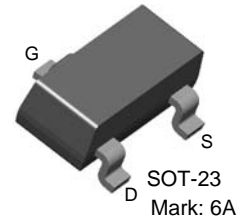


MMBF4416

N-Channel RF Amplifiers

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



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}	Junction and Storage Temperature Range	-55 to +150	°C

Electrical Characteristics T_A=25°C unless otherwise noted

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

V _{(BR)GSS}	Gate-Source Breakdown Voltage	V _{DS} = 0, I _G = 1μA	-30			V
I _{GSS}	Gate Reverse Current	V _{GS} = -20V, V _{DS} = 0 V _{GS} = -20V, V _{DS} = 0, T _A = 150°C			-1 -200	nA nA
V _{GS(off)}	Gate Source Cut-off Voltage	V _{DS} = 15V, I _D = 1nA	-2.5		-6	V
V _{GS}	Gate Source Voltage	V _{DS} = 15V, I _D = 0.5mA	-1		-5.5	V

On Characteristics

I _{DSS}	Zero-Gate Voltage Drain Current	V _{GS} = 15V, V _{GS} = 0	5		15	mA
V _{GS(f)}	Gate-Source Forward Voltage	V _{DS} = 0, I _G = 1mA			1	V

Small Signal Characteristics

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

Functional Characteristics

NF	Noise Figure	V _{DS} = 15V, I _D = 5mA, R _g = 100Ω, f = 100MHz			2	dB
G _{ps}	Common Source Power Gain	V _{DS} = 15V, I _D = 5mA, R _g = 100Ω, f = 100MHz	18			dB

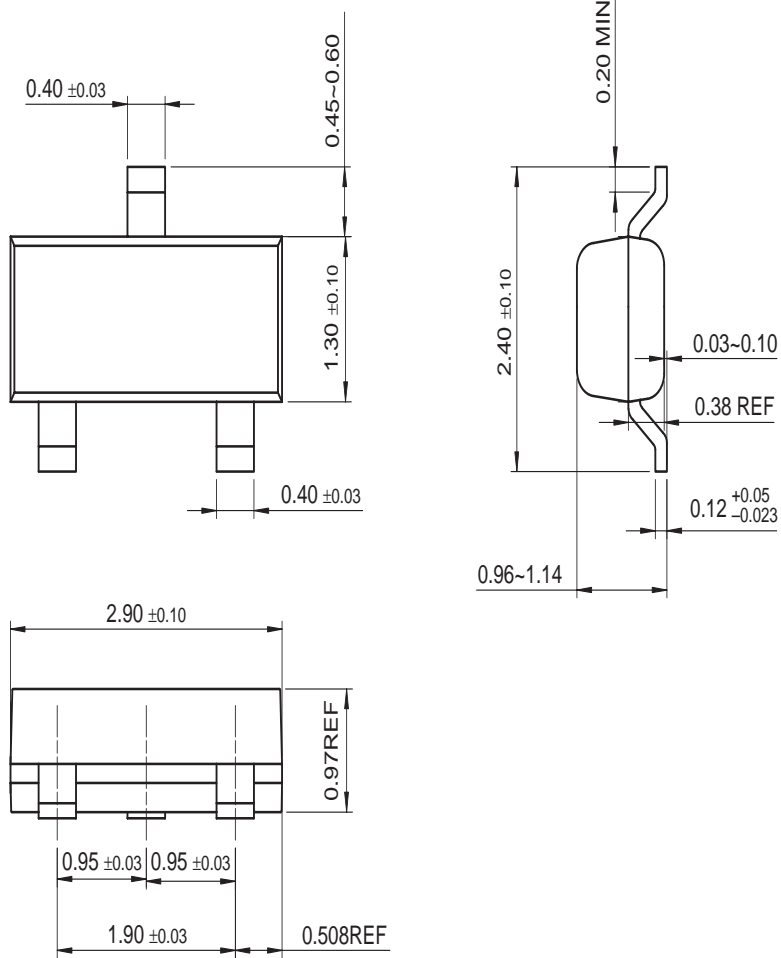
Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation	225	mW
	Derate above 25°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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Definition of Terms

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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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Rev. 140

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➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
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➤ Sales :

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

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➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com