

FEATURES

- BROAD BAND INTERNALLY MATCHED FET
- HIGH POWER
P1dB= 45.0dBm at 7.1GHz to 7.9GHz
- HIGH GAIN
G1dB= 8.5dB at 7.1GHz to 7.9GHz
- LOW INTERMODULATION DISTORTION
IM3(MIN.) = -44dBc at Pout= 34dBm (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= 6.4A f= 7.1 to 7.9GHz	dBm	44.0	45.0	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	7.5	8.5	—
Drain Current	IDS1		A	—	7.0	8.0
Gain Flatness	ΔG		dB	—	—	±0.6
Power Added Efficiency	ηadd		%	—	39	—
3rd Order Intermodulation Distortion	IM3	Two-Tone Test Po= 34dBm, Δf= 5MHz (Single Carrier Level)	dBc	-44	-47	—
Drain Current	IDS2		A	—	7.0	8.0
Channel Temperature Rise	ΔTch	(VDS × IDS + Pin - P1dB) × Rth(c-c)	°C	—	—	100

Recommended Gate Resistance(Rg): 28 Ω

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

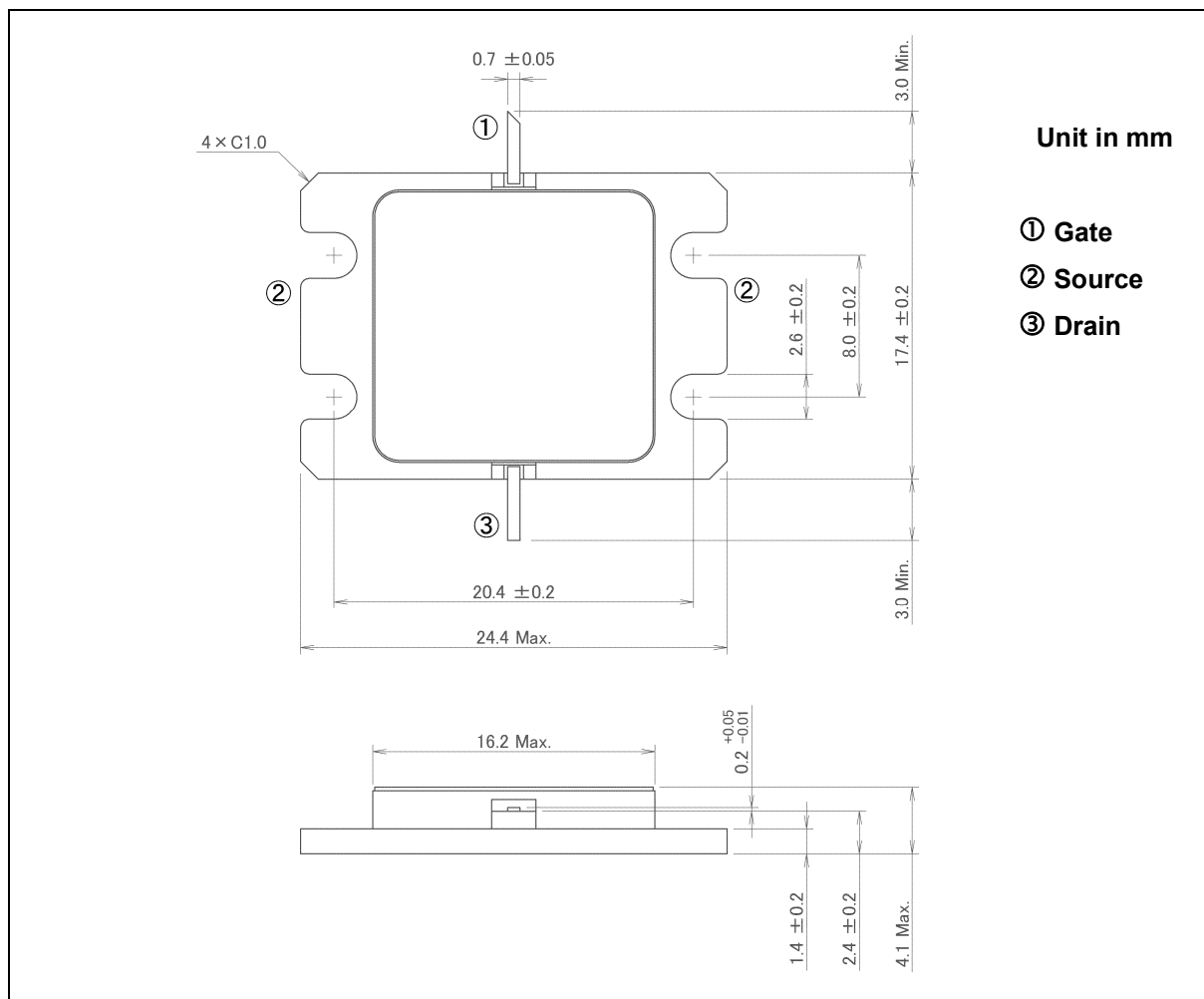
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 10.0A	S	—	8.0	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 80mA	V	-0.5	-2.0	-3.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	16.0	—
Gate-Source Breakdown Voltage	VGSO	IGS= -240μA	V	-5	—	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	1.0	1.5

