

Product Summary

Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A
$V_{DRM} V_{RRM}$	600	V
V_{TM}	1.55	V

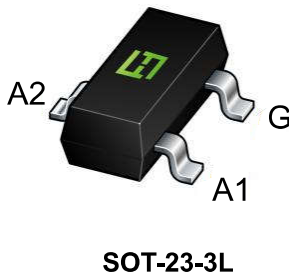
Feature

With high ability to withstand the shock loading of large current, With high commutation performances, 4 quadrants products especially recommended for use on inductive load.

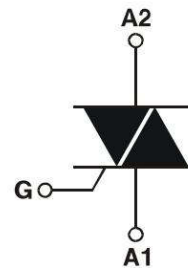
Application

Washing machine, vacuums, massager, solid state relay, AC Motor speed regulation and so on.

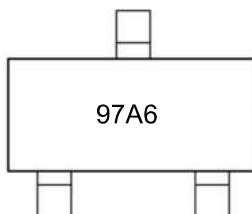
Package



Circuit diagram



Marking



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 _{RPM}	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 ² t value for fusing (tp=10ms)	I ² t	0.32	A ² s	
Critical rate of rise of on-state current (I _G = 2 × I _{GT})	di/dt	I - II - III	50	A/μs
		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	5	mA	
			IV	7		
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	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} = 1.2A tp = 380μs	MAX.	1.55	V	
Repetitive Peak Off-State Current	I _{DRM}	V _D = V _{DRM} V _R = V _{RPM}	T _J = 25°C	MAX.	5	μA
Repetitive Peak Reverse Current	I _{RPM}		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)

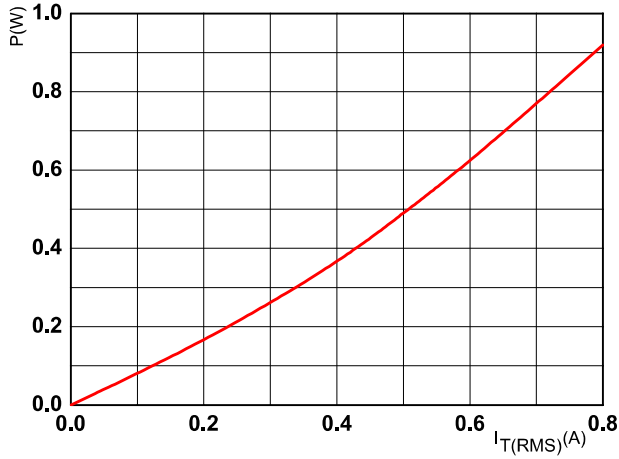


FIG.2: RMS on-state current versus case temperature (full cycle)

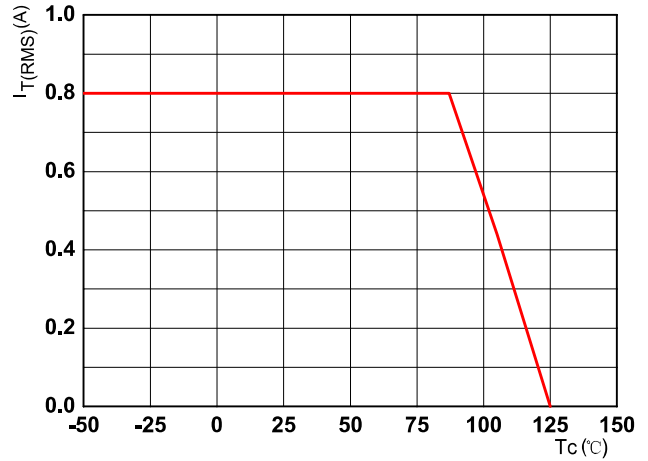


FIG.3: Surge peak on-state current versus number of cycles

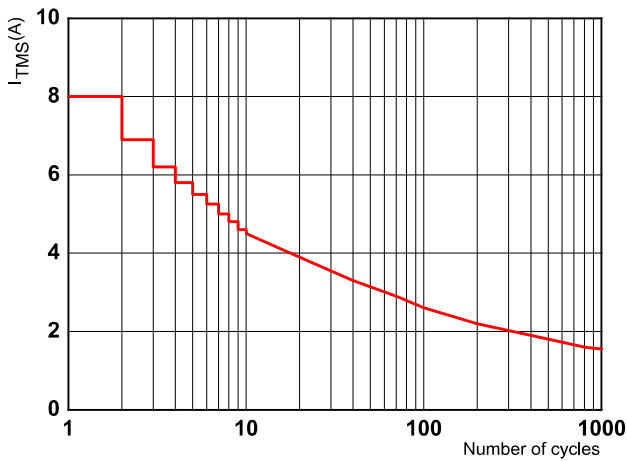


FIG.4: On-state characteristics (maximum values)

