

FEATURES

- **BROAD BAND INTERNALLY MATCHED FET**
- **HIGH POWER**
P1dB= 48.0dBm at 7.7GHz to 8.5GHz
- **HIGH GAIN**
G1dB= 7.5dB at 7.7GHz to 8.5GHz
- **LOW INTERMODULATION DISTORTION**
IM3(MIN.)= -25dBc at Pout= 41dBm (Single Carrier Level)
- **HERMETICALLY SEALED PACKAGE**



RF PERFORMANCE SPECIFICATIONS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power at 1dB Gain Compression Point	P1dB	VDS= 10V IDSset= 9.5A f= 7.7 to 8.5GHz	dBm	47.0	48.0	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	6.5	7.5	—
Drain Current	IDS1		A	—	14.5	16.0
Gain Flatness	ΔG		dB	—	—	±0.8
Power Added Efficiency	ηadd		%	—	36	—
3rd Order Intermodulation Distortion	IM3	Two-Tone Test Po= 41dBm, Δf= 5MHz (Single Carrier Level)	dBc	-25	-30	—
Drain Current	IDS2		A	—	—	13.1
Channel Temperature Rise	ΔTch	(VDS × IDS + Pin - P1dB) × Rth(c-c)	°C	—	—	100

Recommended Gate Resistance(Rg): 28 Ω

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

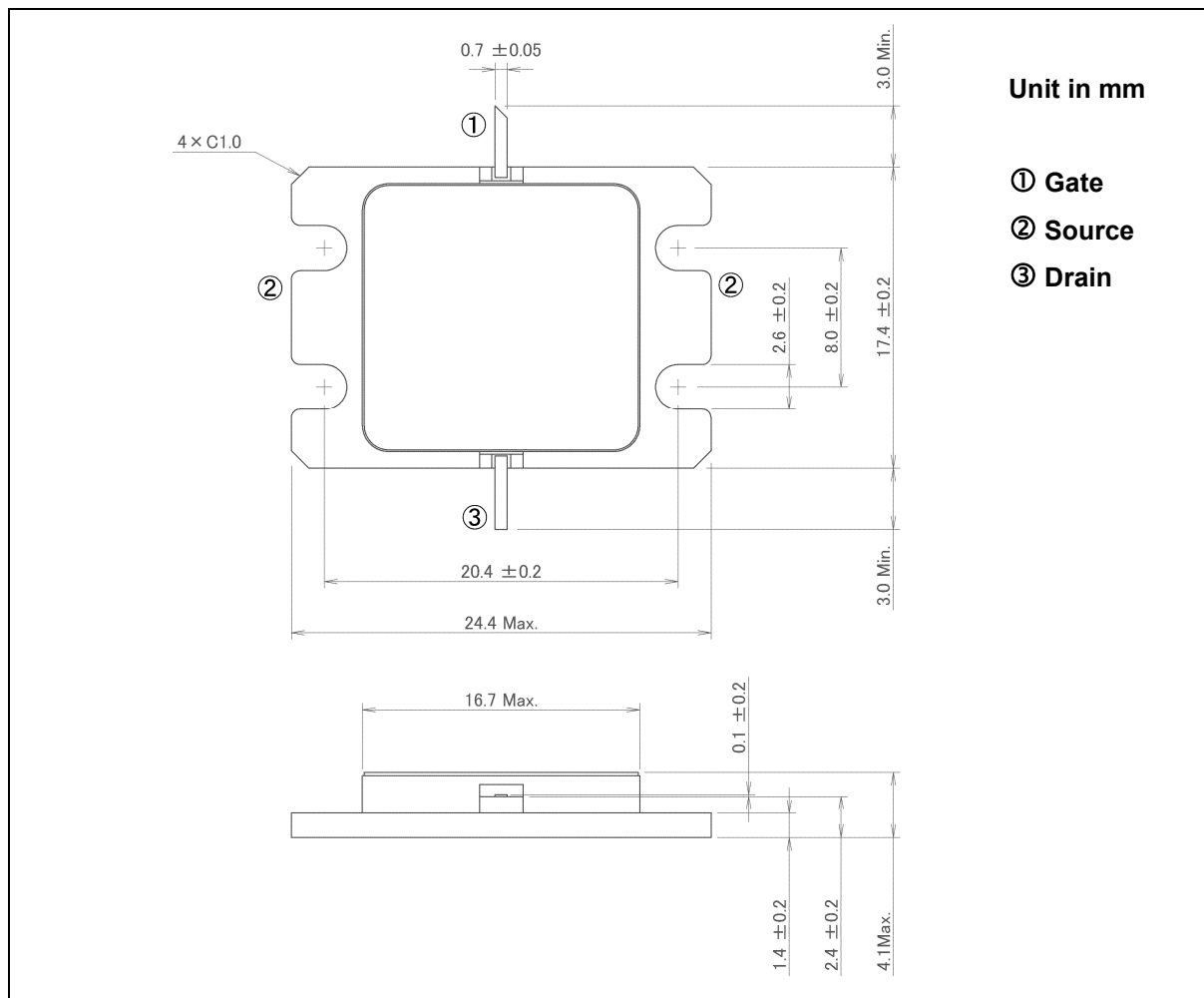
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 11.0A	S	—	15.0	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 120mA	V	-1.0	-1.8	-2.5
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	27	—
Gate-Source Breakdown Voltage	VGSO	IGS= -0.4mA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	0.8	1.0