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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	18.0
Total Power Dissipation (Tc= 25°C)	PT	W	100
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 to +175

PACKAGE OUTLINE (7-AA05A)



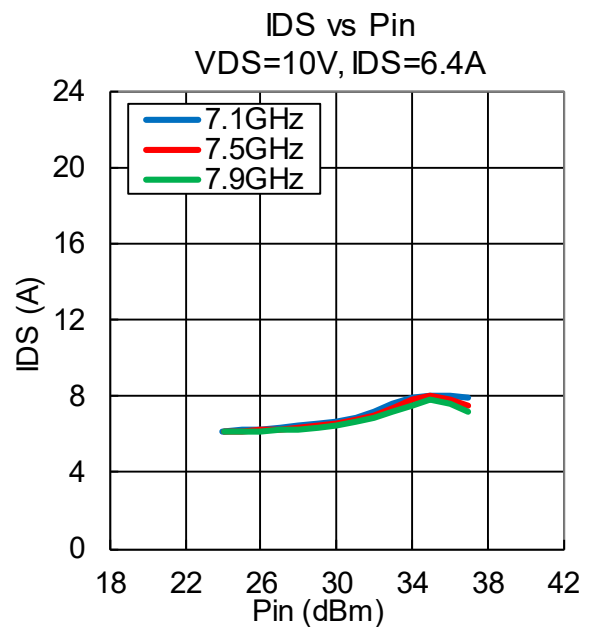
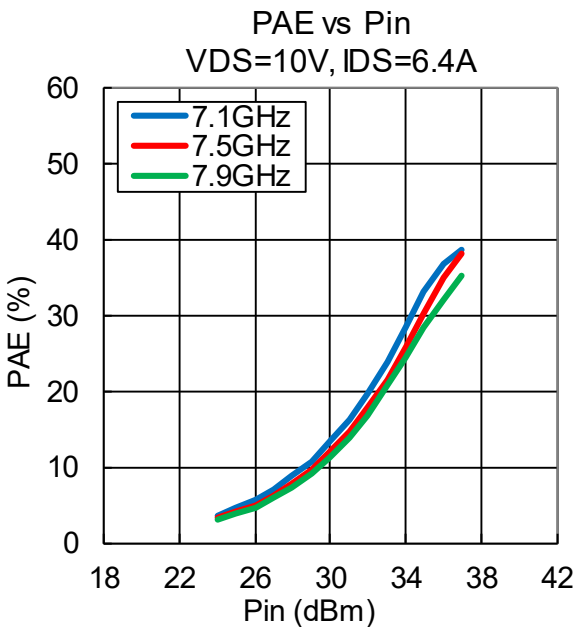
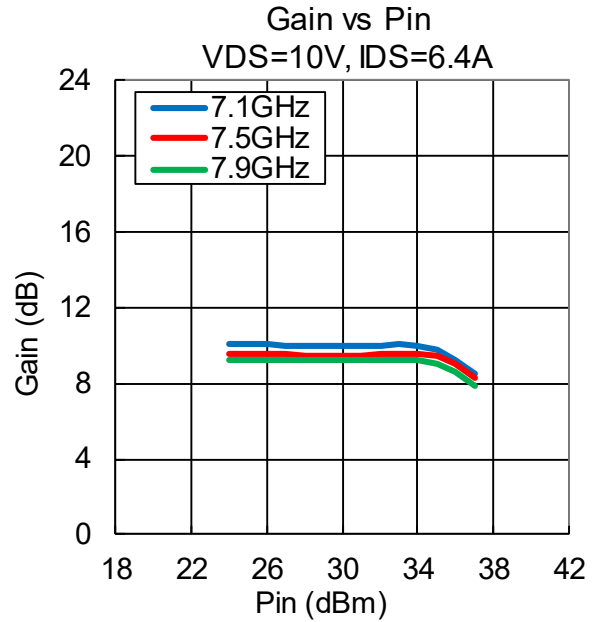
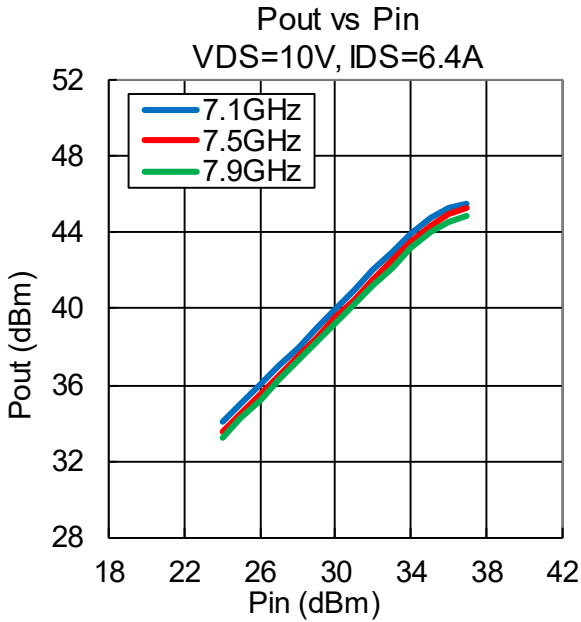
HANDLING PRECAUTIONS FOR PACKAGE MODEL

