

### FEATURES

- BROAD BAND INTERNALLY MATCHED HEMT
- HIGH POWER  
Pout= 47.0dBm at Pin= 40.0dBm
- HIGH GAIN  
GL= 11.0dB at 7.7GHz to 8.5GHz
- LOW INTERMODULATION DISTORTION  
IM3(Min.)= -40dBc at Po=32.0dBm  
Single Carrier Level
- HERMETICALLY SEALED PACKAGE



### RF PERFORMANCE SPECIFICATIONS ( Ta= 25°C )

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power	Pout	VDS= 24V IDSset= 3.0A f= 7.7 to 8.5GHz @Pin= 40dBm	dBm	46.0	47.0	—
Drain Current	IDS1		A	—	5.0	6.3
Power Added Efficiency	$\eta_{add}$		%	—	33	—
Linear Gain	GL	@Pin= 20dBm	dB	10.0	11.0	—
Gain flatness	$\Delta G$		dB	—	—	$\pm 0.8$
3rd Order Intermodulation Distortion	IM3	Two-Tone Test Po= 32.0dBm, $\Delta f$ = 5MHz (Single Carrier Level)	dBc	-40	—	—
Drain Current	IDS2		A	—	3.5	4.5
Channel Temperature Rise	$\Delta T_{ch}$	(VDS X IDS + Pin – Pout) X Rth(c-c)	°C	—	130	150

Recommended Gate Resistance(Rg): 60  $\Omega$

### ELECTRICAL CHARACTERISTICS ( Ta= 25°C )

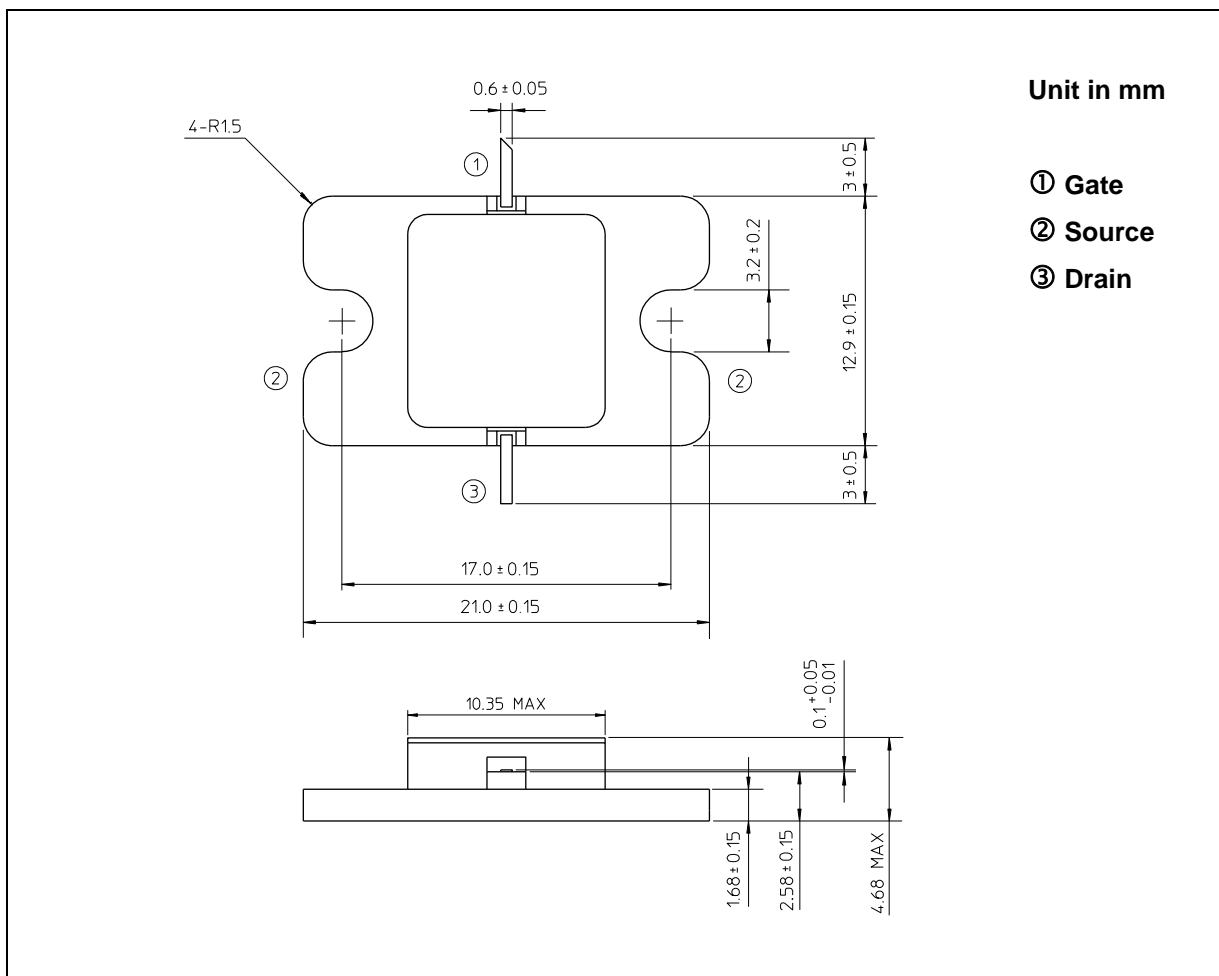
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 5V IDS= 5.0A	S	—	4.5	—
Pinch-off Voltage	VGSoff	VDS= 5V IDS= 23mA	V	-2.6	-4.0	-6.0
Saturated Drain Current	IDSS	VDS= 5V VGS= 0V	A	—	15	—
Gate-Source Breakdown Voltage	VGSO	IGS= -10mA	V	-10	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	1.4	1.6

