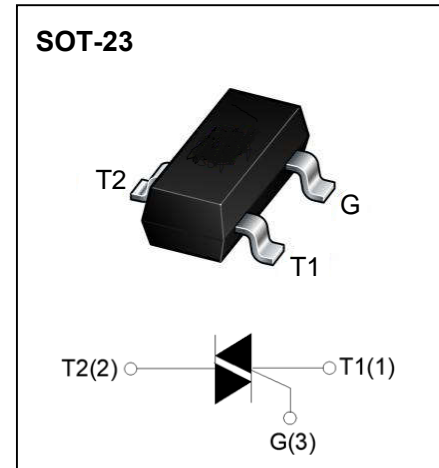


DESCRIPTION:

The 97A6 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. Package SOT-23 is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A
V_{DRM}/V_{RRM}	600	V
$I_{GT\ I/II/III/IV}$	5/5/5/10	mA



MARKING: 97A6

Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	V_{DRM}	600	V
Repetitive peak reverse voltage	V_{RRM}	600	V
RMS on-state current	$I_{T(RMS)}$	0.8	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	8	A
I^2t value for fusing ($t_p=10ms$)	I^2t	0.32	A ² s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di/dt	I - II - III	50
		IV	10
Peak gate current	I_{GM}	1	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Junction Temperature	T_J	-40 ~ +125	°C
Storage Temperature	T_{STG}	-40 ~ +150	°C

Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Value	Unit		
Gate trigger current	I _{GT}	V _D =12V I _T = 0.1A T _j =25°C	I - II -III	MAX.	5	mA
			IV		10	
Gate trigger voltage	V _{GT}	I - II -III-IV	MAX.	1.2	V	
Gate non-trigger voltage	V _{GD}	V _D =V _{DRM} T _j =125°C	MIN.	0.2	V	
latching current	I _L	V _D =12V I _{GT} = 0.1A T _j =25°C	I -III-IV	MAX.	10	mA
			II		15	
Holding current	I _H	I - II -III-IV	MAX.	10	mA	
Critical-rate of rise of commutation voltage	dV/dt	V _D =2/3V _{DRM} Gate Open T _j =125°C	MIN.	30	V/μs	
STATIC CHARACTERISTICS						
Forward "on" voltage	V _{TM}	I _{TM} =0.8A t _p =380μs	MAX.	1.7	V	
Repetitive Peak Off-State Current	I _{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25°C	MAX.	20	μA
Repetitive Peak Reverse Current	I _{RRM}		T _j =125°C	MAX.	100	μA
THERMAL RESISTANCES						
Thermal resistance	R _{th(j-c)}	Junction to case(AC)	TYP.	60	°C/W	
	R _{th(j-a)}	Junction to ambient	TYP.	150	°C/W	

Typical Characteristics

FIG.1: Maximum power dissipation versus RMS on-state current (full cycle)

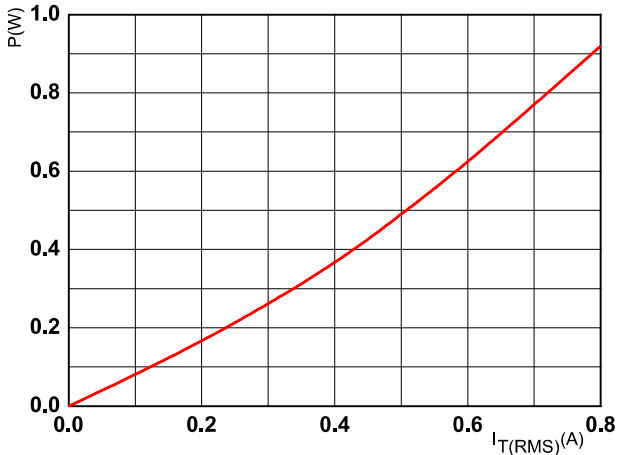


FIG.2: RMS on-state current versus case temperature (full cycle)

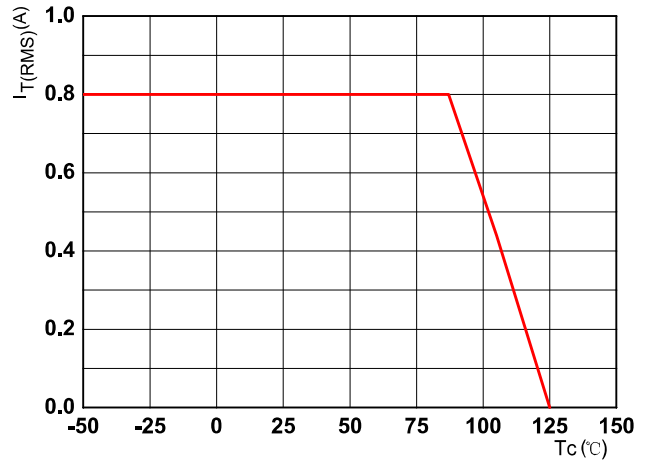


FIG.3: Surge peak on-state current versus number of cycles

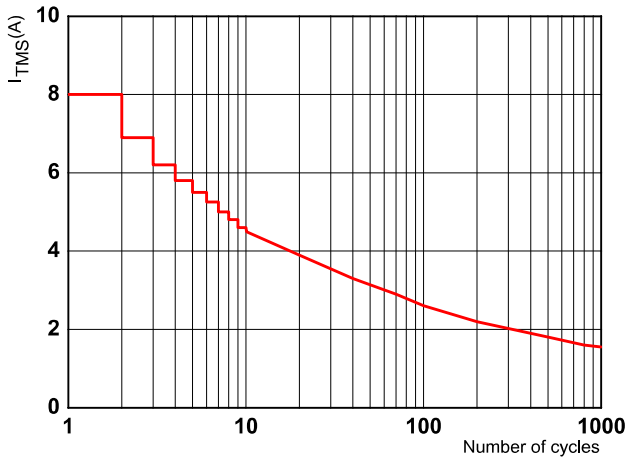


FIG.4: On-state characteristics (maximum values)