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

TYPICAL RF PERFORMANCE

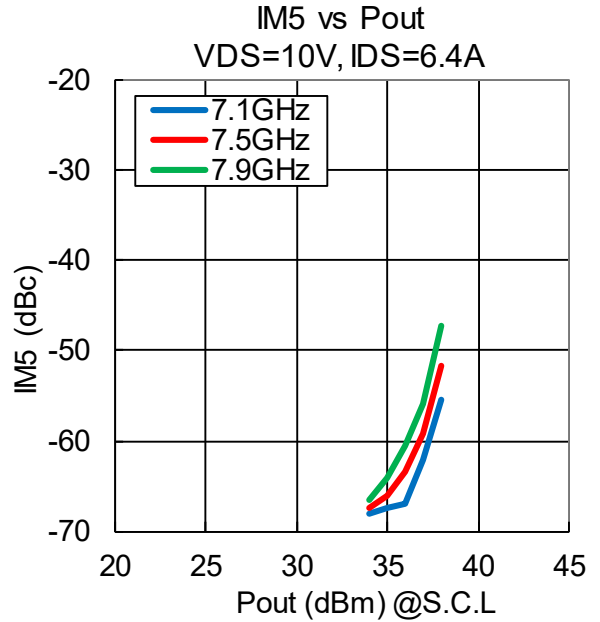
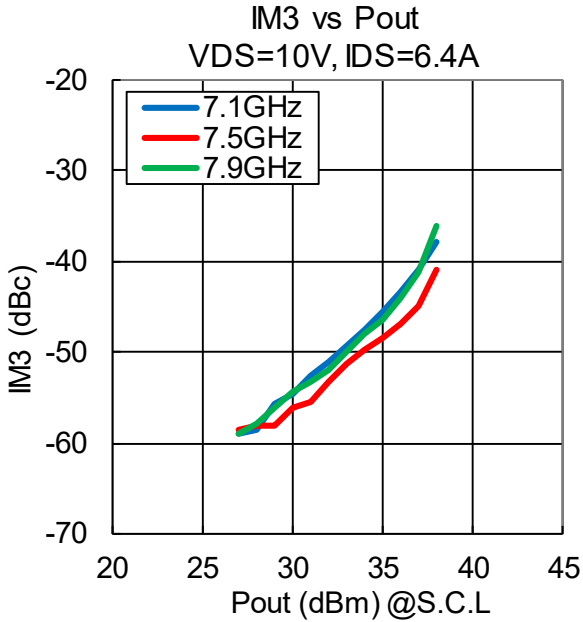
•Pout , Gain , PAE , IDS vs. Pin

