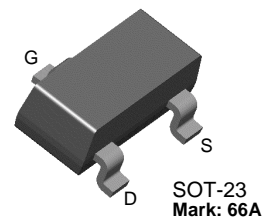


MMBF5103

MMBF5103

N-Channel Switch

- This device is designed for low level analog switching, sample and hold circuits and chopper stabilized amplifiers.
- Sourced from Process 51.
- See J111 for characteristics.



SOT-23
Mark: 66A
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 | 40 | V |
| V_{GS} | Gate-Source Voltage | -40 | V |
| I_{GF} | Forward Gate Current | 50 | 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:

- 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

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

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|-------------------------------------|-----------------------------------|---|------|--------------|----------|
| Off Characteristics | | | | | |
| $V_{(BR)GSS}$ | Gate-Source Breakdown Voltage | $I_G = 1.0\mu\text{A}, V_{DS} = 0$ | -40 | | V |
| I_{GSS} | Gate Reverse Current | $V_{GS} = -15\text{V}, V_{DS} = 0$ $V_{GS} = -15\text{V}, V_{DS} = 0, T_a = 125^\circ\text{C}$ | | -200 -500 | pA nA |
| $V_{GS(off)}$ | Gate-Source Cutoff Voltage | $V_{DS} = 20\text{V}, I_D = 1.0\text{nA}$ | -1.2 | -2.7 | V |
| $V_{GS(f)}$ | Gate-Source Forward Voltage | $I_G = 1.0\text{mA}, V_{DS} = 0$ | | 1.0 | V |
| On Characteristics | | | | | |
| I_{DSS} | Zero-Gate Voltage Drain Current * | $V_{DS} = 15\text{V}, V_{GS} = 0$ | 10 | 40 | mA |
| Small Signal Characteristics | | | | | |
| C_{ISS} | Input Capacitance | $V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{MHz}$ | | 16 | pF |
| C_{RSS} | Reverse Transfer Capacitance | $V_{GS} = -15\text{V}, f = 1.0\text{MHz}$ | | 6.0 | pF |

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 1.0\%$

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°C | 2.8 | mW/ $^\circ\text{C}$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 556 | $^\circ\text{C}/\text{W}$ |

Package Dimensions

SOT-23



Dimensions in Millimeters

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| CoolFET TM | FRFET TM | MicroPak TM | QS TM | TinyLogic [®] |
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| DOME TM | GTO TM | MSX TM | Quiet Series TM | TruTranslation TM |
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|--------------------------|------------------------|---|
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