

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV

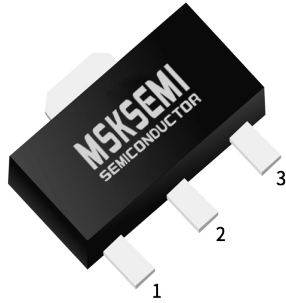


GDT



PLED

Product data sheet



SOT-89

## FEATURES

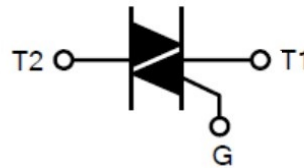
- Direct interfacing to logic level ICs
- Direct interfacing to low power gate drivers and microcontrollers
- High blocking voltage capability
- Planar passivated for voltage ruggedness and reliability
- Triggering in all four quadrants
- Very sensitive gate

## 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

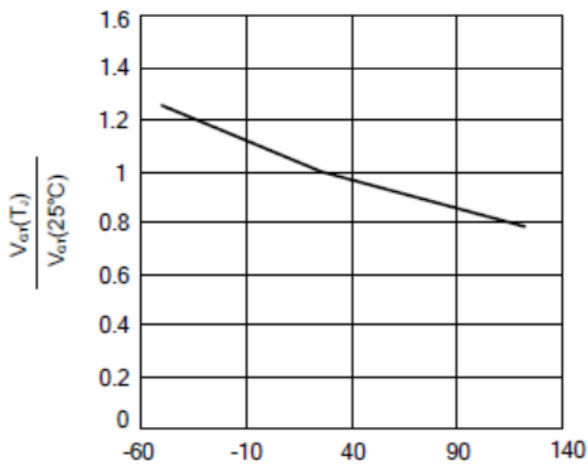
PARAMETER	SYMBOL	VALUE		UNIT
Repetitive Peak Off-State Voltages	$V_{DRM}, V_{RRM}$	MAC97A6	400	V
		MAC97A8	600	
RMS on-State Current	$I_{T(RMS)}$	0.8		A
Non-Repetitive Peak On-State Current	$I_{TSM}$	8		A
$I^2t$ for fusing	$I^2t$	0.32		A <sup>2</sup> s
Repetitive rate of rise of on-state current after triggering	dIT/dt	I	50	A/ $\mu$ 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<sub>J</sub>=25°C)**

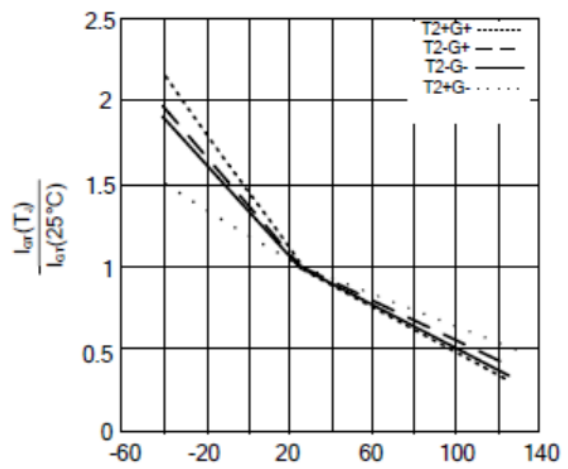
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
Peak Repetitive Forward or Reverse Blocking Current	I <sub>DRM</sub> I <sub>RRM</sub>	V <sub>AK</sub> = Rated V <sub>DRM</sub> or V <sub>RRM</sub> ;		10	uA
Gate Trigger Current	I <sub>GT</sub>	V <sub>D</sub> =12V I <sub>GT</sub> =0.1A	I		mA
			II		
			III		
			IV		
Gate Trigger Voltage	V <sub>GT</sub>	V <sub>D</sub> =12V, R <sub>L</sub> =100Ω		2.0	V
Peak Forward On-State Voltage	V <sub>TM</sub>	I <sub>T</sub> =1.0A,		1.7	V
Holding Current	I <sub>L</sub>	V <sub>D</sub> =12V I <sub>G</sub> =0.1A,	I		mA
			II		
			III		
			IV		
Latch Current	I <sub>H</sub>	V <sub>D</sub> =12V ,I <sub>G</sub> =0.1A		10	mA
Critical Rate of Rise of Off-State Voltage	dV/dt	V <sub>D</sub> =67%V <sub>DRM</sub> , R <sub>GK</sub> =1kΩ,	10		V/μs