VDS= 10 V, IDSset= 6.4 A, f= 7.1, 7.5, 7.9 GHz, Ta= +25 °C

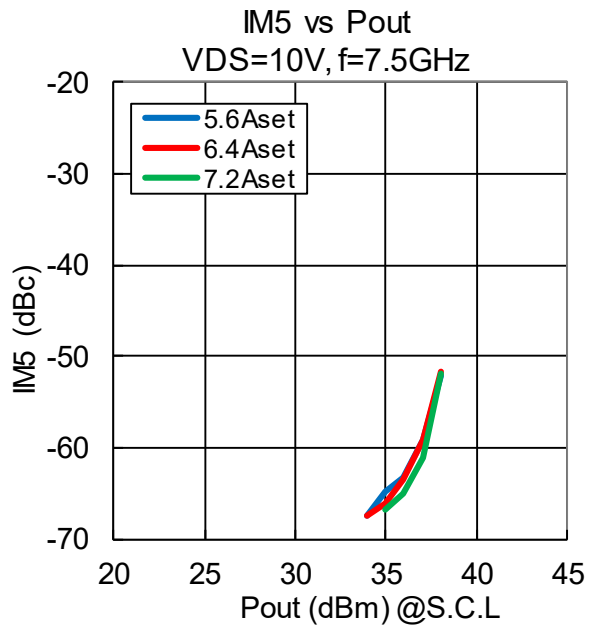
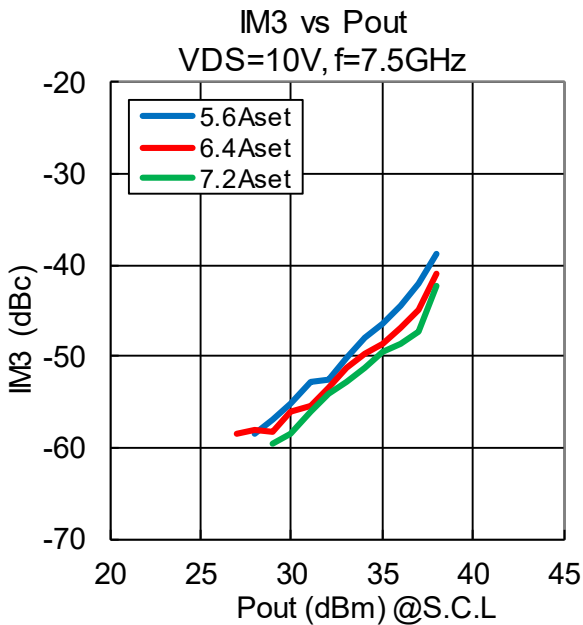