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ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

CHARACTERISTICS	SYMBOL	UNIT	RATING
Drain-Source Voltage	VDS	V	15
Gate-Source Voltage	VGS	V	-5
Drain Current	IDS	A	20.0
Total Power Dissipation (Tc= 25°C)	PT	W	150
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 to +175

PACKAGE OUTLINE (7-AA09A)



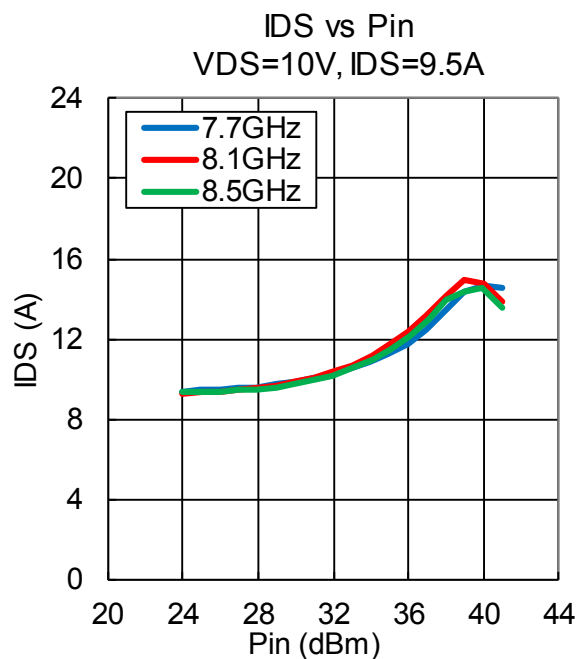
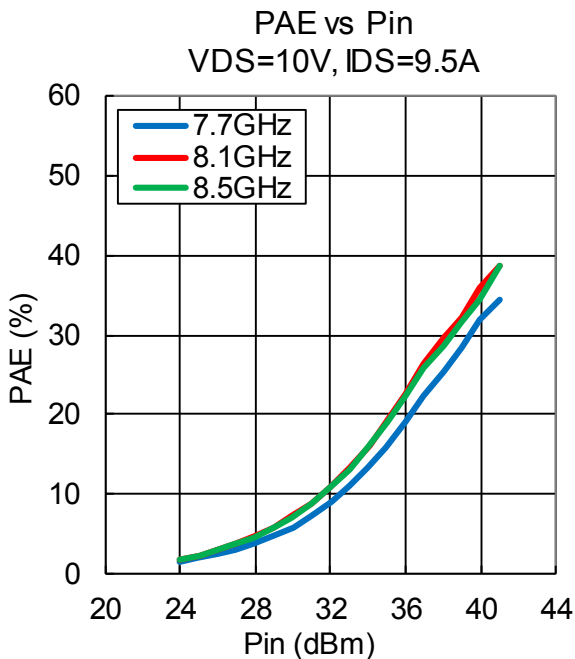
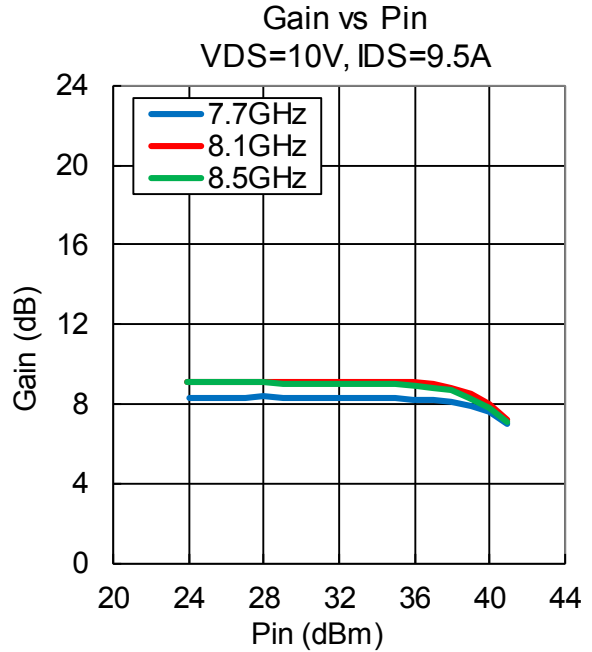
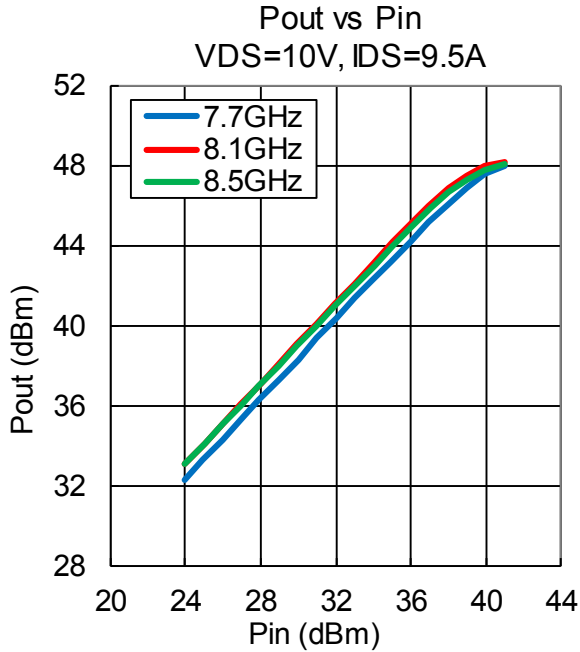
HANDLING PRECAUTIONS FOR PACKAGE MODEL

