

# MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

## BT136S-XXE(MS)

Product specification

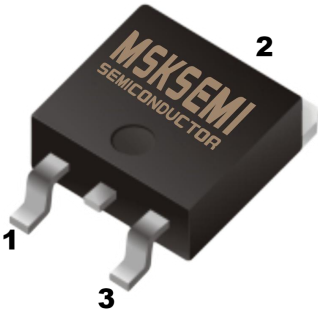
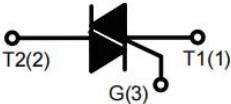


## DESCRIPTION

The BT136S-XXE(MS) series with the parallel resistor between Gate and Cathode are especially recommended for use on straight hair, igniter, anion generator, etc.

## MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
$V_{DRM} / V_{RRM}$	600/800	V

## Reference News

PACKAGE OUTLINE	Pin Configuration	Marking	
			
		BT136S-600E(MS)	BT136S-800E(MS)

Notes :XXX represents the order code.

## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40-150	°C
Operating junction temperature range	$T_j$	-40-125	°C
Repetitive peak off-state voltage( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	600/800	V
Repetitive peak reverse voltage( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	600/800	V
RMS on-state current( $TC=100^\circ\text{C}$ )	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$ )	$I_{TSM}$	35	A
$I_{\text{t}}$ value for fusing ( $t_p=10\text{ms}$ )	$I_{\text{t}}$	6.1	$\text{A}^2\text{s}$
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	$I_{GM}$	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	$P_{GM}$	5	W

**ELECTRICAL CHARACTERISTICS** ( $T_j=25^{\circ}\text{C}$  unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
$I_{GT}$	$V_D=12\text{V}$	I - II-III	MAX	10	mA
		IV		25	
$V_{GT}$		ALL	MAX	1.3	V
$V_{GD}$	$V_D=V_{DRM}$ $T_j=125^{\circ}\text{C}$ $R_L=3.3\text{K}\Omega$	ALL	MIN	0.2	V
$I_L$	$I_G=1.2I_{GT}$	I-III	MAX	30	mA
		II-IV		45	
$I_H$	$I_T=100\text{mA}$		MAX	25	mA
$dV/dt$	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	100	V/ $\mu\text{s}$
$(dV/dt)_c$	$(dI/dt)_c=1.7\text{A/ms}$ $T_j=125^{\circ}\text{C}$		MIN	0.5	V/ $\mu\text{s}$

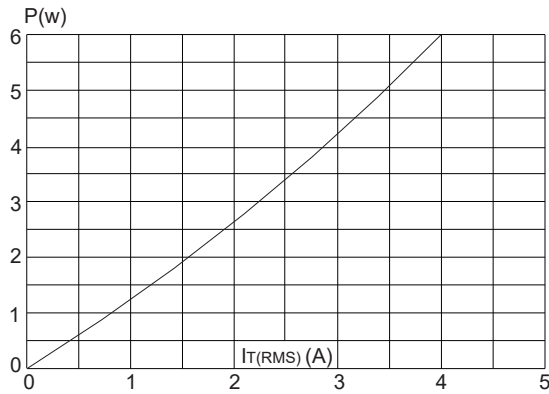
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=5.5\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.6	V
$I_{DRM}$	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	$\mu\text{A}$
$I_{RRM}$		$T_j=125^{\circ}\text{C}$	0.5	mA

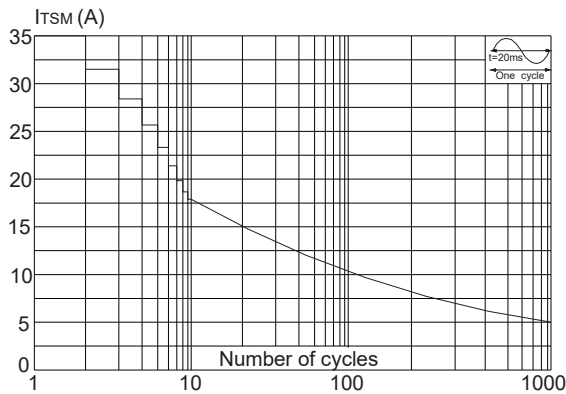
**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case(AC)	2.8	$^{\circ}\text{C/W}$
$R_{th(j-a)}$	junction to ambient	70	$^{\circ}\text{C/W}$