IM3, IM5 vs. Pout

VDS= 10 V, IDSset= 6.4 A, f= 7.1, 7.5, 7.9 GHz, Δf= 5 MHz, Ta= +25 °C

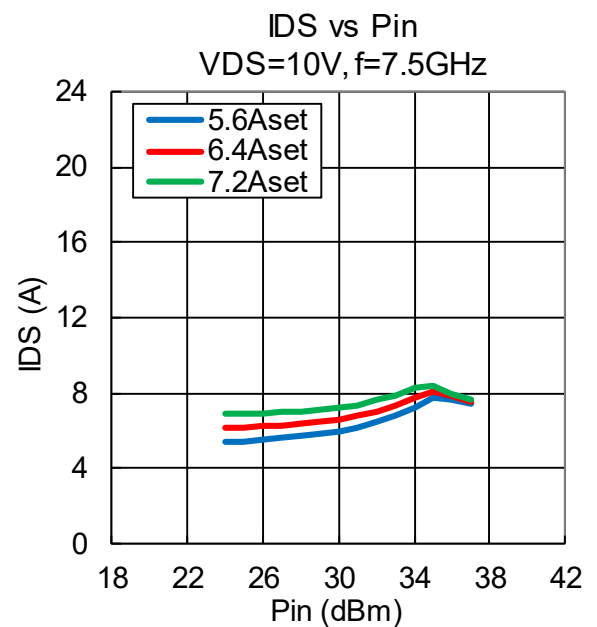
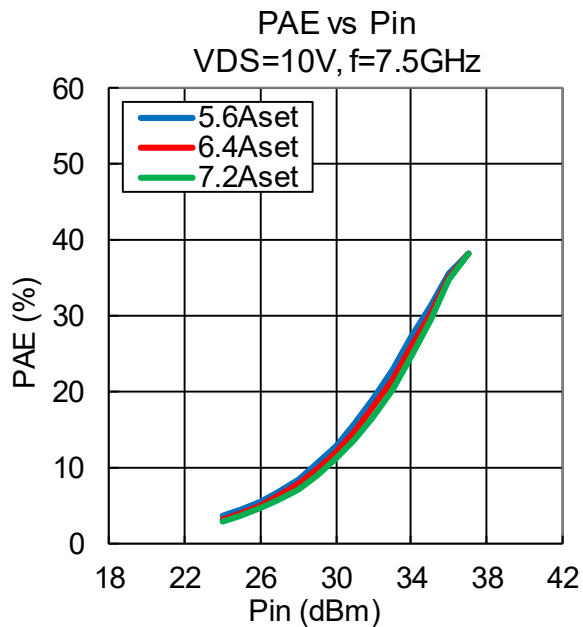
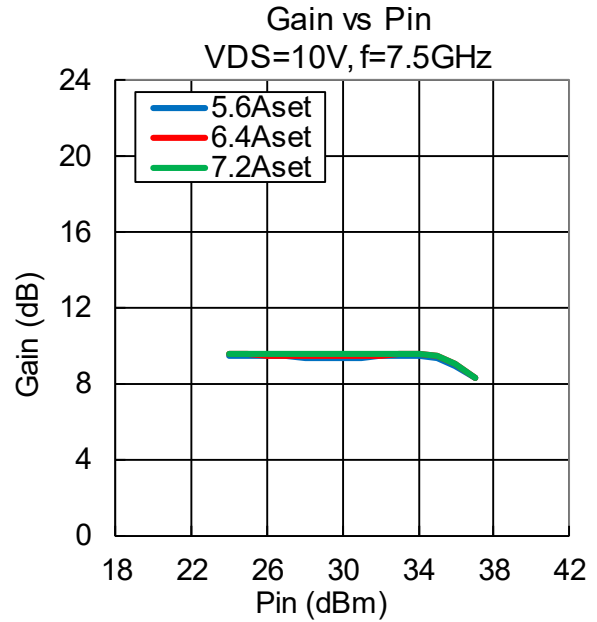
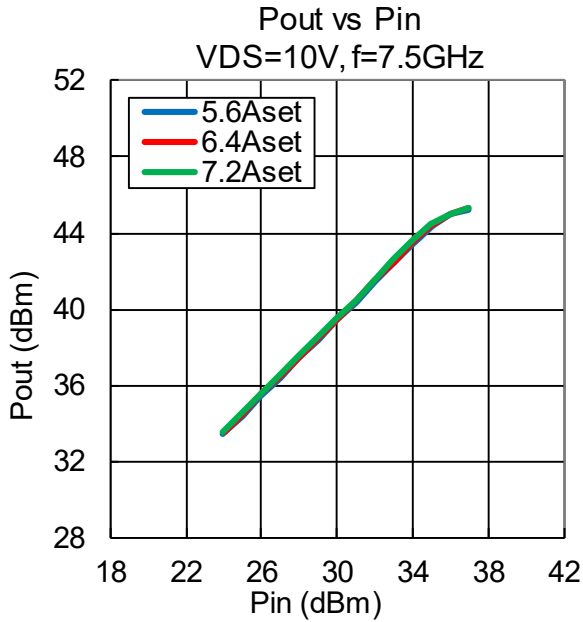


