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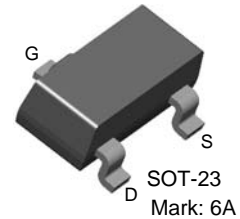
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# MMBF4416

## N-Channel RF Amplifiers

- This device is designed for RF amplifiers.
- Sourced from process 50.



### Absolute Maximum Ratings T<sub>A</sub>=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>DG</sub>	Drain-Gate Voltage	30	V
V <sub>GS</sub>	Gate-Source Voltage	-30	V
I <sub>GF</sub>	Forward Gate Current	10	mA
T <sub>J</sub> , T <sub>STG</sub>	Junction and Storage Temperature Range	-55 to +150	°C

### Electrical Characteristics T<sub>A</sub>=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
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#### Off Characteristics

V <sub>(BR)GSS</sub>	Gate-Source Breakdown Voltage	V <sub>DS</sub> = 0, I <sub>G</sub> = 1μA	-30			V
I <sub>GSS</sub>	Gate Reverse Current	V <sub>GS</sub> = -20V, V <sub>DS</sub> = 0 V <sub>GS</sub> = -20V, V <sub>DS</sub> = 0, T <sub>A</sub> = 150°C			-1 -200	nA nA
V <sub>GS(off)</sub>	Gate Source Cut-off Voltage	V <sub>DS</sub> = 15V, I <sub>D</sub> = 1nA	-2.5		-6	V
V <sub>GS</sub>	Gate Source Voltage	V <sub>DS</sub> = 15V, I <sub>D</sub> = 0.5mA	-1		-5.5	V

#### On Characteristics

I <sub>DSS</sub>	Zero-Gate Voltage Drain Current	V <sub>GS</sub> = 15V, V <sub>GS</sub> = 0	5		15	mA
V <sub>GS(f)</sub>	Gate-Source Forward Voltage	V <sub>DS</sub> = 0, I <sub>G</sub> = 1mA			1	V

#### Small Signal Characteristics

Y <sub>fs</sub>	Forward Transfer Admittance	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 0, f = 1KHz	4500		7500	μmhos
y <sub>os</sub>	Output Admittance	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 0, f = 1KHz			50	μmhos
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 0, f = 1MHz			4	pF
C <sub>rss</sub>	Reverse Transfer Capacitance	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 0, f = 1MHz			0.9	pF
C <sub>oss</sub>	Output Capacitance	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 0, f = 1MHz			2	pF

#### Functional Characteristics

NF	Noise Figure	V <sub>DS</sub> = 15V, I <sub>D</sub> = 5mA, R <sub>g</sub> = 100Ω, f = 100MHz			2	dB
G <sub>ps</sub>	Common Source Power Gain	V <sub>DS</sub> = 15V, I <sub>D</sub> = 5mA, R <sub>g</sub> = 100Ω, f = 100MHz	18			dB

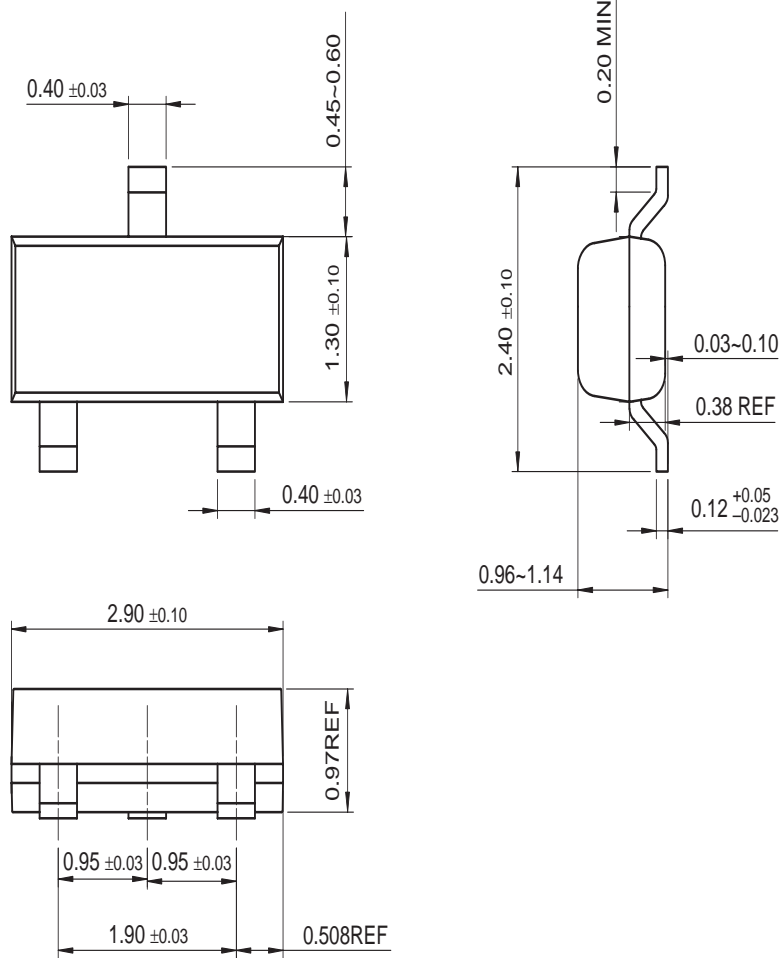
**Thermal Characteristics**  $T_A=25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation	225	mW
	Derate above $25^\circ\text{C}$	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  $1.6'' \times 1.6'' \times 0.06''$ .

Mechanical Dimensions

SOT-23









Dimensions in Millimeters



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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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