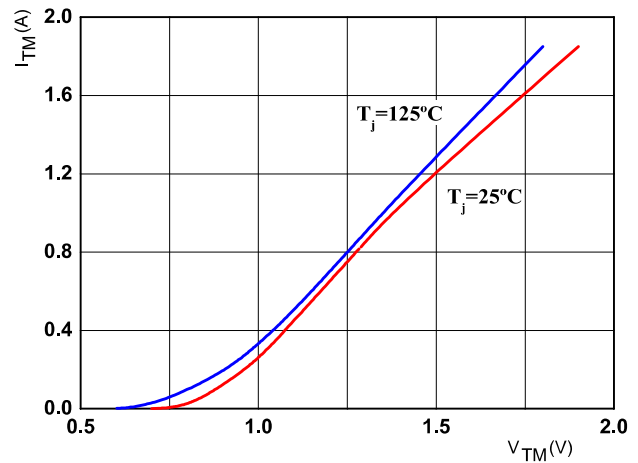


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms

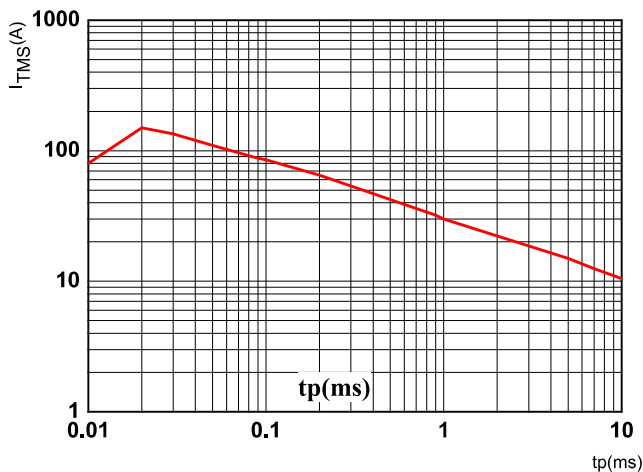
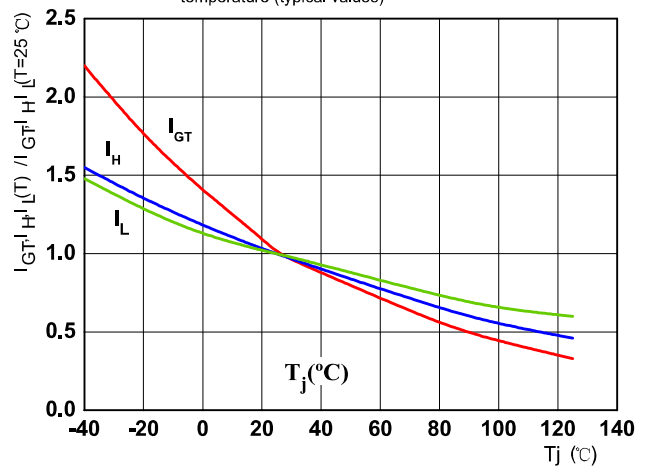
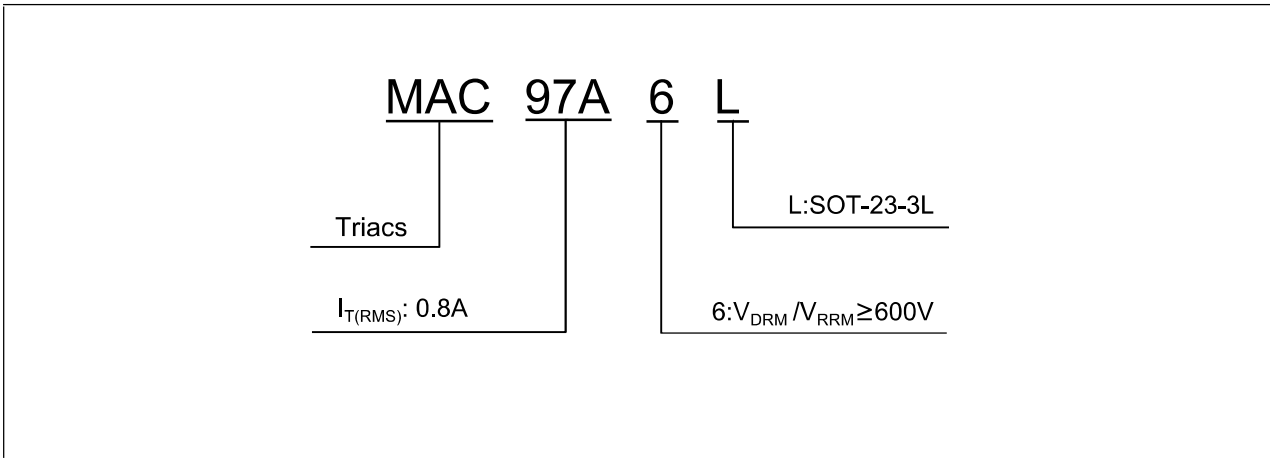


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Ordering Information



SOT-23-3L Package Information