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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	15
Total Power Dissipation (Tc= 25 °C)	PT	W	140
Channel Temperature	Tch	°C	250
Storage Temperature	Tstg	°C	-65 to +175

**PACKAGE OUTLINE (7-AA04A)**

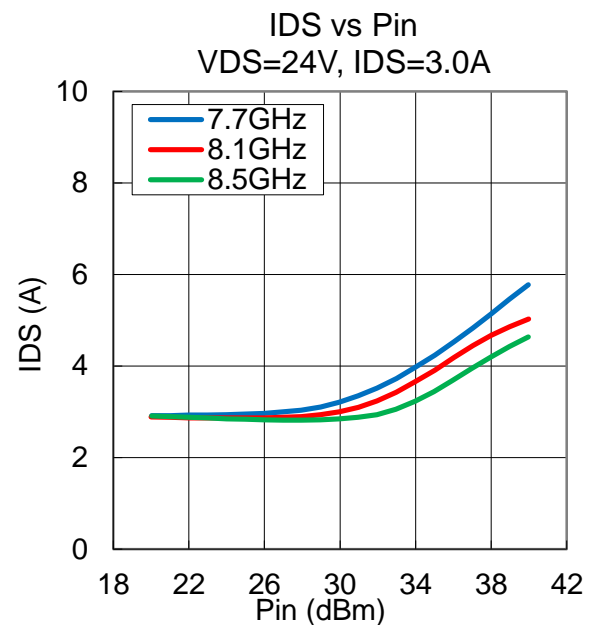
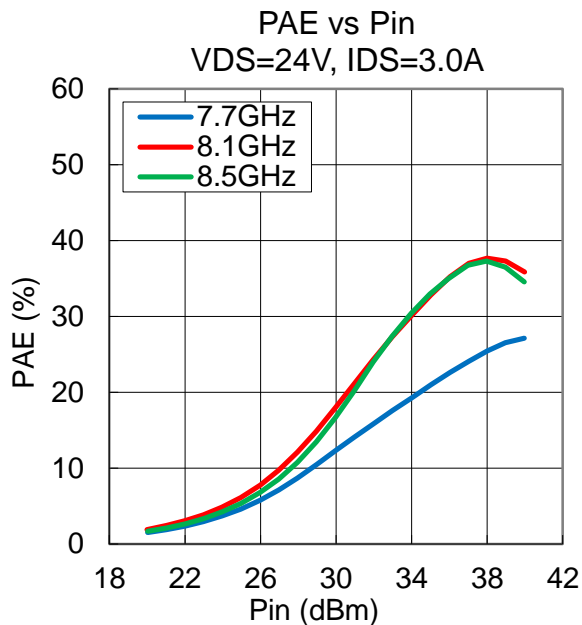
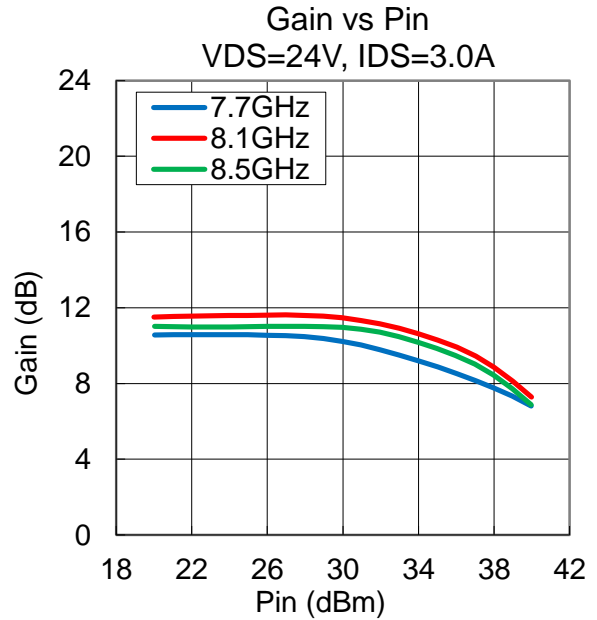
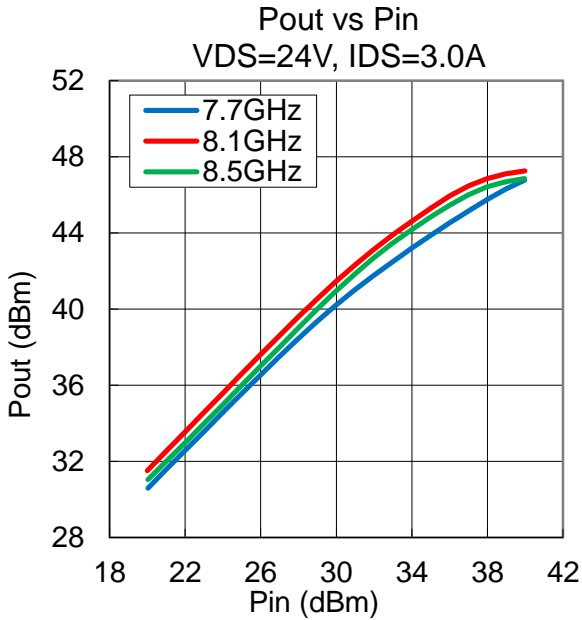


