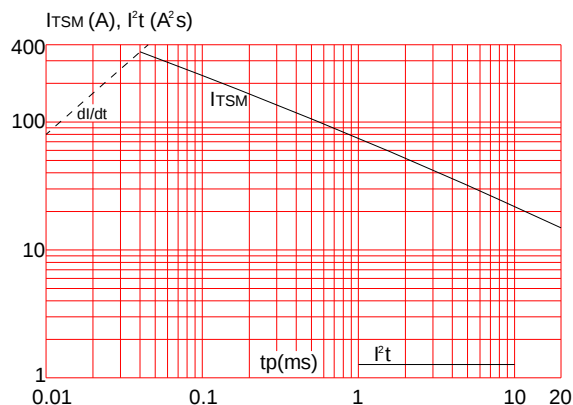


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

