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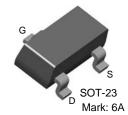
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April 2009

MMBF4416 N-Channel RF Amplifiers

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



Absolute Maximum Ratings $T_A=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{DG}	Drain-Gate Voltage	30	V
V_{GS}	Gate-Source Voltage	-30	V
I_{GF}	rward 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.	Тур.	Max.	Units
Off Charac	teristics					
V _{(BR)GSS}	Gate-Source Breakdown Voltage	$V_{DS} = 0$, $I_{G} = 1\mu A$	-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 Charac	teristics					
I _{DSS}	Zero-Gate Voltage Drain Current	V _{GS} = 15V, V _{GS} = 0	5		15	mA
V _{GS} (f)	Gate-Source Forward Voltage	$V_{DS} = 0, I_{G} = 1 \text{mA}$			1	V
Small Sign	al Characteristics			•	•	•
IY _{fs} I	Forward Transfer Admittance	V _{DS} = 15V, V _{GS} = 0, f = 1KHz	4500		7500	μmhos
ly _{os} l	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	РF
C _{rss}	Reverse Transfer Capacitance	V _{DS} = 15V, V _{GS} = 0, f = 1MHz			0.9	РF
C _{oss}	Output Capacitance	V _{DS} = 15V, V _{GS} = 0, f = 1MHz			2	РF
Functional	Characteristics					
NF	Noise Figure	$V_{DS} = 15V$, $I_{D} = 5mA$, $R_{g} = 100\Omega$, $f = 100MHz$			2	dB
G _{ps}	Common Source Power Gain	$V_{DS} = 15V, I_D = 5mA, R_g = 100\Omega, f = 100MHz$	18			dB

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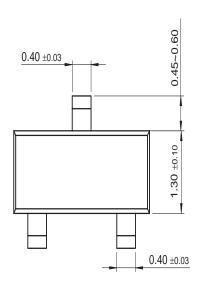
Thermal Characteristics T_{A} =25°C unless otherwise noted

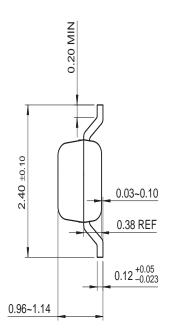
Symbol	Parameter	Max.	Units
P_{D}	Total Device Dissipation Derate above 25°C	225 1.8	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	556	°C/W

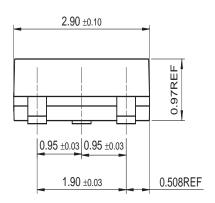
^{*} Device mounted on FR-4 PCB 1.6" × 1.6" × 0.06".

Mechanical Dimensions

SOT-23







Dimensions in Millimeters





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Definition of Terms				
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