

FEATURES

- BROAD BAND INTERNALLY MATCHED FET
- HIGH POWER
P1dB= 42.5dBm at 7.1GHz to 7.9GHz
- HIGH GAIN
G1dB= 10.5dB at 7.1GHz to 7.9GHz
- LOW INTERMODULATION DISTORTION
IM3(MIN.)= -40dBc at Pout= 30.5dBm
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= 2.8A f = 7.1 to 7.9GHz	dBm	41.5	42.5	—
Power Gain at 1dB Gain Compression Point	G1dB		dB	9.5	10.5	—
Drain Current	IDS1		A	—	4.4	5.0
Gain Flatness	ΔG		dB	—	—	±0.8
Power Added Efficiency	ηadd		%	—	37	—
3rd Order Intermodulation Distortion	IM3	Two Tone Test Po= 30.5dBm, Δf= 5MHz (Single Carrier Level)	dBc	-40	-45	—
Drain Current	IDS2		A	—	—	5.0
Channel Temperature Rise	ΔTch	(VDS X IDS + Pin – P1dB) X Rth(c-c)	°C	—	—	80

Recommended Gate Resistance(Rg): 68 Ω

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

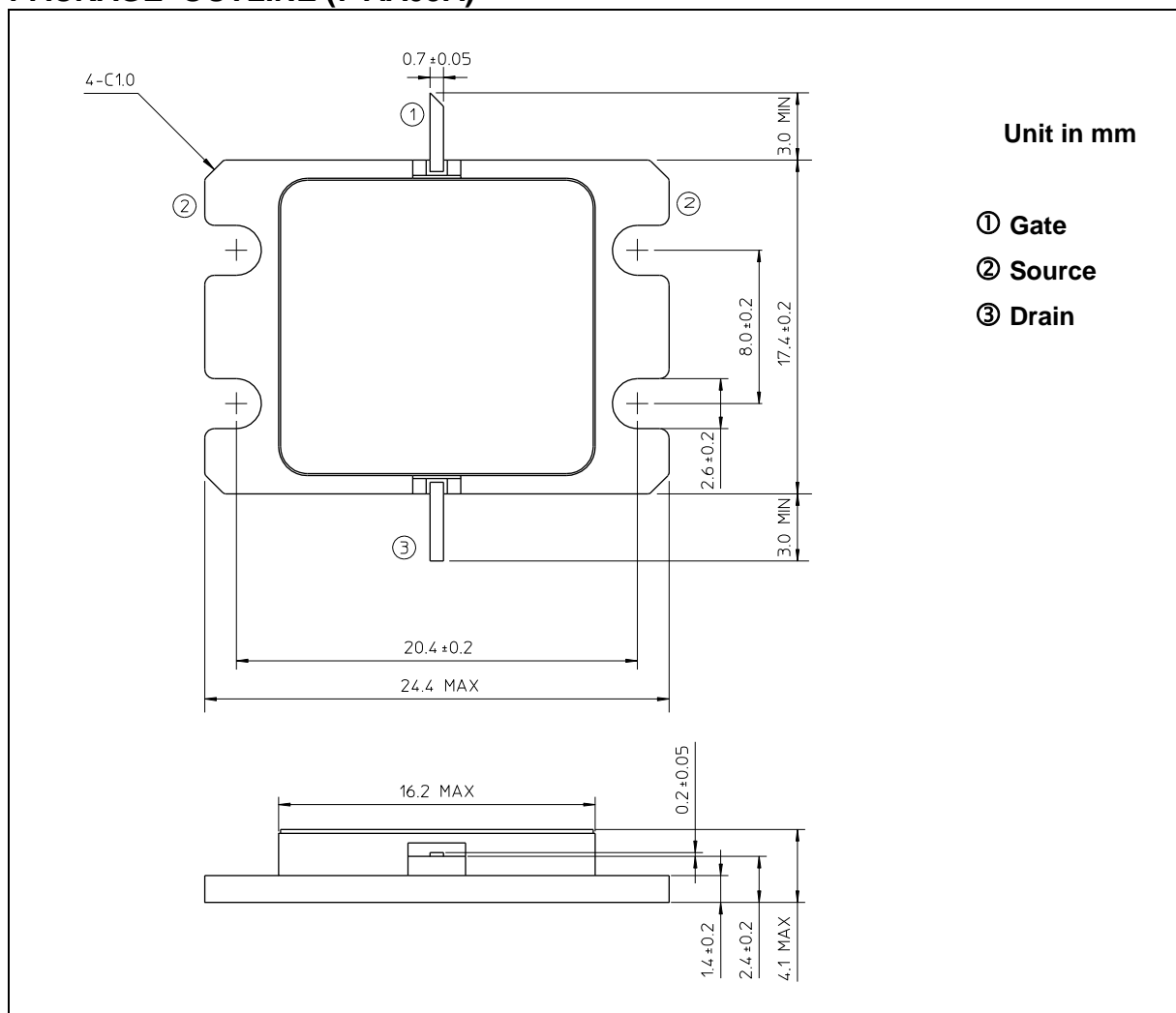
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 3V IDS= 5.2A	S	—	5.2	—
Pinch-off Voltage	VGSoff	VDS= 3V IDS= 40mA	V	-1.0	-1.9	-4.0
Saturated Drain Current	IDSS	VDS= 3V VGS= 0V	A	—	8.8	14.0
Gate-Source Breakdown Voltage	VGSO	IGS= -180μA	V	-5.0	-7.0	—
Thermal Resistance	Rth(c-c)	Channel to Case	°C/W	—	1.5	1.8

