

FEATURES

·BROAD BAND INTERNALLY MATCHED HEMT

·HIGH POWER

P_{out} = 44.0dBm at P_{in} = 39.0dBm

·HIGH GAIN

GL= 8.0dB at 13.75GHz to 14.5GHz

·LOW INTERMODULATION DISTORTION

IM3(Min.)= -25dBc at P_o =37.0dBm

Single Carrier Level

·HERMETICALLY SEALED PACKAGE

·TYPICAL APPLICATION

Ku Band Satellite Communications (SATCOM)



RF PERFORMANCE SPECIFICATIONS (T_a = 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power	P_{out}	VDS= 24V IDSset= 1.0A f= 13.75 to 14.5 GHz @ P_{in} = 39dBm	dBm	43.0	44.0	—
Gain flatness	ΔG		dB	—	—	± 0.8
Drain Current	IDS1		A	—	2.5	3.0
Power Added Efficiency	η_{add}		%	—	29	—
Gate Current	IgRF		mA	-20	—	+50
Linear Gain	GL	@ P_{in} = 20dBm	dB	7.0	8.0	
3rd Order Intermodulation Distortion	IM3	Two-Tone Test P_o = 37.0dBm, Δf = 5MHz (Single Carrier Level)	dBc	-25	—	—
Drain Current	IDS2	(VDS X IDS + P_{in} - P1dB) X Rth(c-c)	A	—	1.75	2.25
Channel Temperature Rise	ΔT_{ch}		°C	—	110	140

Recommended Gate Resistance(Rg): 13.3 Ω (Typ.)

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

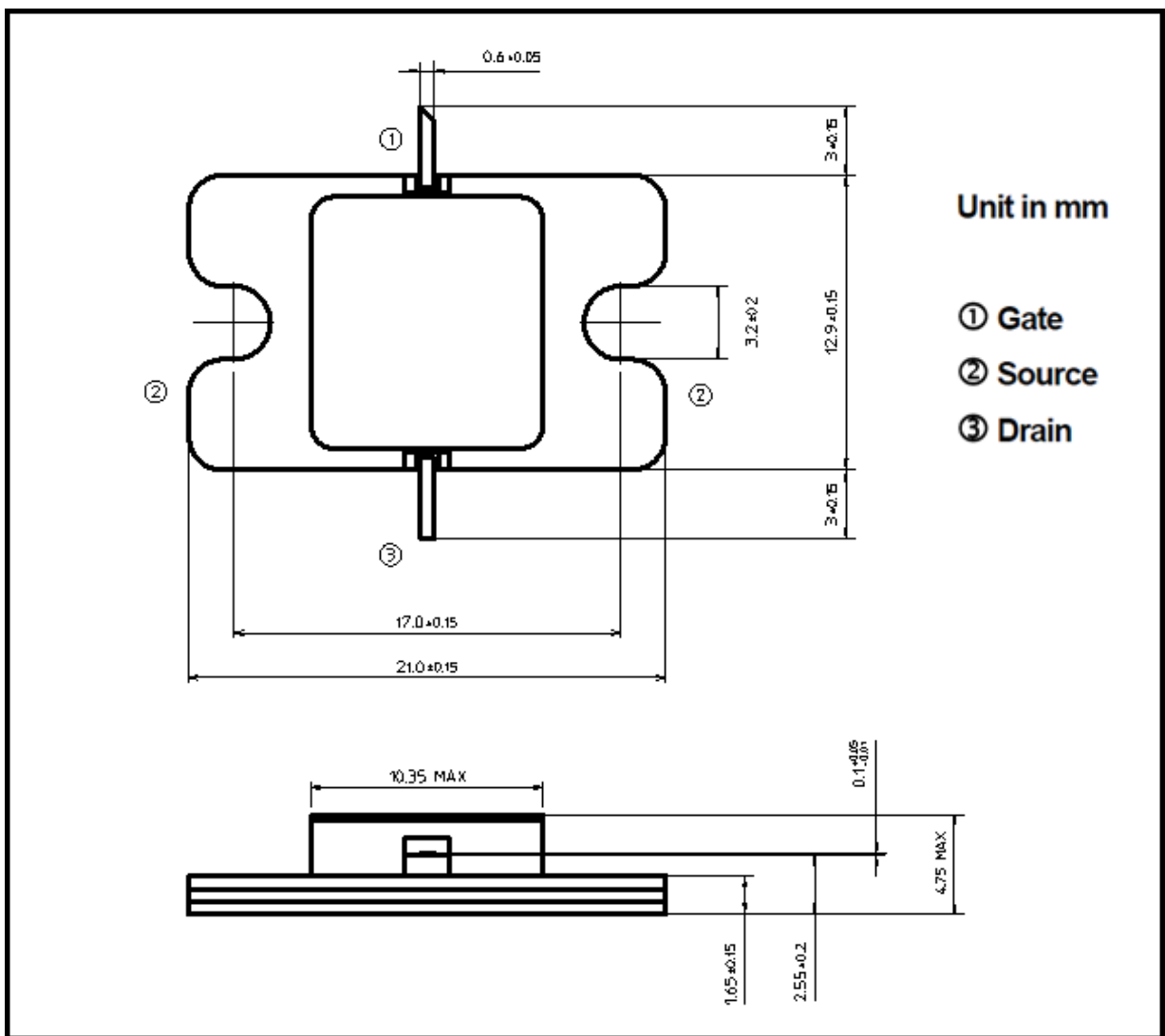
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 5V IDS= 2.5A	S	—	2.25	—
Pinch-off Voltage	VGSoff	VDS= 5V IDS= 11.5mA	V	-1.0	-4.0	-6.0
Saturated Drain Current	IDSS	VDS= 5V VGS= 0V	A	—	7.5	9.0
Gate-Source Breakdown Voltage	VGSO	IGS= -5mA	V	-10	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	2.8	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	7.5
Total Power Dissipation (Tc= 25 °C)	PT	W	70
Channel Temperature	Tch	°C	250
Storage Temperature	Tstg	°C	-65 to +175

PACKAGE OUTLINE (7-AA07A)



HANDLING PRECAUTIONS FOR PACKAGE MODEL

Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C.