**HANDLING PRECAUTIONS FOR PACKAGE MODEL**

Soldering iron should be grounded and the operating time should not exceed 10 seconds at 260°C or 3 seconds at 350°C.

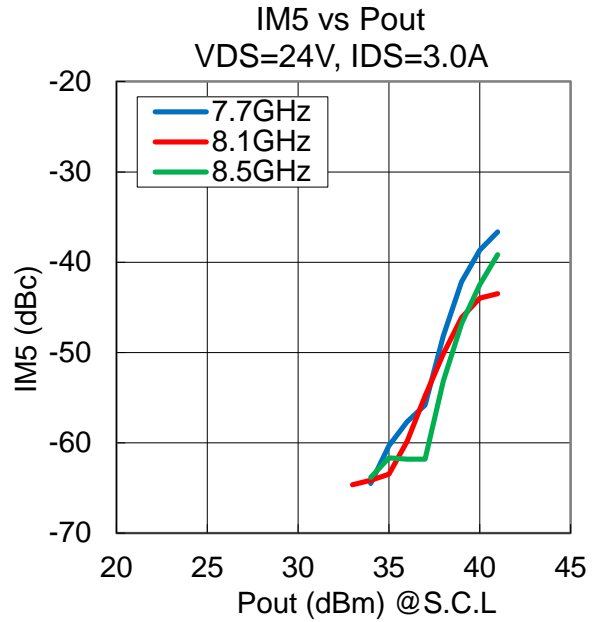
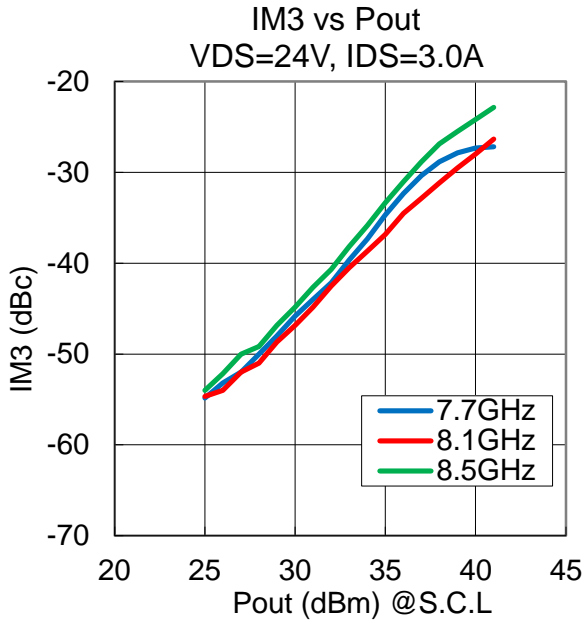
• Pout , Gain , PAE , IDS vs. Pin