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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	14.0
Total Power Dissipation (Tc= 25°C)	PT	W	83.3
Channel Temperature	Tch	°C	175
Storage	Tstg	°C	-65 to +175

PACKAGE OUTLINE (7-AA05A)

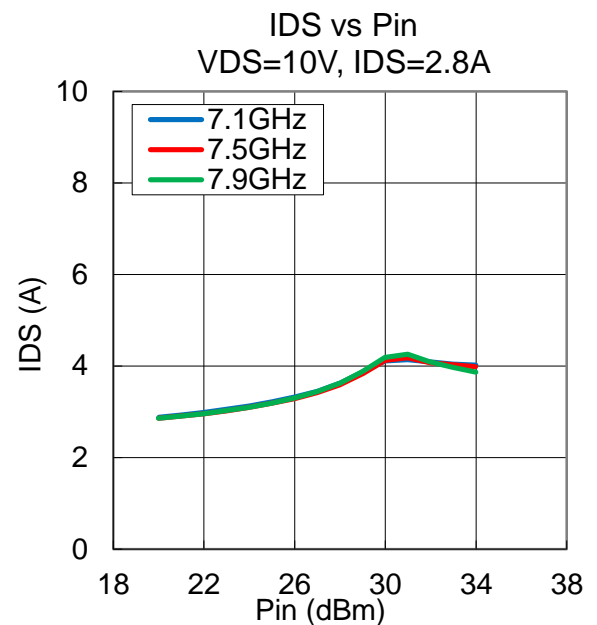
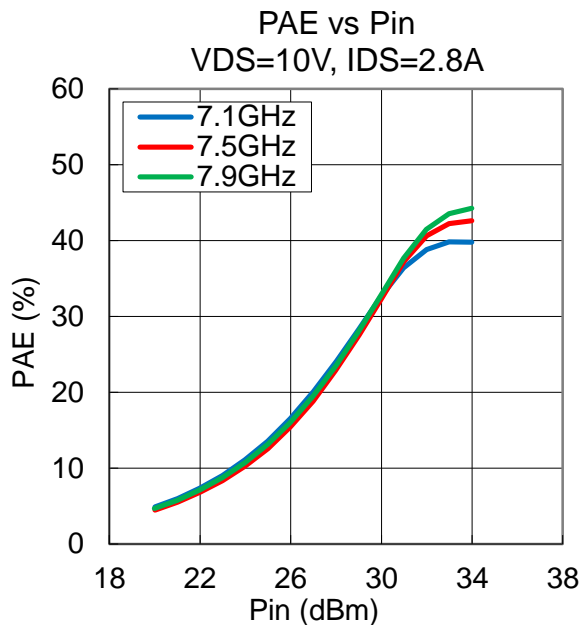
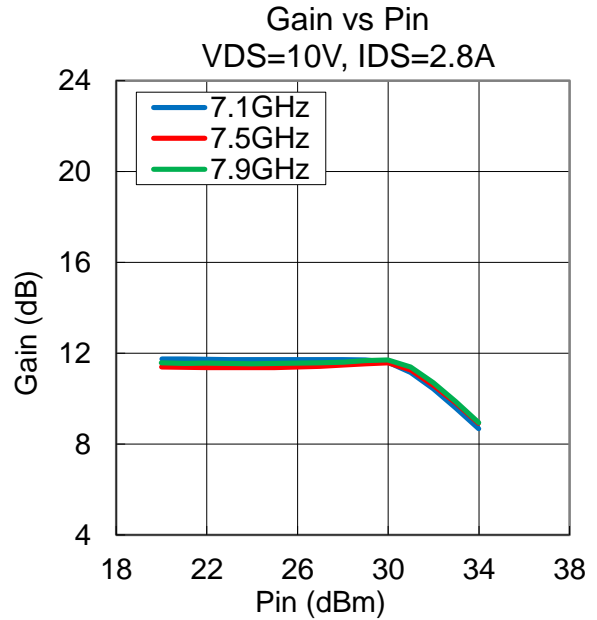
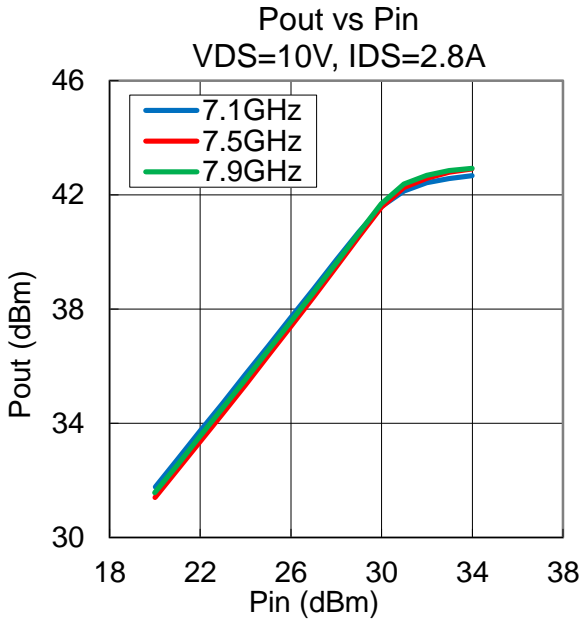


