

MSKSEMI

SEMICONDUCTOR



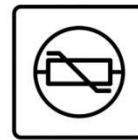
ESD



TVS



TSS



MOV

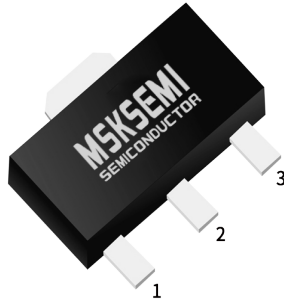


GDT



PLED

Product data sheet



SOT-89

FEATURES

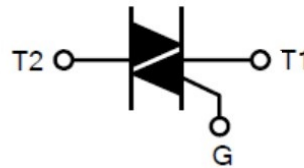
- Direct interfacing to logic level ICs
- Direct interfacing to low power gate drivers and microcontrollers
- High blocking voltage capability
- Planar passivated for voltage ruggedness and reliability
- Triggering in all four quadrants
- Very sensitive gate

APPLICATIONS

- General purpose bidirectional switching
- General purpose low power phase control
- General purpose low power switching
- Solid-state relay

Package	Pin assignment		
	1	2	3
SOT-89	T1	T2	G

SYMBOL:



ABSOLUTE MAXIMUM RATINGS

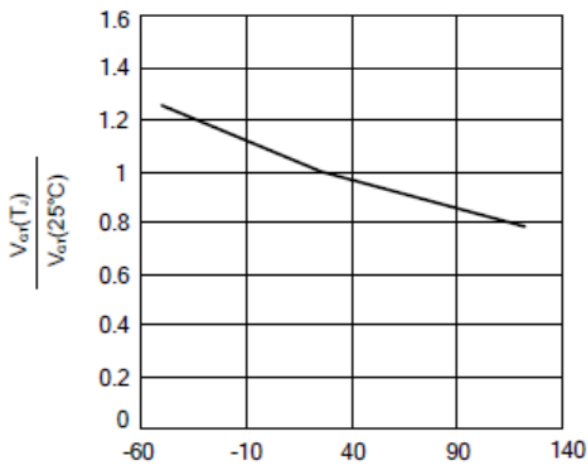
PARAMETER	SYMBOL	VALUE		UNIT
Repetitive Peak Off-State Voltages	V_{DRM}, V_{RRM}	MAC97A6	400	V
		MAC97A8	600	
RMS on-State Current	$I_{T(RMS)}$	0.8		A
Non-Repetitive Peak On-State Current	I_{TSM}	8		A
I^2t for fusing	I^2t	0.32		A ² s
Repetitive rate of rise of on-state current after triggering	dIT/dt	I	50	A/ μ S
		II	50	
		III	50	
		IV	10	
Peak gate current	I_{GM}	1		A
Peak Gate Voltage	V_{GM}	5		V
Peak Gate Power	P_{GM}	5		W
Average Gate Power	$P_{G(AV)}$	0.1		W
Operating junction temperature	T_J	+125		°C
Storage Temperature	T_{STG}	-40 ~ +150		°C

ELECTRICAL CHARACTERISTICS (T_J=25°C)

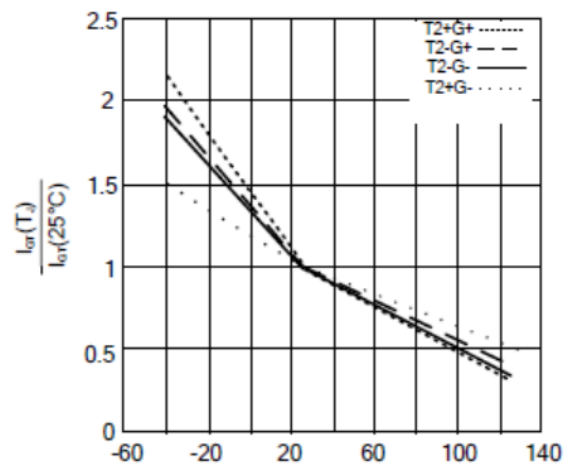
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
Peak Repetitive Forward or Reverse Blocking Current	I _{DRM} I _{RRM}	V _{AK} = Rated V _{DRM} or V _{RRM} ;		10	uA
Gate Trigger Current	I _{GT}	V _D =12V I _{GT} =0.1A	I	5.0	mA
			II	5.0	
			III	5.0	
			IV	7.0	
Gate Trigger Voltage	V _{GT}	V _D =12V, R _L =100Ω		2.0	V
Peak Forward On-State Voltage	V _{TM}	I _T =1.0A,		1.7	V
Holding Current	I _L	V _D =12V I _G =0.1A,	I	10	mA
			II	20	
			III	10	
			IV	10	
Latch Current	I _H	V _D =12V ,I _G =0.1A		10	mA
Critical Rate of Rise of Off-State Voltage	dV/dt	V _D =67%V _{DRM} , R _{GK} =1kΩ,	10		V/μs

ELECTRICAL CHARACTERISTIC CURVE

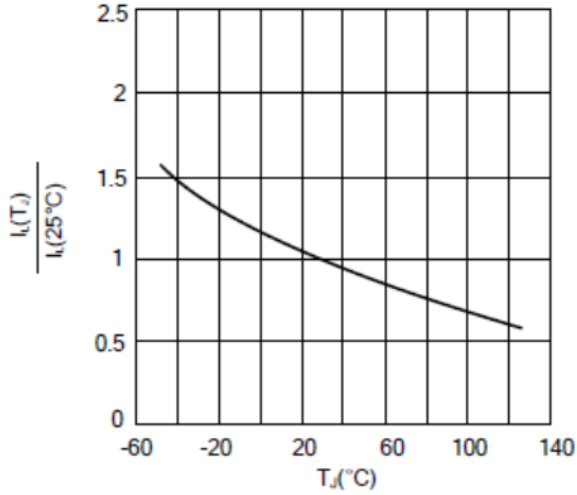
Normalized Gate Trigger Voltage as a Function of Junction Temperature; Typical Values.