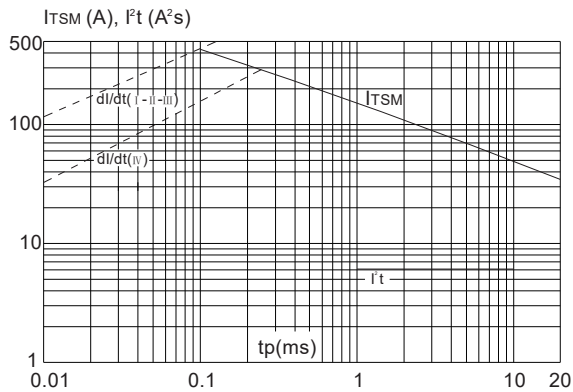
**FIG.1:** Maximum power dissipation versus RMS on-state current



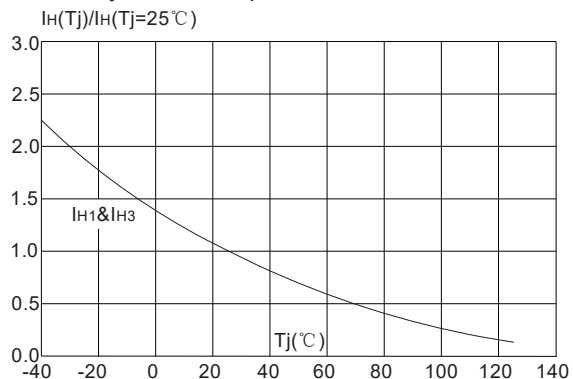
**FIG.3:** Surge peak on-state current versus number of cycles



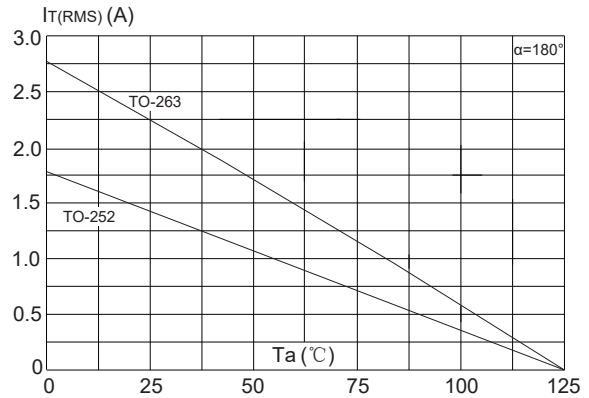
**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$  and corresponding value of  $I^2t$  (I - II - III:  $dI/dt < 50\text{A}/\mu\text{s}$ ; IV:  $dI/dt < 10\text{A}/\mu\text{s}$ )



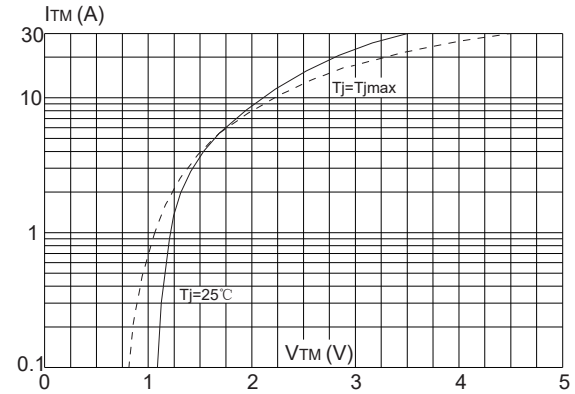
**FIG.7:** Relative variations of holding current versus junction temperature



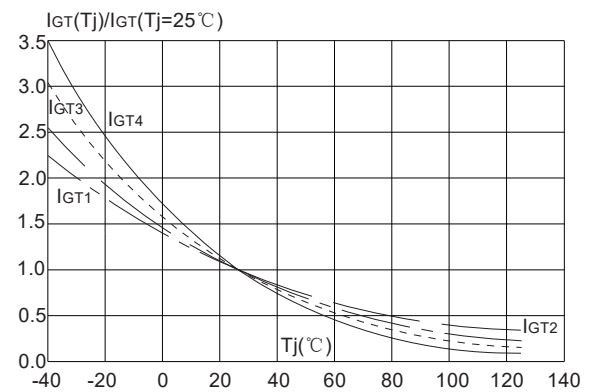
**FIG.2:** RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness: 35μm)