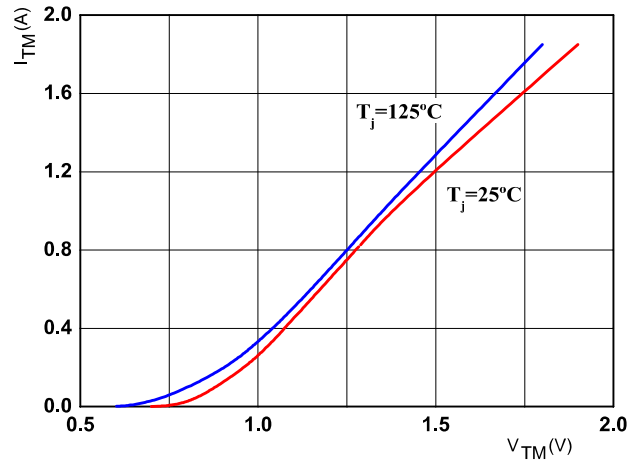


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$

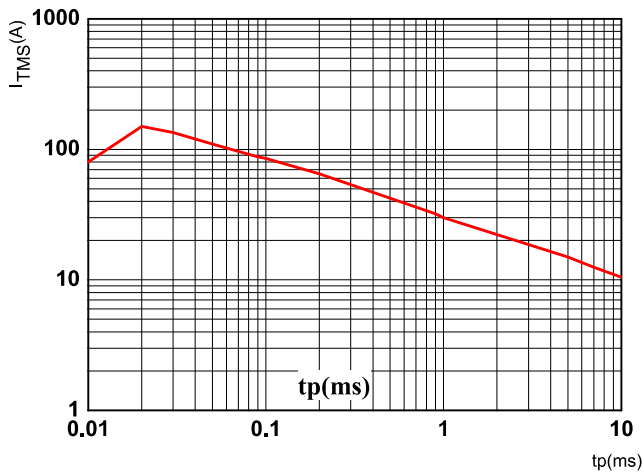
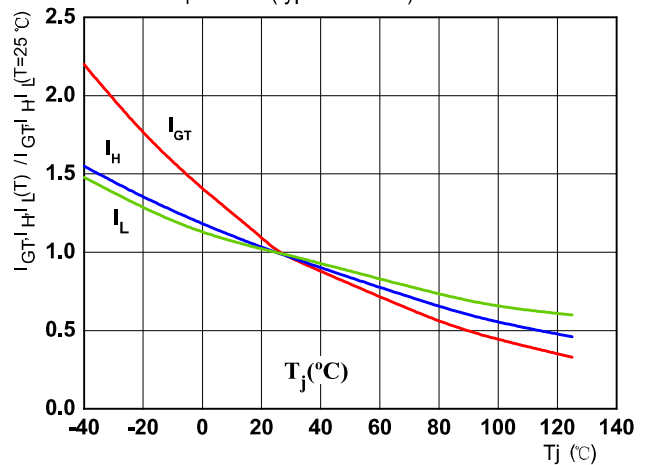


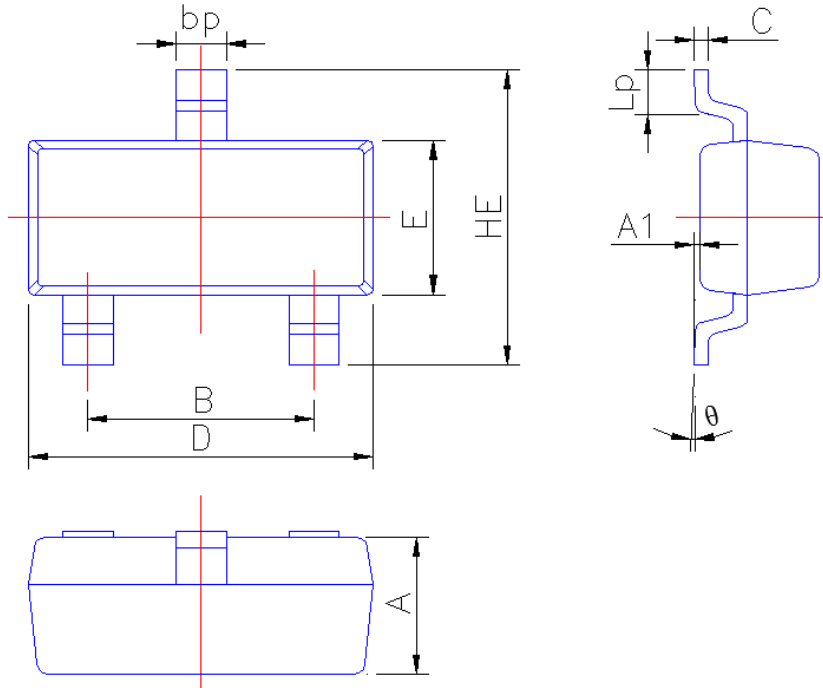
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.10
A1	0.013	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.09	0.150
D	2.80	3.00
E	1.20	1.40
HE	2.20	2.80
Lp	0.20	0.50
θ	0°	5°