HANDLING PRECAUTIONS FOR PACKAGE MODEL

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

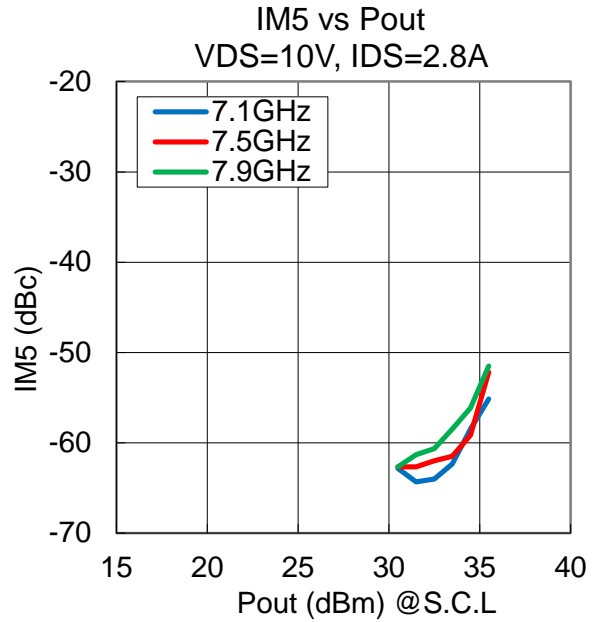
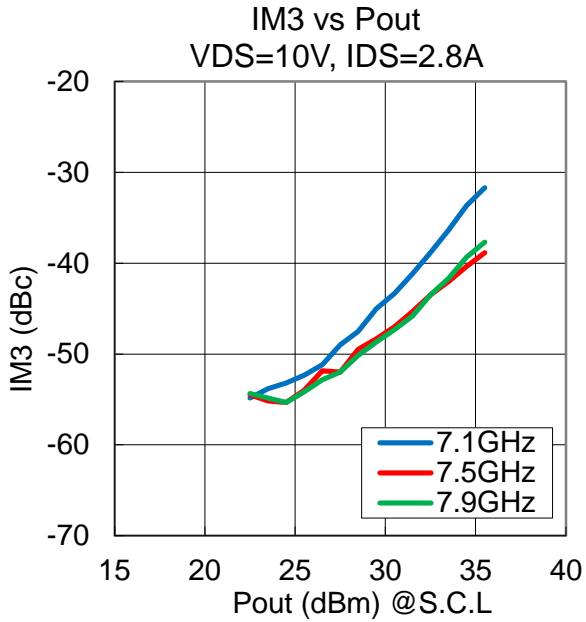
• Pout , Gain , PAE , IDS vs. Pin