VDS= 24 V, IDSset= 3.0 A, f= 7.7, 8.1, 8.5 GHz, Ta= +25 °C



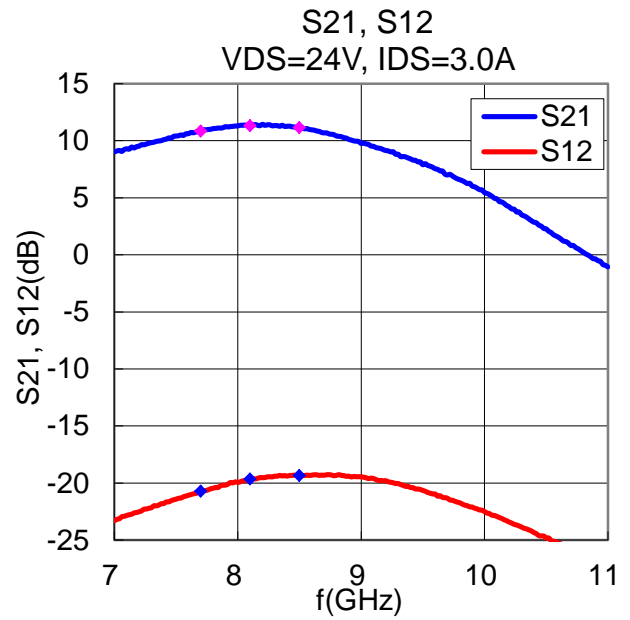
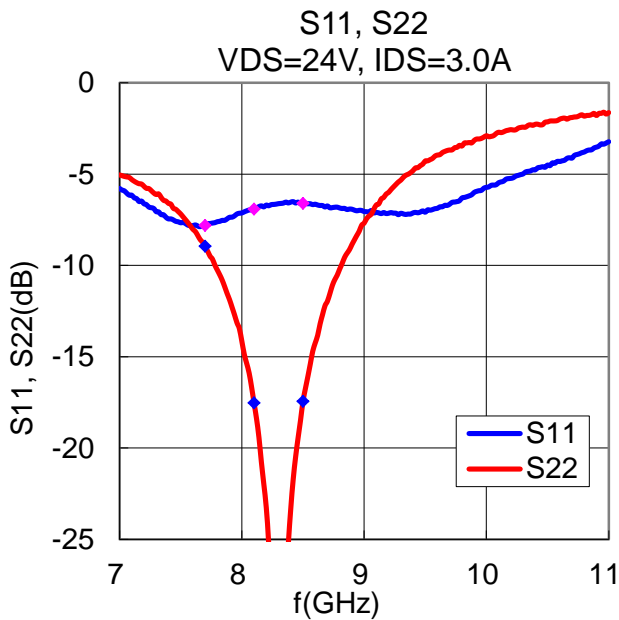
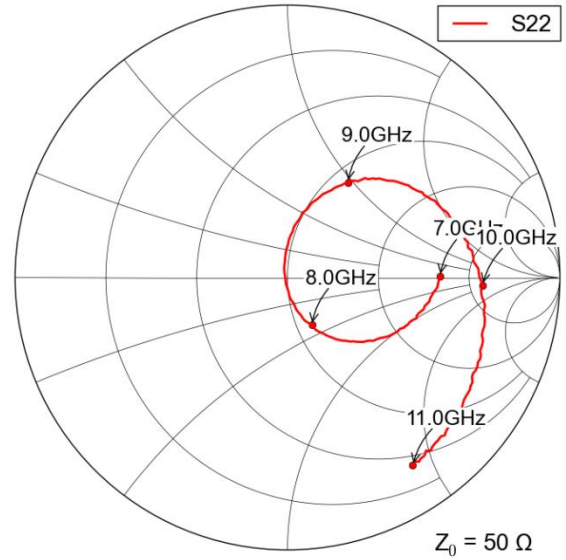
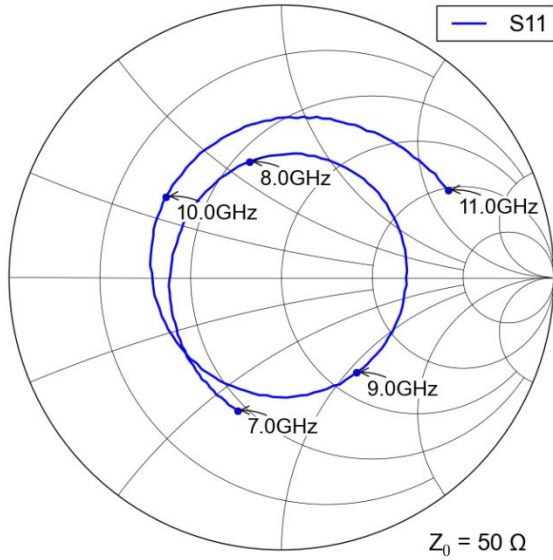
**•IM3, IM5 vs. Pout**

VDS= 24 V, IDSset= 3.0 A, f= 7.7, 8.1, 8.5 GHz, Δf= 5 MHz , Ta= +25 °C



**S-Parameters**

VDS= 24 V, IDSset= 3.0 A, f= 7.0 to 11.0 GHz, Ta= +25 °C



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