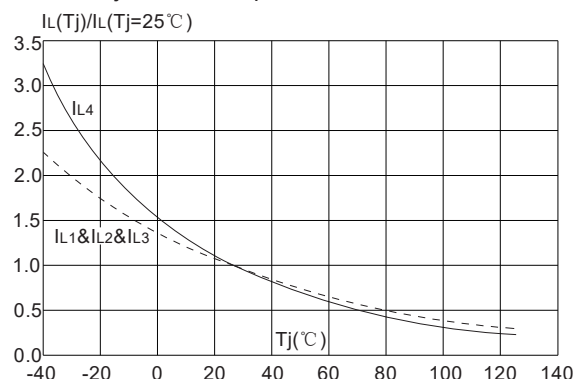
**FIG.4:** On-state characteristics (maximum values)



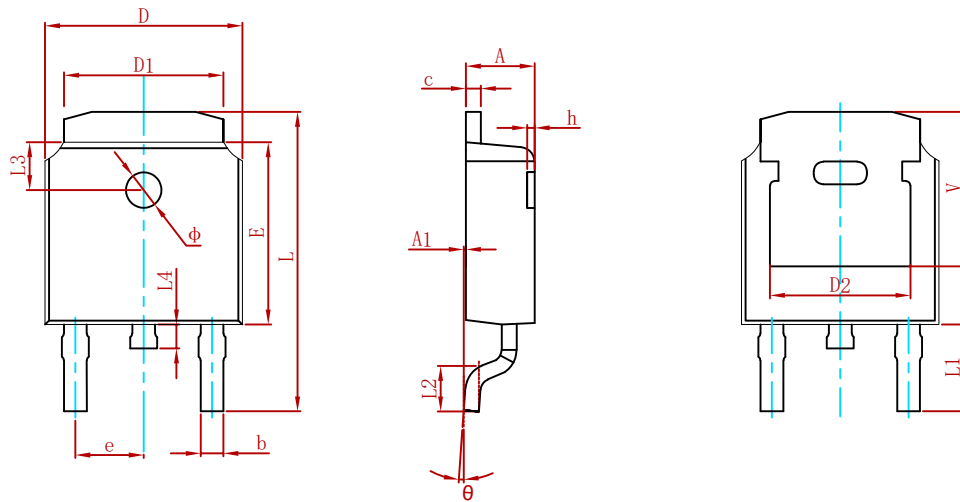
**FIG.6:** Relative variations of gate trigger current versus junction temperature



**FIG.8:** Relative variations of latching current versus junction temperature

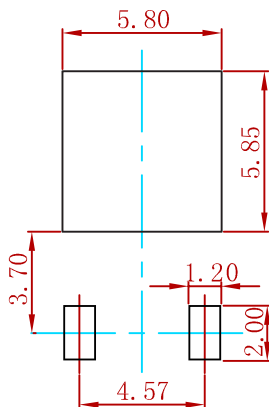


**PACKAGE MECHANICAL DATA**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
phi	1.100	1.300	0.043	0.051
theta	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

**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
BT136S-XXE(MS)	TO-252	2500

## 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 infringements 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](#) [2N6075A](#) [NTE5688](#) [D31410](#) [ACS102-5T1](#) [ACS102-5TA](#) [MAC97A4G](#) [Z0107MAG](#) [Z0107MARL1G](#) [Z0109MARLRPG](#)  
[BTA316-800ET,127](#) [ACTT8X-800CTNQ](#) [MCR22-6G](#) [BTA16-800B\(MS\)](#) [TYN1025RG-JSM](#) [BT138-600D](#) [BTA24-600CWRG](#) [BTA16-800CWRG](#) [BT138-600E](#) [BTA08-800CW](#) [BTB24-800CW](#) [BTA16-800CW](#) [BTA16-600CW](#) [BT169](#) [MCR100-6U](#) [FT10050-12P](#) [BT136-800E](#)  
[BT136S](#) [PCR606J](#) [JST24A-800CW](#) [JST60IS-1600BW](#) [TYN810RG-JSM](#) [BT139B-600E-JSM](#) [TYN812RG-JSM](#) [BT152-800R](#) [BTB16-800BRG-JSM](#) [BTA20-800CRG](#) [TO-220](#) [BTA16-800BRG](#) [BTW69-1200RG](#) [BT136-600E](#) [BTA12-600BRG](#) [BT139-600E](#) [BTA24-800CRG](#)  
[TO-220](#) [BTA16-800BWRG](#) [BTA26-600BWRG](#) [BTA41-600BRG](#) [BT137-600E](#) [TYN612RG-JSM](#) [BTA08-600CRG](#) [BT137-600D](#)