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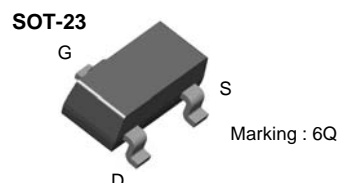
July 2011

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".

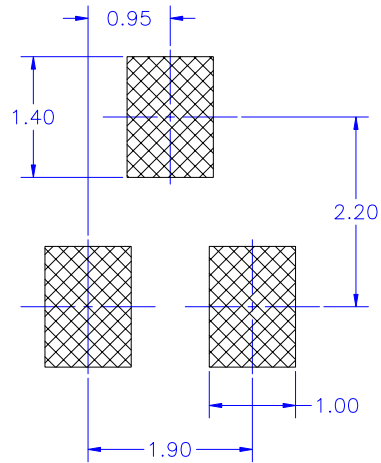
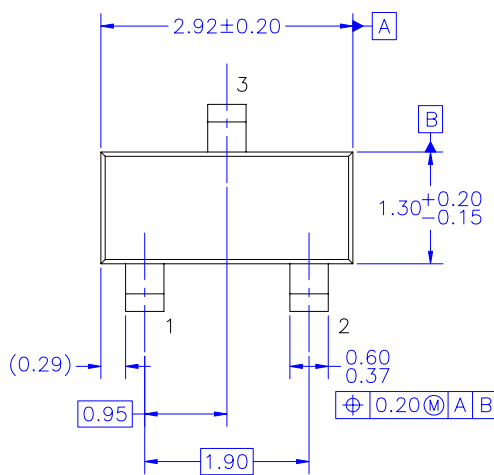
Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| 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 |

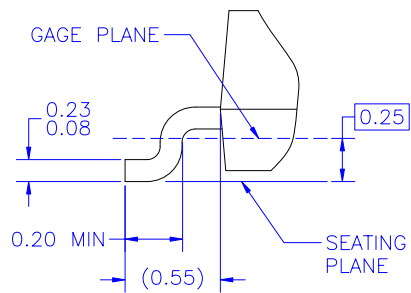
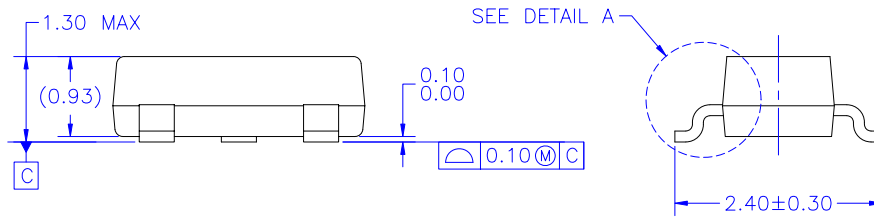
* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

Physical Dimensions

SOT-23



LAND PATTERN RECOMMENDATION



DETAIL A
SCALE: 2X

NOTES: UNLESS OTHERWISE SPECIFIED


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- 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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