VDS= 10 V, IDSset= 2.8 A, f= 7.1, 7.5, 7.9 GHz, Ta= +25 °C



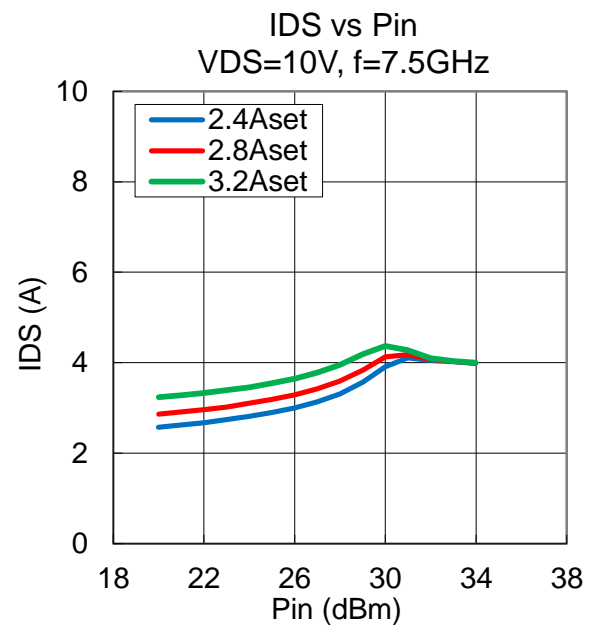
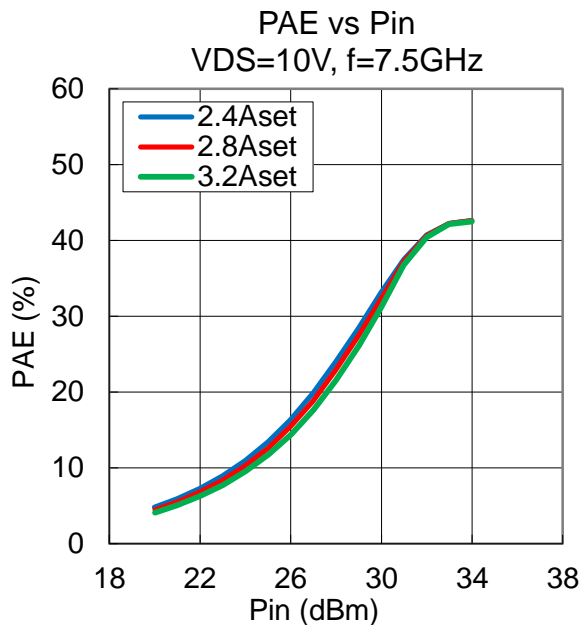
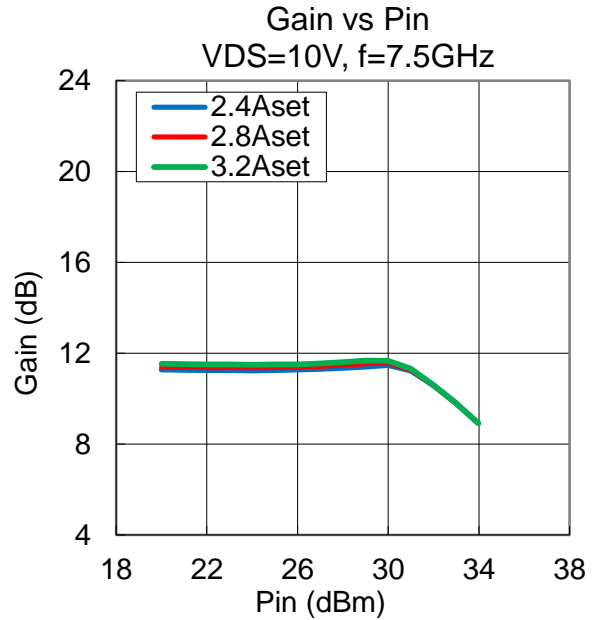
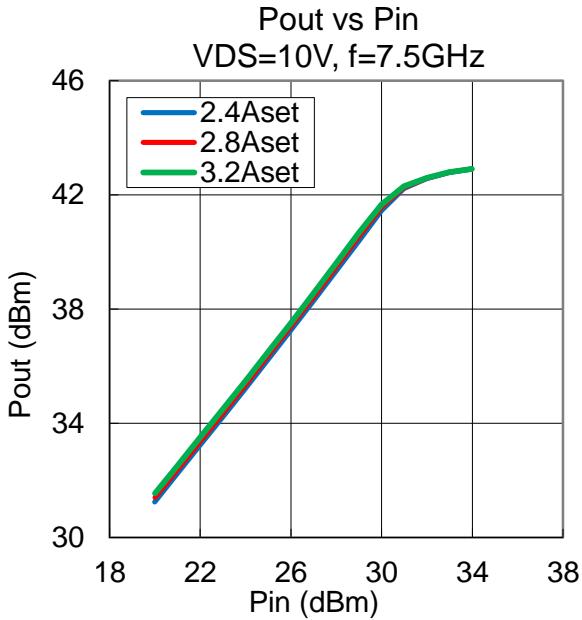
•IM3, IM5 vs. Pout

