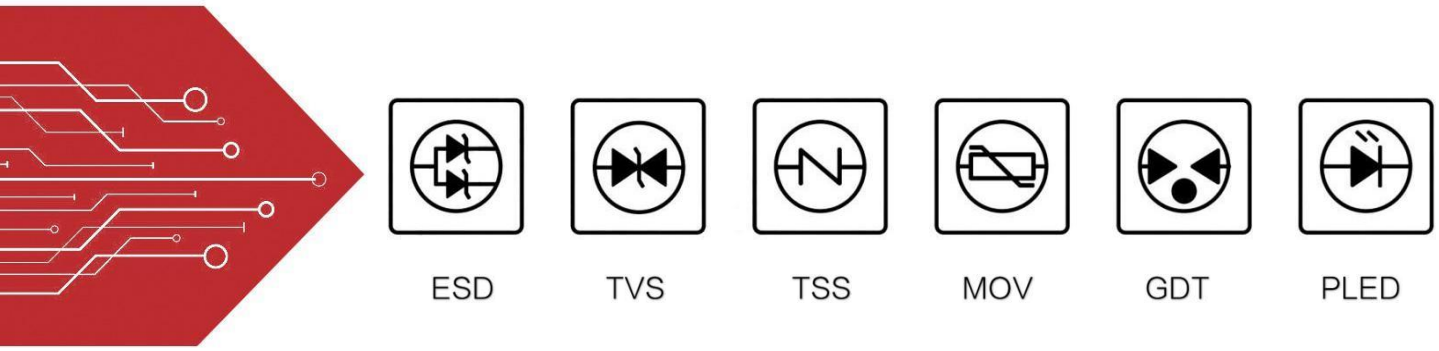
MSKSEMI
SEMICONDUCTOR



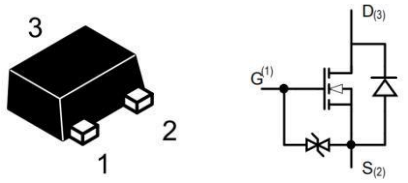

# Product data sheet

www.msksemi.com

## MOSFET Product Summary

| $V_{DS}$ | $I_D$ | $R_{DS(on)}$ |
|---|---|---|
| 20V | 0.8A | <350mΩ@4.5V |
| | | <420mΩ@2.5V |

**Schematic & Pin configuration**




## Features and benefits

- Lead Free Product is Acquired
- Surface Mount Package
- N-Channel Switch with Low RDS(on)
- Operated at Low Logic Level Gate Drive

## Applications

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

## Maximum Ratings ($T_A$ = 25 °C, unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Drain-Source Voltage | $V_{DS}$ | 20 | V |
| Gate-Source Voltage | $V_{GS}$ | ±8 | V |
| Continuous Drain Current (note1) | $I_D$ | 0.8 | A |
| Pulsed Drain Current (tp=10-s) | $I_{DM}$ | 1.8 | A |
| Power Dissipation (note1) | $P_D$ | 0.15 | W |
| Thermal Resistance from Junction to Ambient (note1) | $R_{\theta JA}$ | 850 | °C/W |
| Junction temperature | $T_j$ | 125 | °C |
| Storage temperature | $T_{stg}$ | -50 to +150 | °C |
| Lead Temperature for Soldering Purposes (1/8" from case for 10 s) | $T_L$ | 260 | °C |

