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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

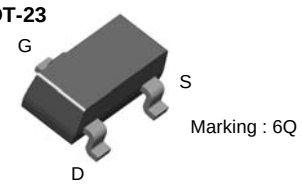
FAIRCHILD SEMICONDUCTOR®

July 2011

MMBFJ305
N-Channel RF Amplifier

Features

- This device is designed primarily for electronic switching applications such as low On Resistance analog switching.
- Sourced from process 50.



Note : Drain & Source are interchangeable.

Absolute Maximum Ratings* T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{DG}	Drain-Gate Voltage	30	V
V_{GS}	Gate-Source Voltage	-30	V
I_{GF}	Forward Gate Current	10	mA
$T_{J,}$ T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	°C

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

NOTES:

1) These ratings are based on a maximum junction temperature of 150 degrees C.

2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics* T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Total Device Dissipation Derate above 25°C	225 1.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	556	°C/W

* Device mounted on FR-4 PCB 1.6” x 1.6” x 0.06”.

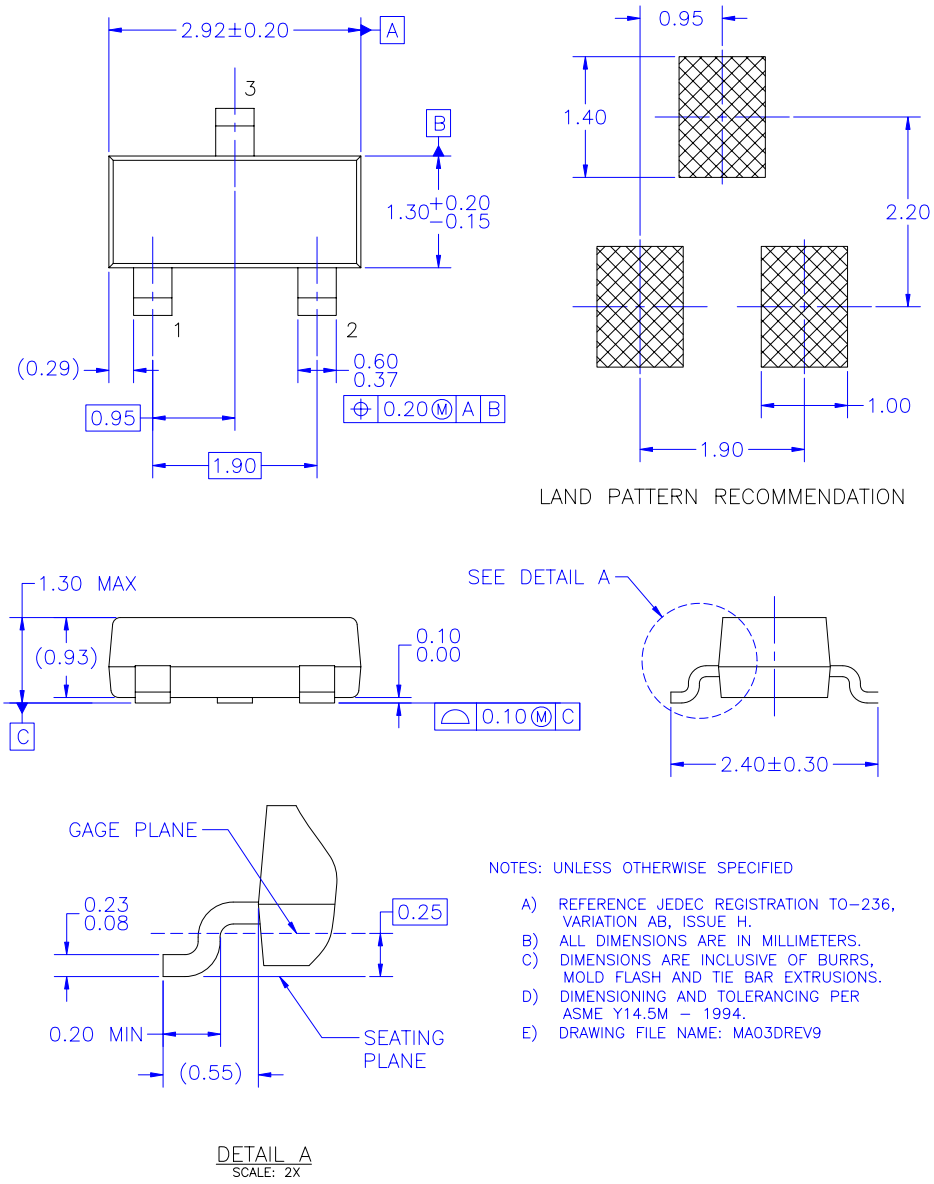
Electrical Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max.	Units
Off Characteristics					
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	I_G = -1.0μA, V_{DS} = 0	-30		V
I_{GSS}	Gate Reverse Current	V_{GS} = -20V, V_{DS} = 0		-100	pA
V_{GS}(off)	Gate-Source Cutoff Voltage	V_{DS} = 15V, I_D = 1.0nA	-0.5	-3.0	V
On Characteristics					
I_{DSS}	Zero-Gate Voltage Drain Current*	V_{DS} = 15V, V_{GS} = 0	1.0	8.0	mA
Small Signal Characteristics					
gfs	Forward Transfer Conductance	V_{DS} = 15V, V_{GS} = 0, f = 1.0kHz	3000		μmhos
g_{OSS}	Output Conductance	V_{DS} = 15V, V_{GS} = 0, f = 1.0kHz		50	μmhos

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

Physical Dimensions

SOT-23



Dimensions in Millimeters

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Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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