VDS= 10 V, IDSset= 2.8 A, f= 7.1, 7.5, 7.9 GHz, Δf= 5 MHz , Ta= +25 °C



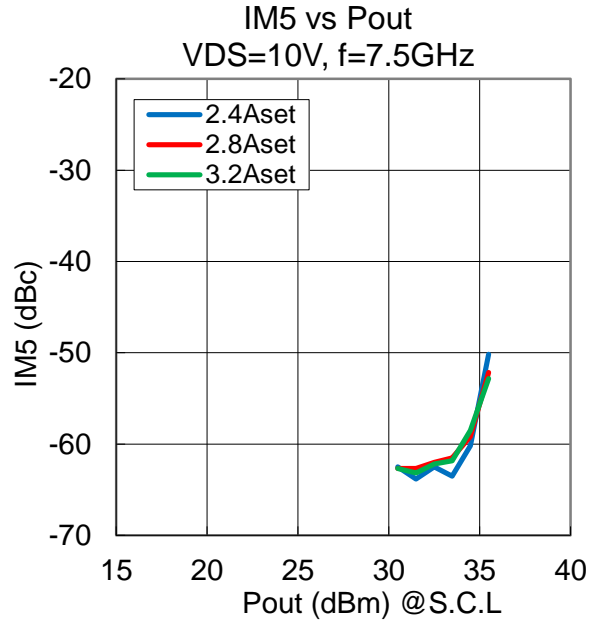
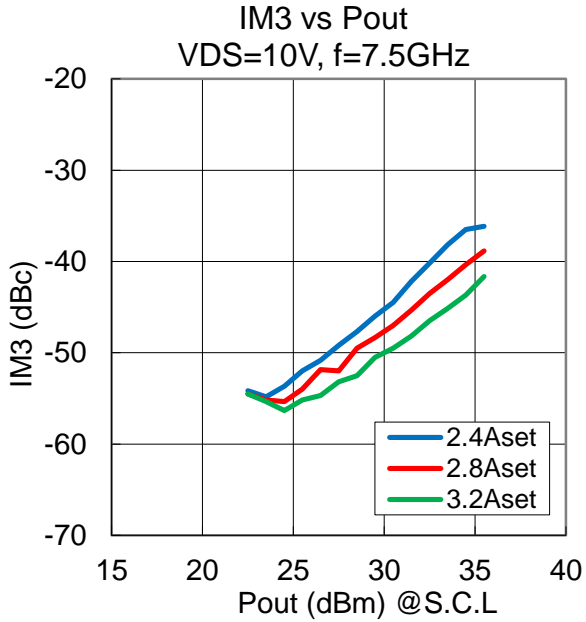
·Pout , Gain , PAE , IDS vs. Pin vs. IDSset