VDS= 10 V, IDSset= 5.6, 6.4, 7.2 A, f= 7.5 GHz, Δf= 5 MHz, Ta= +25 °C



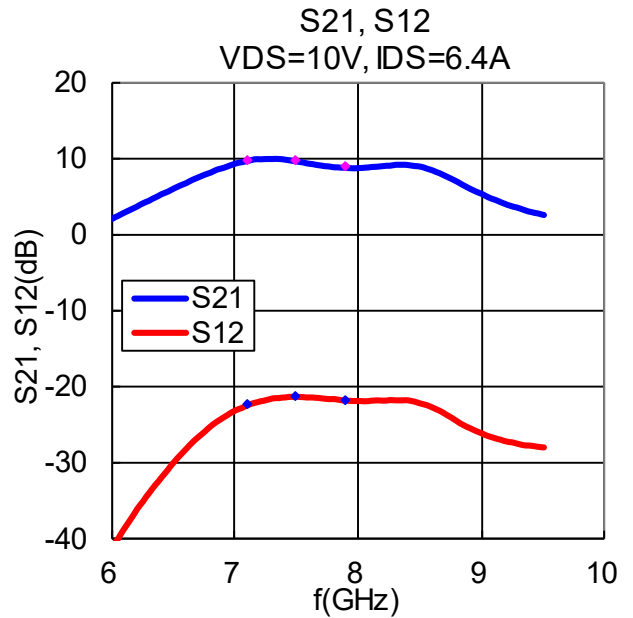
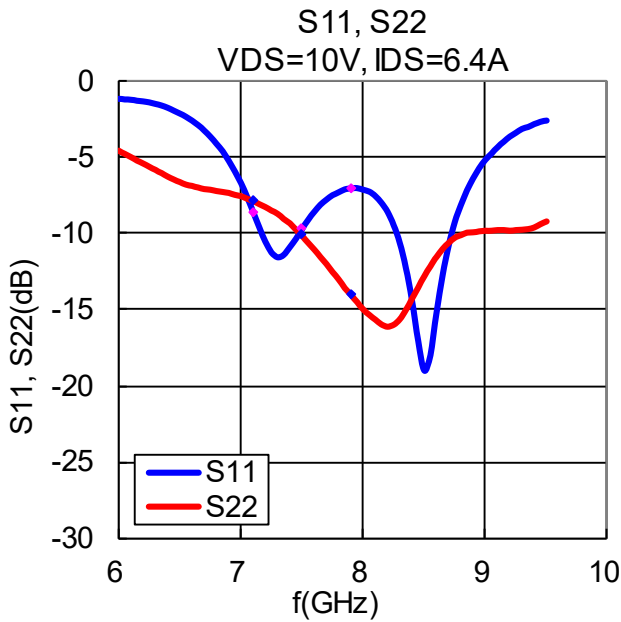
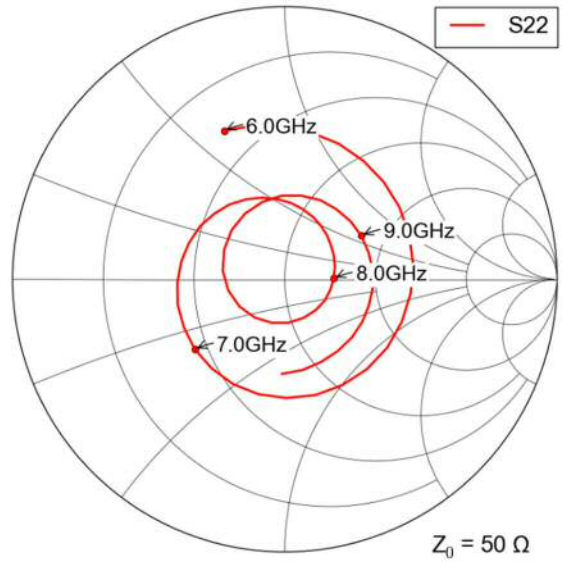
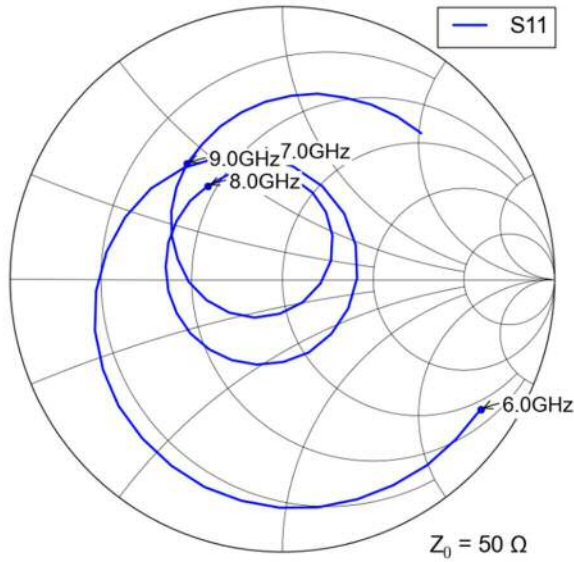
•Pout , Gain , PAE , IDS vs. Pin vs. IDSset

VDS= 10 V, IDSset= 5.6, 6.4, 7.2 A, f= 7.5 GHz, Ta= +25 °C



-S-Parameters

VDS= 10 V, IDSset= 6.4 A, f= 6.0 to 9.5 GHz, Ta= +25 °C



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