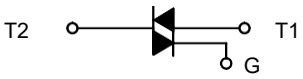
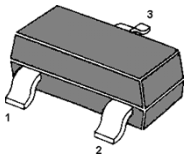
MAC97A6,MAC97A8

Sensitive Gate Triacs
Silicon Bidirectional Thyristors





1.SOT-23 Plastic Package
2.MARKING:
MAC97A6:97A6
MAC97A8:97A8

DESCRIPTION

Logic level sensitive gate triac intended to be interfaced directly to microcontrollers, logic integrated circuits and other low power gate trigger circuits.

FEATURES

- Blocking voltage to 400 V (MAC97A6)
- RMS on-state current to 0.6 A
- General purpose bidirectional switching

APPLICATIONS

- General purpose bidirectional switching
- Phase control applications
- Solid state relays

PIN ASSIGNMENT	
1	Main Terminal 1
2	Gate
3	Main Terminal 2

MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

Symbol	Parameter	Conditions	Value	Unit
V_{DRM} /V_{RRM}	repetitive peak off-state voltage MAC97A6 MAC97A8	T_j= 25 to125 ℃ T_j= 25 to125 ℃	400 600	V
I_{GM}	gate current(peak value)	t = 2μs max	1	A
V_{GM}	gate voltage(peak value)	t = 2μs max	5	V
P_{GM}	gate power(peak value)	t = 2μs max	5	W
T_j	Junction Temperature	-	-40 ~ 125	℃
T_{stg}	Storage Temperature	-	-40 ~ 150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter		Symbol	Test conditions		Min	Max	Unit
Rated repetitive peak off-state/reverse voltage		V_{DRM},V_{RRM}	I_D=10μA	MAC97A6 MAC97A8	400 600		V
Rated repetitive peak off-state current		I_{DRM}	V_D=V_{DRM}			10	μA
On-state voltage		V_{TM}	I_T=1A,I_G=50mA			1.9	V
Gate trigger current	I	I_{GT}	T_2(+), G(+)	V_D=12V R_L=100Ω		5	mA
	II		T_2(+), G(-)			5	mA
	III		T_2(-), G(-)			5	mA
	IV		T_2(-), G(+)			-	mA
Gate trigger voltage	I	V_{GT}	T_2(+), G(+)	V_D=12V R_L=100Ω		1.5	V
	II		T_2(+), G(-)			1.5	V
	III		T_2(-), G(-)			1.5	V
	IV		T_2(-), G(+)			-	V
Holding current		I_H	I_T=600mA ,I_G=20mA			10	mA