VDS= 10 V, IDSset= 2.4, 2.8, 3.2 A, f= 7.5 GHz, Ta= +25 °C



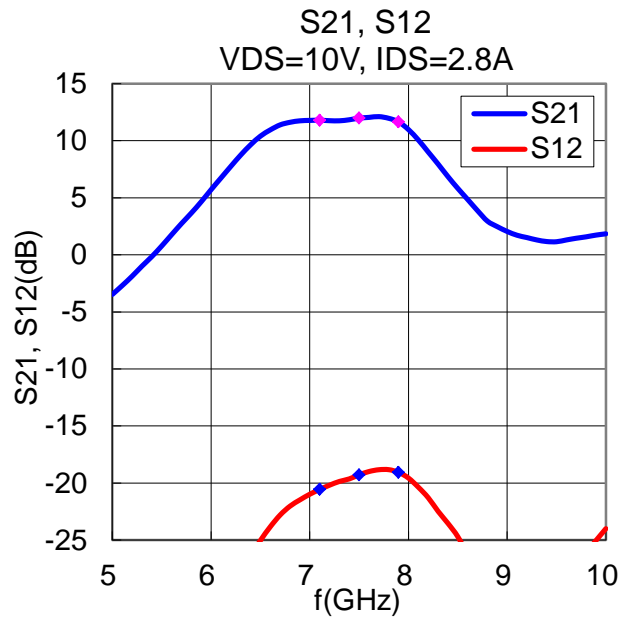
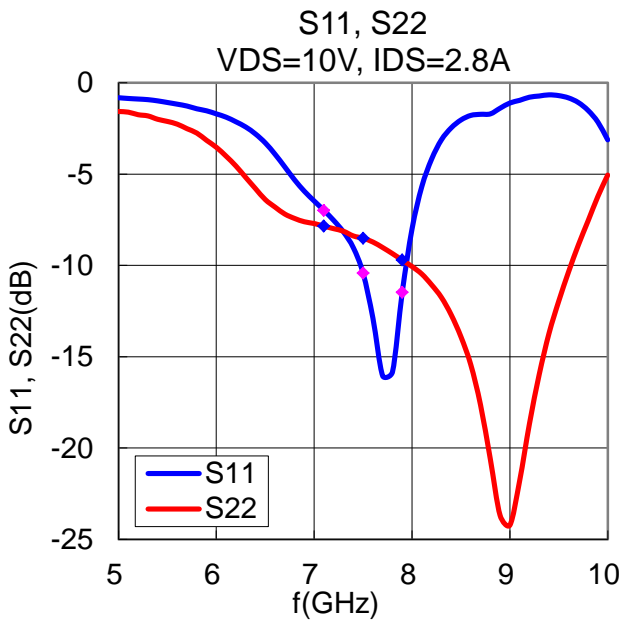
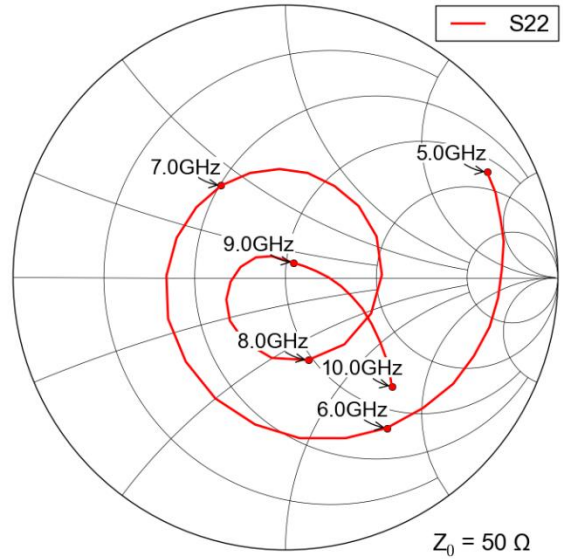
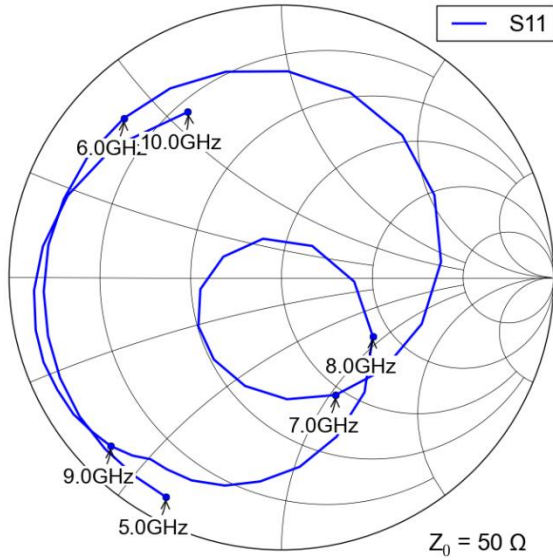
•IM3, IM5 vs. Pout vs. IDSset

VDS= 10 V, IDSset= 2.4, 2.8, 3.2 A, f= 7.5 GHz, Δf= 5 MHz, Ta= +25 °C



•S-Parameters

VDS= 10 V, IDSset= 2.8 A, f= 5.0 to 10.0 GHz, Ta= +25 °C



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