

FEATURES

■ HIGH POWER

P_{out}=44.5dBm at P_{in}=35.0dBm

■ HIGH GAIN

GL=12.0dB at 7.7GHz to 8.5GHz

■ BROAD BAND INTERNALLY MATCHED HEMT

HERMETICALLY SEALED PACKAGE

■ LOW INTERMODULATION DISTORTION

IM3(Min.)=-40dBc at P_o=29.0dBm

Single Carrier Level

RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power	P _{out}	V _{DS} = 24V	dBm	44.0	44.5	—
Drain Current	I _{DS1}	I _{DSset} ≒ 1.75 A	A	—	2.7	3.2
Power Added Efficiency	η _{add}	f = 7.7 to 8.5GHz @P _{in} = 35.0 dBm	%	—	39	—
Linear Gain	GL	@P _{in} = 20dBm	dB	11.0	12.0	—
3rd Order Intermodulation Distortion	IM3	Two-Tone Test P _o = 29.0dBm (Single Carrier Level)	dBc	-40	—	—
Drain Current	I _{DS2}		A	—	—	2.0
Channel Temperature Rise	ΔT _{ch}	(V _{DS} X I _{DS1} + P _{in} - P _{out})X R _{th(c-c)}	°C	—	130	150

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	V _{DS} = 5V I _{DS} = 2.5A	S	—	2.5	—
Pinch-off Voltage	V _{GSoff}	V _{DS} = 5V I _{DS} = 12mA	V	-1	-4	-6
Saturated Drain Current	I _{DSS}	V _{DS} = 5V V _{GS} = 0V	A	—	8	—
Gate-Source Breakdown Voltage	V _{GSO}	I _G = -5mA	V	-10	—	—
Thermal Resistance	R _{th(c-c)}	Channel to Case	°C/W	—	—	3.2

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ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	50
Gate-Source Voltage	VGS	V	-10
Drain Current	IDS	A	8
Total Power Dissipation (Tc=25°C)	PT	W	70
Channel Temperature	Tch	°C	250
Storage	Tstg	°C	-65 to +175

PACKAGE OUTLINE (7- AA04A)