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

TYPICAL RF PERFORMANCE

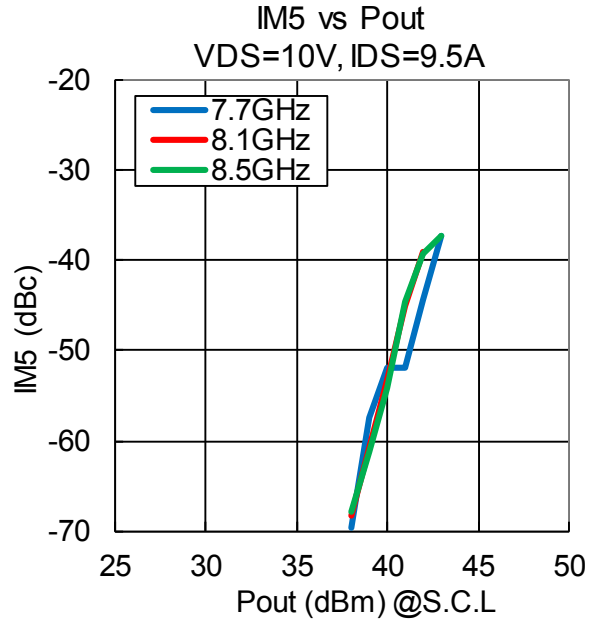
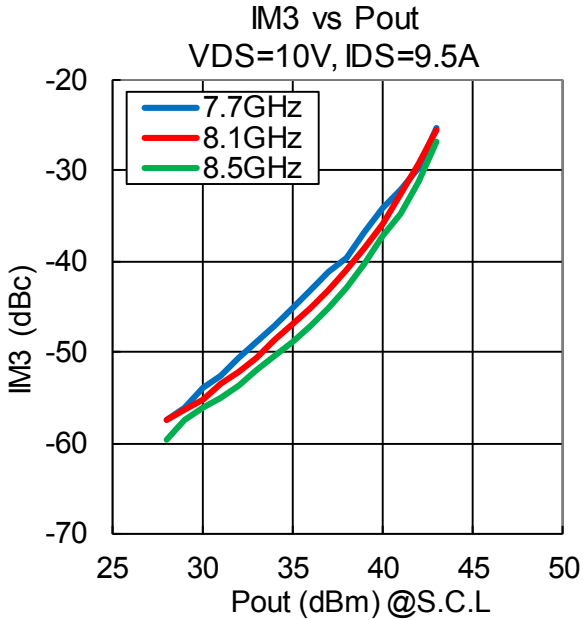
• Pout , Gain , PAE , IDS vs. Pin