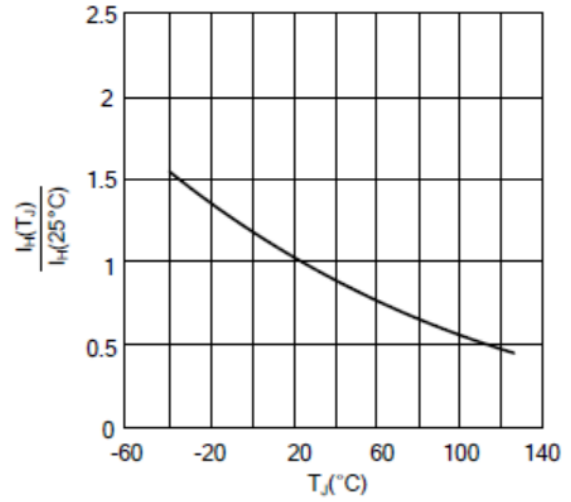
Normalized Gate Trigger Current as a Function of Junction Temperature; Typical Values.



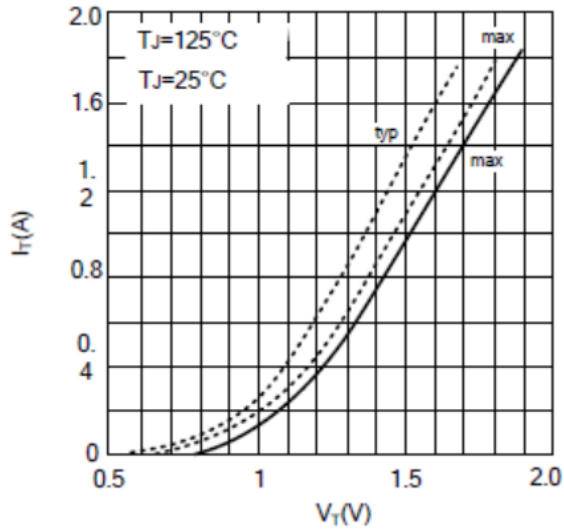
Normalized Latching Current as a Function of Junction Temperature; Typical Values.



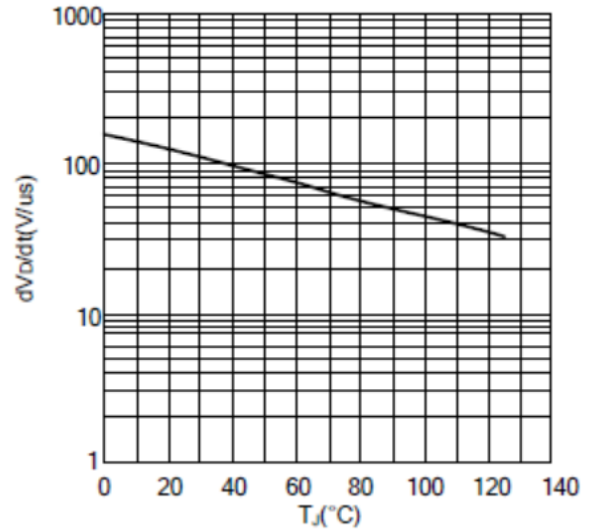
Normalized Holding Current as a Function of Junction Temperature; Typical Values.



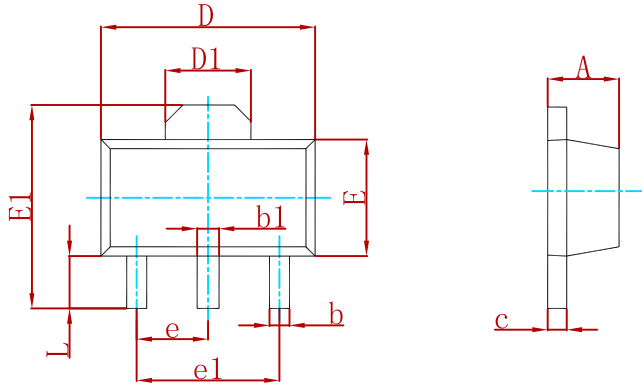
On-State Current as a Function of On-State Voltage; Typical and Maximum Values.



Critical Rate of Rise of Off-State Voltage as a Function of Junction Temperature; Typical Values.

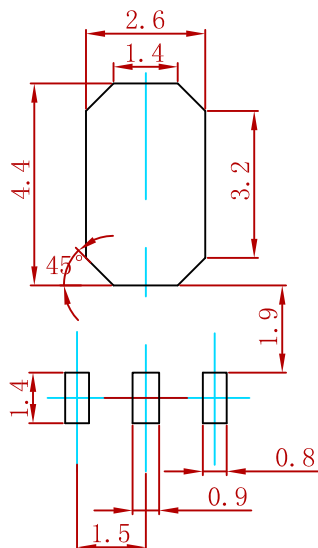


PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
MAC97A6 THRU MAC97A8	SOT-89	1000

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