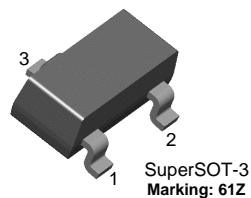


# MMBF5434

## N-Channel Switch

- This device is designed for digital switching applications where very low on resistance is mandatory.
- Sourced from Process 58.



1. Drain 2. Source 3. Gate

## Absolute Maximum Ratings \* $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{DG}$	Drain-Gate Voltage	25	V
$V_{GS}$	Gate-Source Voltage	-25	V
$I_{GF}$	Forward Gate Current	10	mA
$T_J, T_{stg}$	Operating and Storage Junction Temperature Range	-55 ~ +150	$^\circ\text{C}$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### NOTES:

- These ratings are based on a maximum junction temperature of 150 degrees C.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

## Electrical Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
<b>Off Characteristics</b>					
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$I_G = -1.0\mu\text{A}, V_{DS} = 0$	-25		V
$I_{GSS}$	Gate Reverse Current	$V_{GS} = -15\text{V}, V_{DS} = 0$		200	nA
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 5.0\text{V}, I_D = 3.0\text{nA}$	-1.0	-4.0	V
$I_{D(off)}$	Drain Cutoff Current	$V_{DS} = 5.0, V_{GS} = -10\text{V}$		200	pA
<b>On Characteristics</b>					
$I_{DSS}$	Zero-Gate Voltage Drain Current *	$V_{DS} = 15\text{V}, I_{GS} = 0$	30		mA
$r_{DS(on)}$	Drain-Source On Resistance	$V_{DS} = 0, I_D = 10\text{mA}$		10	$\Omega$
<b>Small Signal Characteristics</b>					
$C_{iss}$	Input Capacitance	$V_{DS} = 0, V_{GS} = 10\text{V}, f = 1.0\text{MHz}$		30	pF
$C_{rss}$	Reverse Transfer Capacitance	$V_{DS} = 0, V_{GS} = 10\text{V}, f = 1.0\text{MHz}$		15	pF

\* Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

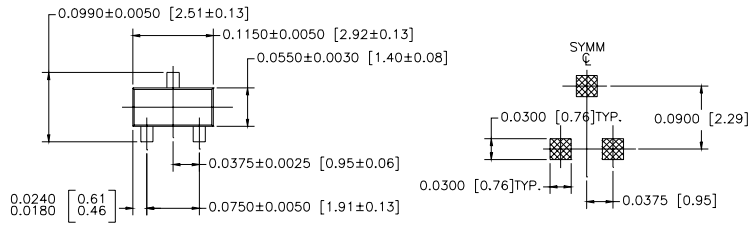
**Thermal Characteristics**  $T_A=25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation	350	mW
	Derate above $25^\circ\text{C}$	2.8	mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case		$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	556	$^\circ\text{C}/\text{W}$

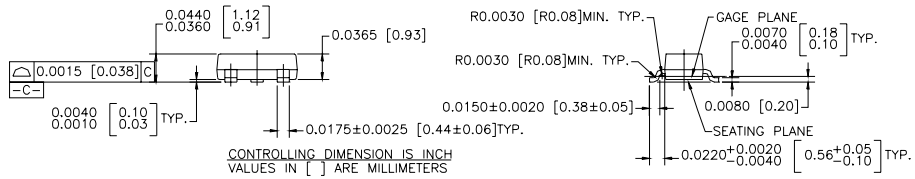
\* Device mounted on FR-4 PCB  $1.6'' \times 1.6'' \times 0.06''$

Package Dimensions

SuperSOT-3



LAND PATTERN RECOMMENDATION



Dimensions in Millimeters

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## PRODUCT STATUS DEFINITIONS

### Definition of Terms

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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