**ELECTRICAL CHARACTERISTIC CURVE**

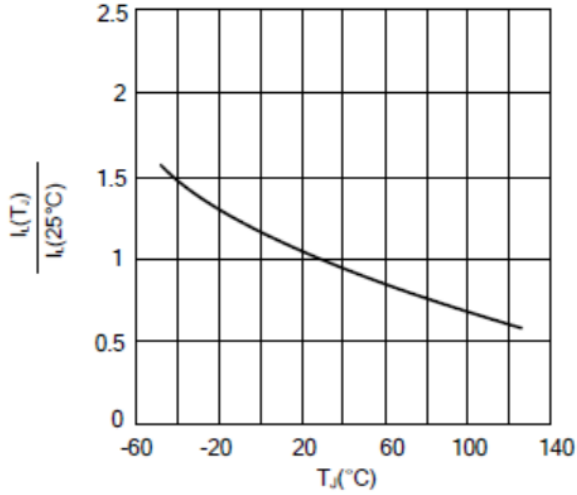
Normalized Gate Trigger Voltage as a Function Junction Temperature; Typical Values.



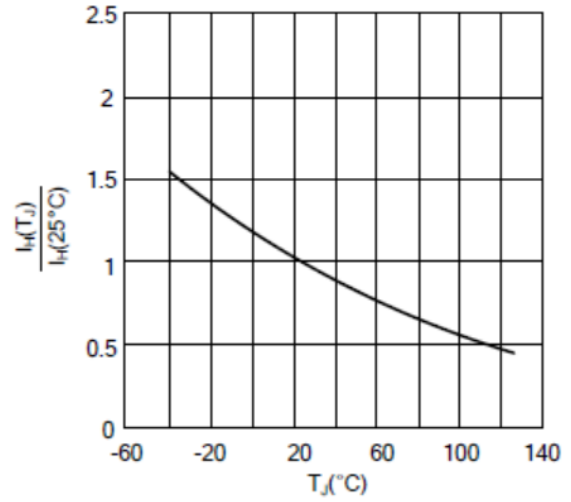
Normalized Gate Trigger Current as a Function of Junction Temperature; Typical Values.



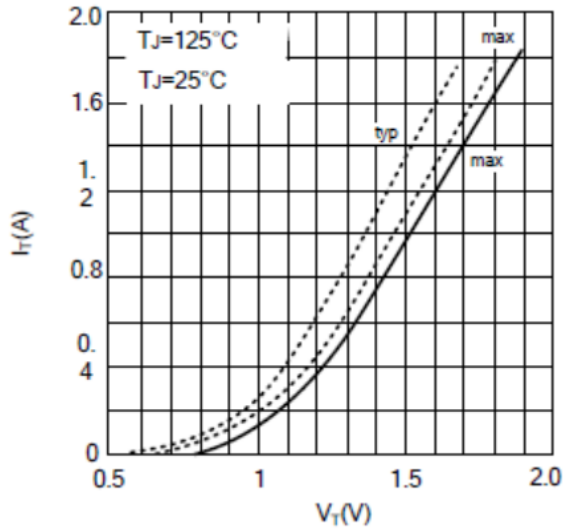
Normalized Latching Current as a Function of Junction Temperature; Typical Values.



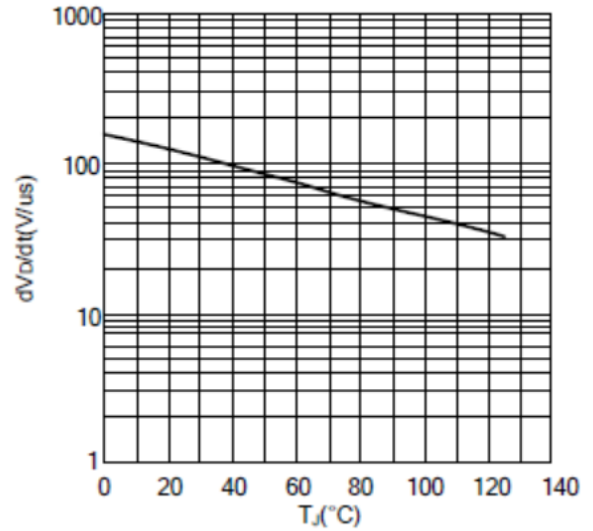
Normalized Holding Current as a Function of Junction Temperature; Typical Values.