Typical Characteristics

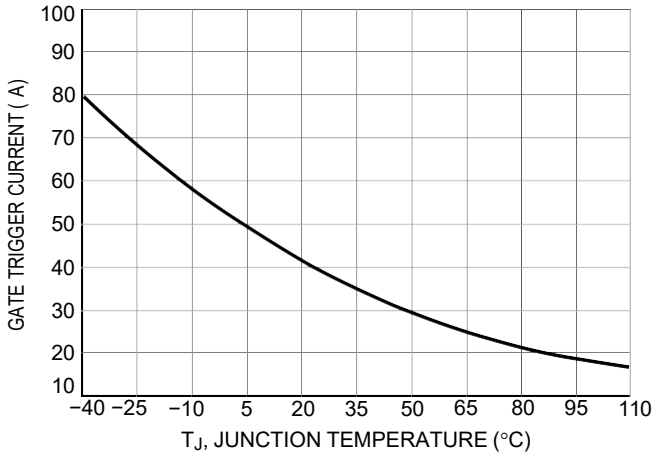


Figure 1. Typical Gate Trigger Current versus Junction Temperature

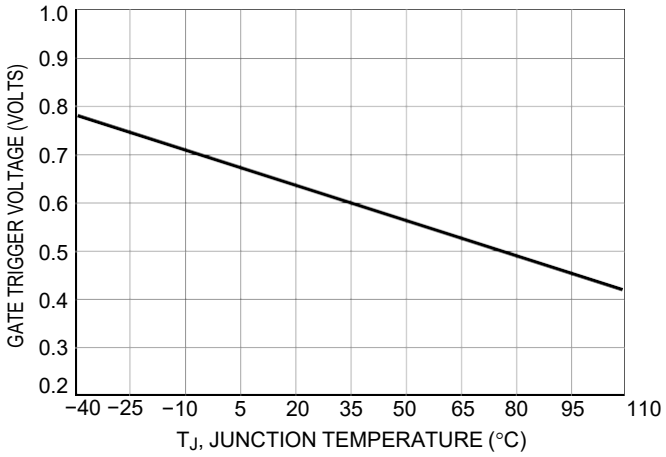


Figure 2. Typical Gate Trigger Voltage versus Junction Temperature

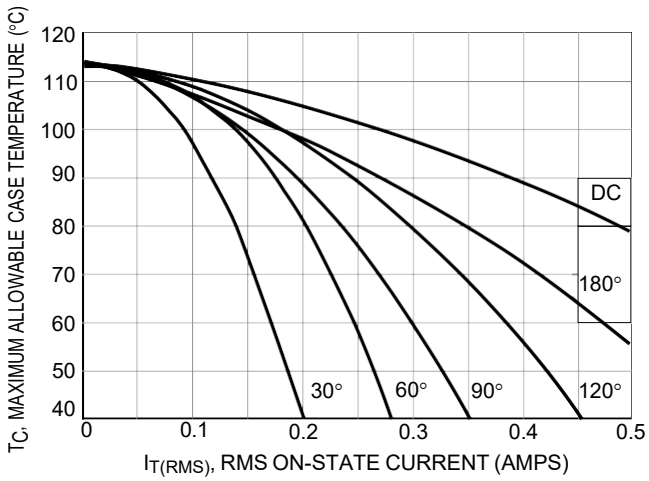


Figure 3 Typical RMS Current Derating

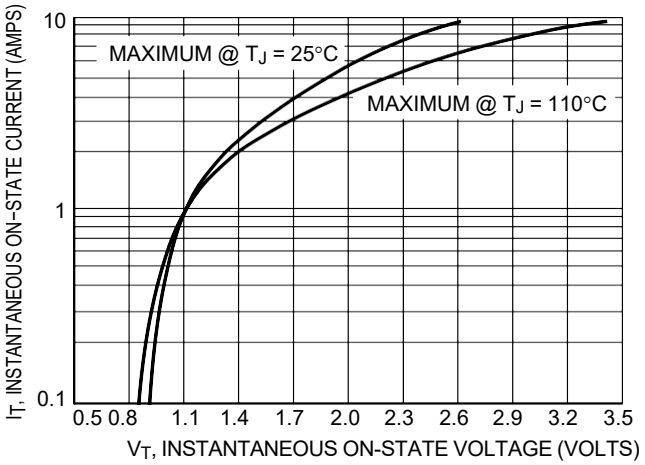
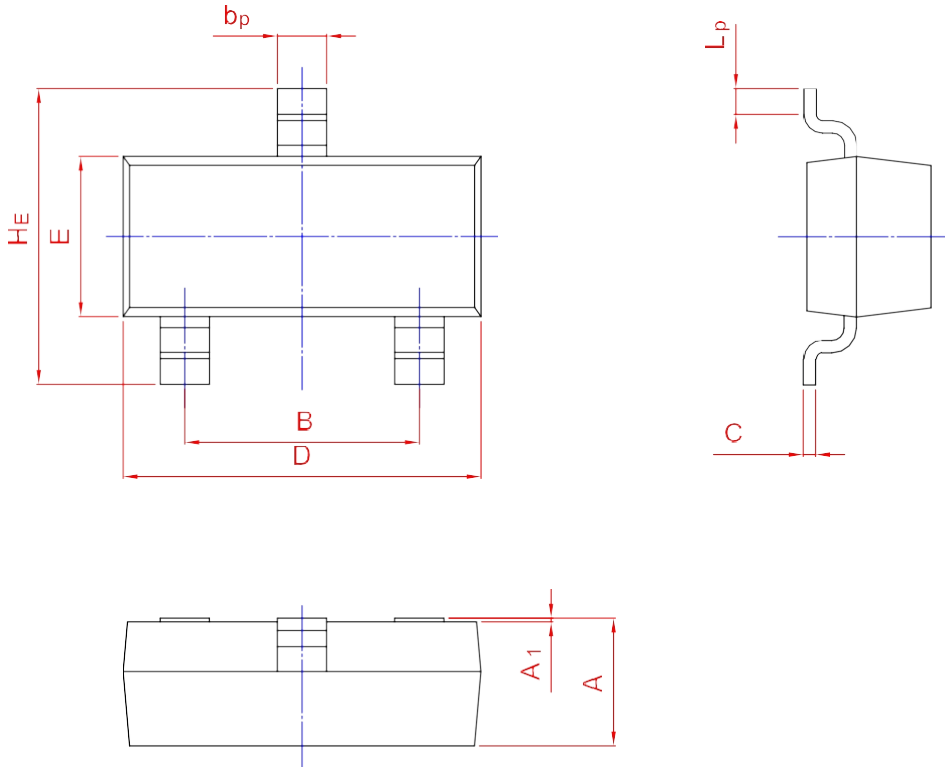


Figure 4. Typical On−State Characteristics

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20