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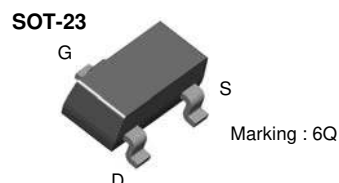
July 2011

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* $T_A = 25^\circ\text{C}$ 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	$^\circ\text{C}$

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

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

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

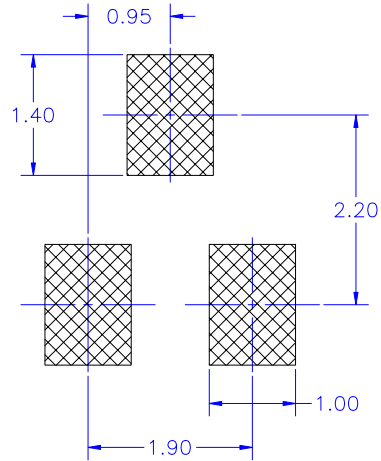
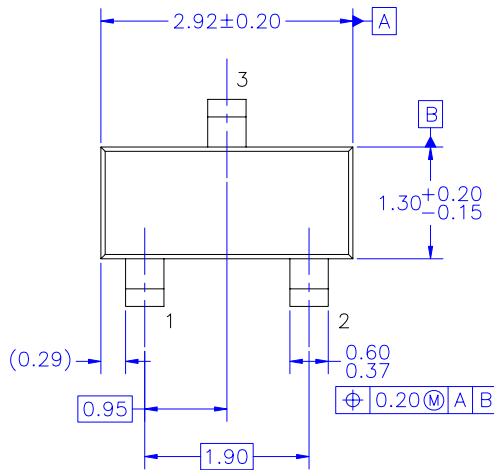
Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

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

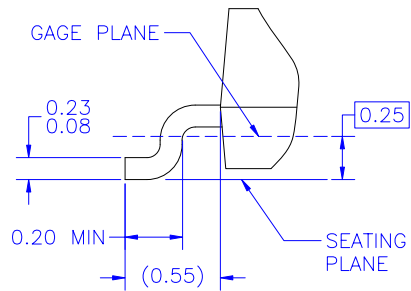
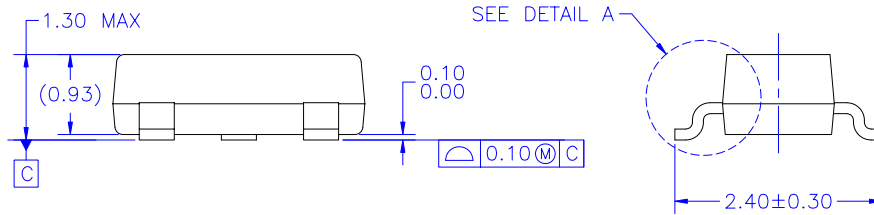
* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

Physical Dimensions

SOT-23



LAND PATTERN RECOMMENDATION



DETAIL A
SCALE: 2X

NOTES: UNLESS OTHERWISE SPECIFIED

- A) REFERENCE JEDEC REGISTRATION TO-236, VARIATION AB, ISSUE H.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DIMENSIONS ARE INCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR EXTRUSIONS.
- D) DIMENSIONING AND TOLERANCING PER ASME Y14.5M - 1994.
- E) DRAWING FILE NAME: MA03DREV9

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.
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