VDS= 10 V, IDSset= 9.5 A, f= 7.7, 8.1, 8.5 GHz, Ta= +25 °C



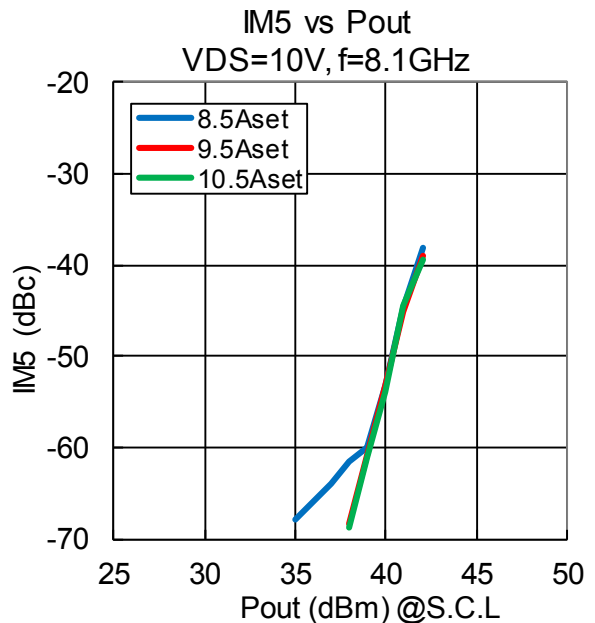
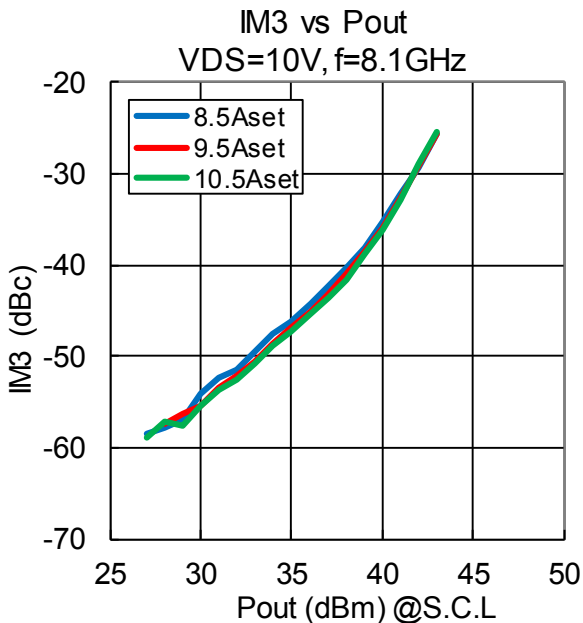
•IM3, IM5 vs. Pout

