

LTR80 80A TRIACs

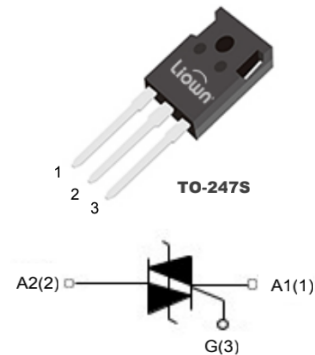
Applications

- On/off function in static relays, heating regulation, induction motor starting circuits
- Phase control operations in light dimmers, motor speed controllers, and similar

$$I_{T(RMS)} = 80 \text{ A}$$

$$V_{DRM}/V_{RRM} = 800 \text{ V}$$

$$I_{GT} = 50 \text{ mA}$$



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}\text{C}$
Operating junction temperature range	T_j	-40-125	$^{\circ}\text{C}$
Repetitive peak off-state voltage ($T_j=25^{\circ}\text{C}$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^{\circ}\text{C}$)	V_{RRM}	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-247S ($T_C=70^{\circ}\text{C}$)	80	A
	TG-C ($T_C=77^{\circ}\text{C}$)		
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$)	I_{TSM}	800	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	3200	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	100	$\text{A}/\mu\text{s}$
Peak gate current	I_{GM}	8	A
Average gate power dissipation	$P_{G(AV)}$	2	W
Peak gate power	P_{GM}	10	W

Electrical Characteristics (T_j=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
I _{GT}	V _D =12V R _L =33Ω	I - II -III	MAX	50	mA
V _{GT}		I - II -III	MAX	1.3	V
V _{GD}	V _D =V _{DRM} T _j =125°C R _L =3.3KΩ	I - II -III	MIN	0.2	V
I _L	I _G =1.2I _{GT}	I -III	MAX	80	mA
		II		120	
I _H	I _T =100mA		MAX	70	mA
dV/dt	V _D =2/3V _{DRM} Gate Open T _j =125°C		MIN	1500	V/μs

Static Characteristics

Symbol	Parameter		Value(MAX)	Unit
V _{TM}	I _{TM} =120A tp=380μs	T _j =25°C	1.4	V
I _{DRM}	V _D =V _{DRM} V _R =V _{RDM}	T _j =25°C	20	μA
I _{RDM}		T _j =125°C	10	mA

Thermal Resistances

Symbol	Parameter		Value	Unit
R _{th(j-c)}	junction to case(AC)	TO-247S	0.35	°C/W
		TG-C	0.31	

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

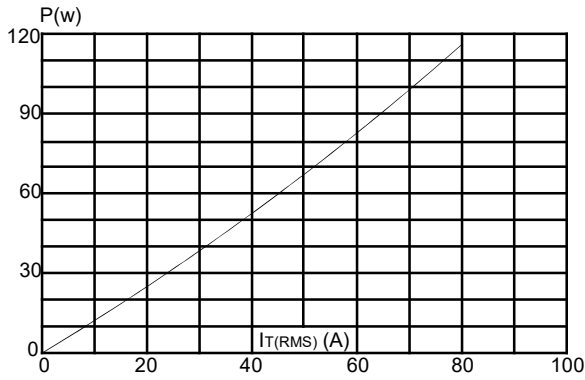


FIG.3: Surge peak on-state current versus number of cycles

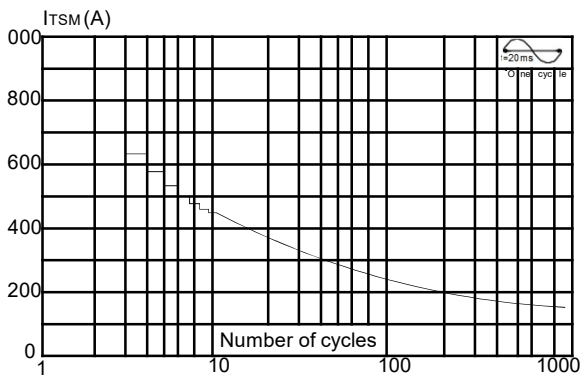


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

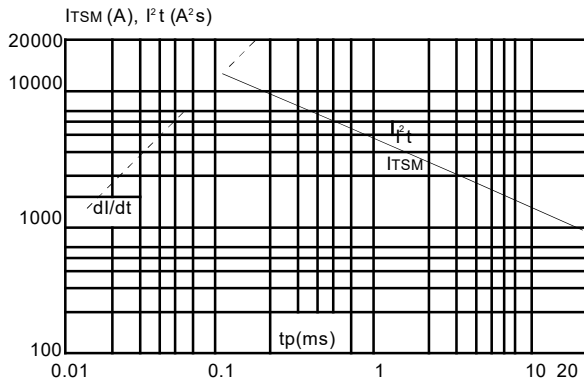


FIG.2: RMS on-state current versus case temperature

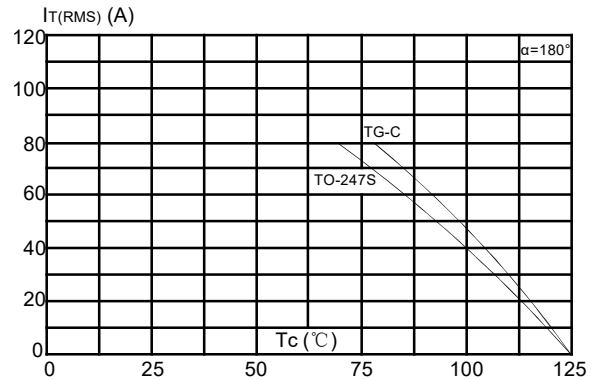


FIG.4: On-state characteristics (maximum values)

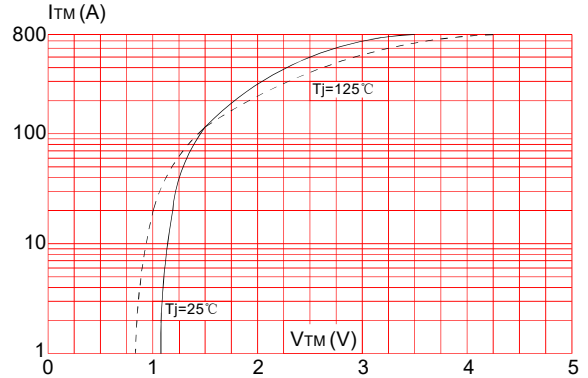


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