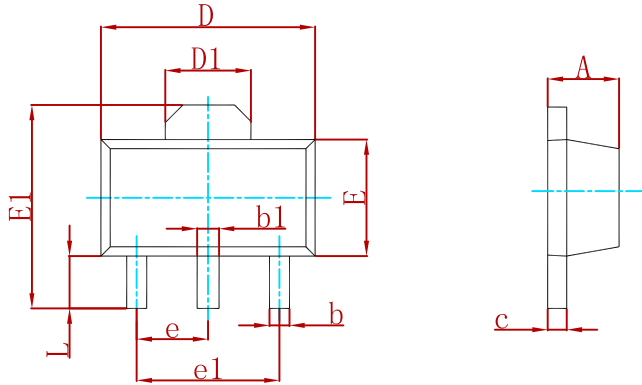
On-State Current as a Function of On-State Voltage; Typical and Maximum Values.



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

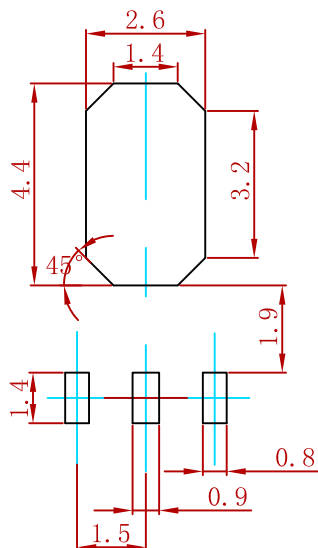


**PACKAGE MECHANICAL DATA**



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:  $\pm 0.05$  mm.  
 3. The pad layout is for reference purposes only.

**REEL SPECIFICATION**

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

## Attention

- Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.
- MSKSEMI Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all MSKSEMI Semiconductor products described or contained herein.
- Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- MSKSEMI Semiconductor strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all MSKSEMI Semiconductor products (including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringement of intellectual property rights or other rights of third parties.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the MSKSEMI Semiconductor product that you intend to use.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Triacs](#) category:*

*Click to view products by [MSKSEMI](#) manufacturer:*

Other Similar products are found below :

[BT137-600-0Q](#) [OT415Q](#) [2N6075A](#) [NTE5688](#) [BTA2008W-800D,135](#) [D31410](#) [ACS102-5T1](#) [ACS102-5TA](#) [MAC97A4G](#) [Z0107MAG](#)  
[Z0107MARL1G](#) [Z0109MARLRPG](#) [MAC97A8-TA](#) [BT131W-800](#) [BT138S-800E](#) [BT137S-800E](#) [BT136S-600D](#) [BTA08-600TWRG](#)  
[X0405MF-252](#) [MAC97A8-23-3L](#) [MCR100-8-23-3L](#) [BTA24-800B](#) [BT151-600R](#) [BT131](#) [BTA41-1200B](#) [MCR16](#) [MCR100-8](#) [MCR16](#)  
[BT131-800D](#) [BT134-800E](#) [BT138-800E](#) [MCR100-8](#) [BTA12-800BWRG\(UMW\)](#) [BTA24-600BWRG\(UMW\)](#) [BTA24-800BWRG\(UMW\)](#)  
[BTA12-600BWRG\(UMW\)](#) [BTA16-600CRG\(UMW\)](#) [BTA12-600CRG\(UMW\)](#) [BS61089B-8](#) [BT134W-600E](#) [BT134-600E](#) [JR0405S3](#)  
[BCR12PM](#) [MAC97A6](#) [MAC4DLM-1G](#) [BT137-600E,127](#) [BTA08-800BW3G](#) [BTA140-800,127](#) [BTA30-600CW3G](#) [BTA30-600CW3G](#)