VDS= 10 V, IDSset= 9.5 A, f= 7.7, 8.1, 8.5 GHz, Δf= 5 MHz, Ta= +25 °C



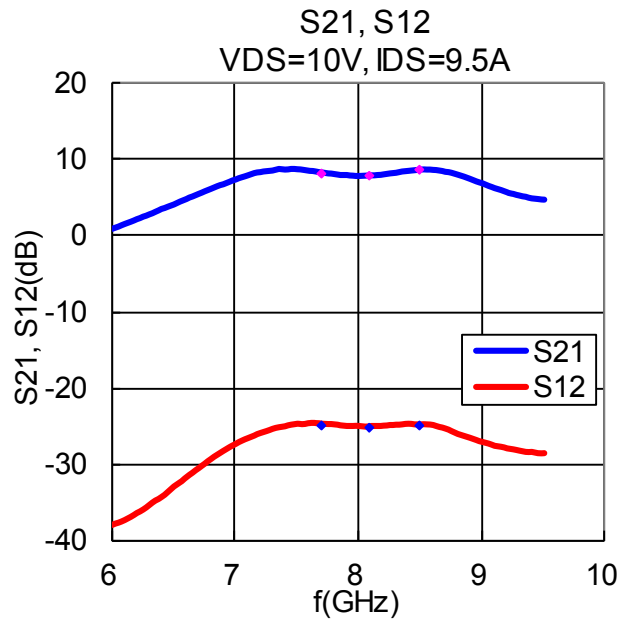
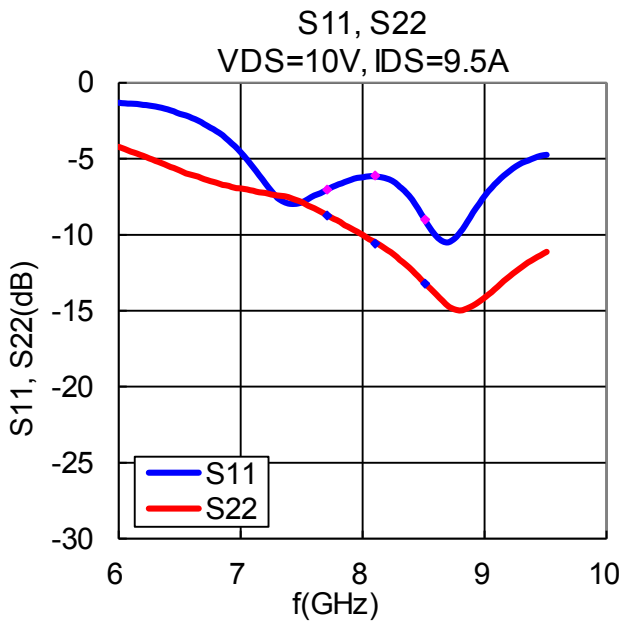
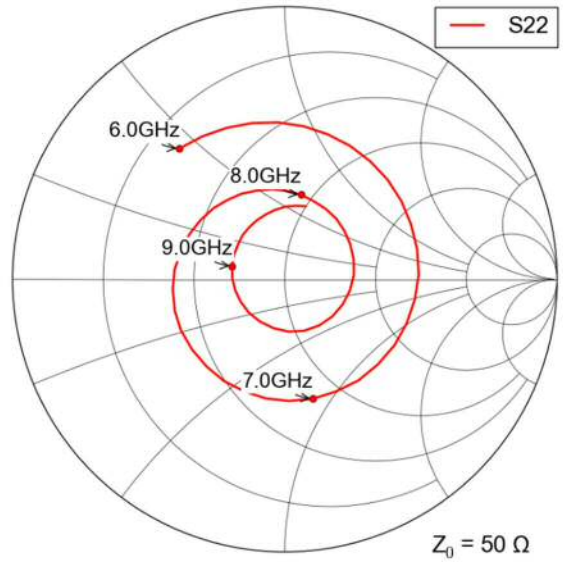
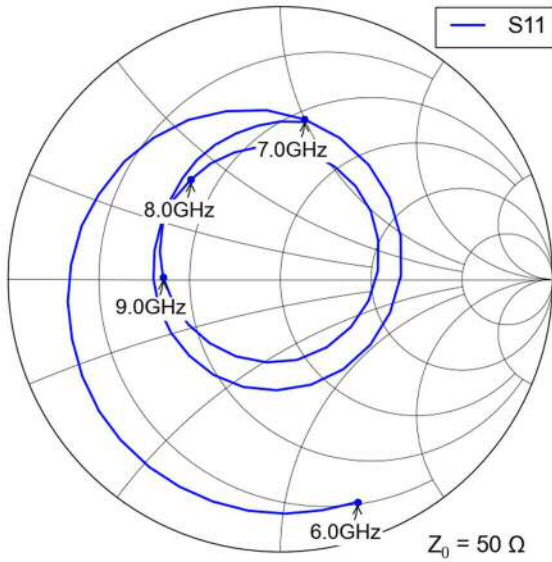
•IM3, IM5 vs. Pout

VDS= 10 V, IDSset= 8.5, 9.5, 10.5 A, f= 8.1 GHz, Ta= +25 °C



-S-Parameters

VDS= 10 V, IDSset= 9.5 A, f= 6.0 to 9.5 GHz, Ta= +25 °C



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