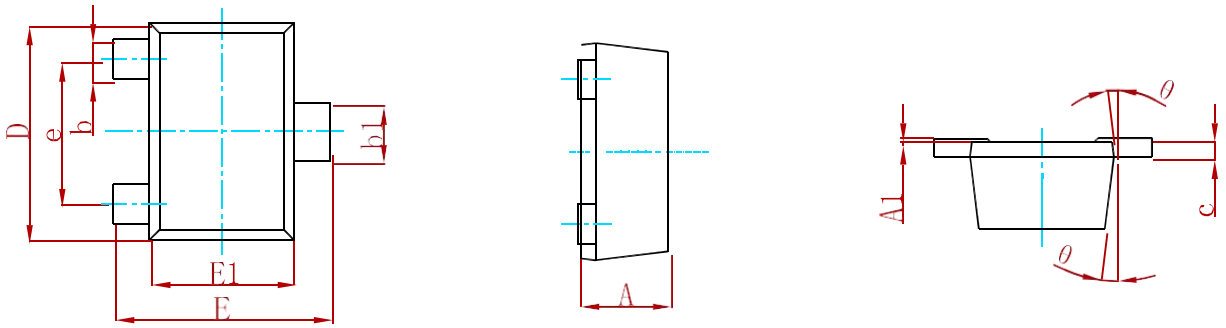
## Electrical Characteristics ($T_A$ = 25 °C, unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **STATIC CHARACTERISTICE** | | | | | | |
| Drain-source breakdown voltage | $V_{(BR)DSS}$ | $V_{GS}$ = 0V, $I_D$ =250μA | 20 | | | V |
| Zero gate voltage drain current | $I_{DSS}$ | $V_{DS}$ =20V,$V_{GS}$ = 0V | | | 1 | μA |
| Gate-body leakage current | $I_{GSS}$ | $V_{GS}$ =±8V, $V_{DS}$ = 0V | | | ±10 | μA |
| Gate threshold voltage (note2) | $V_{GS(th)}$ | $V_{DS}$ =VGS, $I_D$ =250μA | 0.5 | 0.7 | 1.0 | V |
| Drain-source on-resistance (note2) | $R_{DS(on)}$ | $V_{GS}$ =4.5V, $I_D$ =0.5A | | | 0.35 | Ω |
| | | $V_{GS}$ =2.5V, $I_D$ =0.5A | | | 0.42 | Ω |
| Maximum Continuous Drain to Source Diode Forward Current | $I_S$ | -- | | | 0.8 | A |
| Maximum Pulsed Drain to Source Diode Forward Current | $I_{SM}$ | -- | | | 1.2 | A |
| Diode forward voltage | $V_{SD}$ | $I_S$=0.5A, $V_{GS}$ =0V | | | 1.2 | V |
| **DYNAMIC CHARACTERISTICS** (note4) | | | | | | |
| Input capacitance | $C_{iss}$ | $V_{DS}$ =16V,$V_{GS}$ =0V, f =1MHz | | | 120 | pF |
| Output capacitance | $C_{oss}$ | | | | 20 | pF |
| Reverse transfer capacitance | $C_{rss}$ | | | | 15 | pF |
| **SWITCHING CHARACTERISTICS** (note4) | | | | | | |
| Turn-on delay time (note3) | $t_{d(on)}$ | $V_{GS}$=4.5V,$V_{DS}$=10V, $I_D$=500mA,$R_{GEN}$=10Ω | | 8 | | nS |
| Turn-on rise time (note3) | $t_r$ | | | 5 | | nS |
| Turn-off delay time (note3) | $t_{d(off)}$ | | | 20 | | nS |
| Turn-off fall time (note3) | $t_f$ | | | 10 | | nS |

Notes:

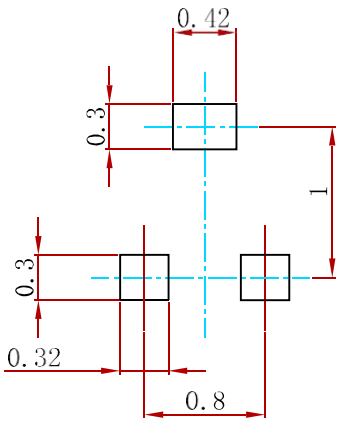
1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producting.

## PACKAGE MECHANICAL DATA




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 0.430 | 0.500 | 0.017 | 0.020 |
| A1 | 0.000 | 0.050 | 0.000 | 0.002 |
| b | 0.170 | 0.270 | 0.007 | 0.011 |
| b1 | 0.270 | 0.370 | 0.011 | 0.015 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 1.150 | 1.250 | 0.045 | 0.049 |
| E | 1.150 | 1.250 | 0.045 | 0.049 |
| E1 | 0.750 | 0.850 | 0.030 | 0.033 |
| e | 0.800TYP. | | 0.031TYP. | |
| θ | 7° REF. | | 7° REF. | |

## Suggested Pad Layout




Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

## REEL SPECIFICATION

| P/N | PKG | QTY |
|---|---|---|
| MS3134 | SOT-723 | 8000 |

# 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 specificationsof any andall MSKSEMI Semiconductor products described orcontained 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'sproducts orequipment.

■ MSKSEMI Semiconductor. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with someprobability. It is possiblethat 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 anderror prevention circuitsfor safedesign, 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 theauthorities 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 infringementsof intellectual property rights or other rightsof third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. Whendesigning equipment, referto the "Delivery Specification" for the MSKSEMI Semiconductor productthat you intend to use.

单击下面可查看定价，库存，交付和生命周期等信息

>>MSKSEMI(美森科)