

FEATURES

- BROAD BAND INTERNALLY MATCHED HEMT
- HIGH POWER
Pout= 47.0dBm at Pin= 39.0dBm
- HIGH GAIN
GL= 13.5dB at 5.85GHz to 6.75GHz
- LOW INTERMODULATION DISTORTION
IM3= -40dBc(Min.) 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= 5.85 to 6.75GHz @Pin= 39dBm	dBm	46.0	47.0	—
Drain Current	IDS1		A	—	5.4	6.3
Power Added Efficiency	η_{add}		%	—	33	—
Linear Gain	GL	@Pin= 20dBm	dB	12.5	13.5	—
Gain flatness	ΔG		dB	—	—	± 0.8
3rd Order Intermodulation Distortion	IM3	Two-Tone Test Po= 32.0dBm, Δf = 5MHz (Single Carrier Level)	dBc	-40	—	—
Drain Current	IDS2		A	—	3.5	4.5
Channel Temperature Rise	ΔT_{ch}	(VDS X IDS + Pin – Pout) X Rth(c-c)	°C	—	130	150

Recommended Gate Resistance(Rg): 60 Ω

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

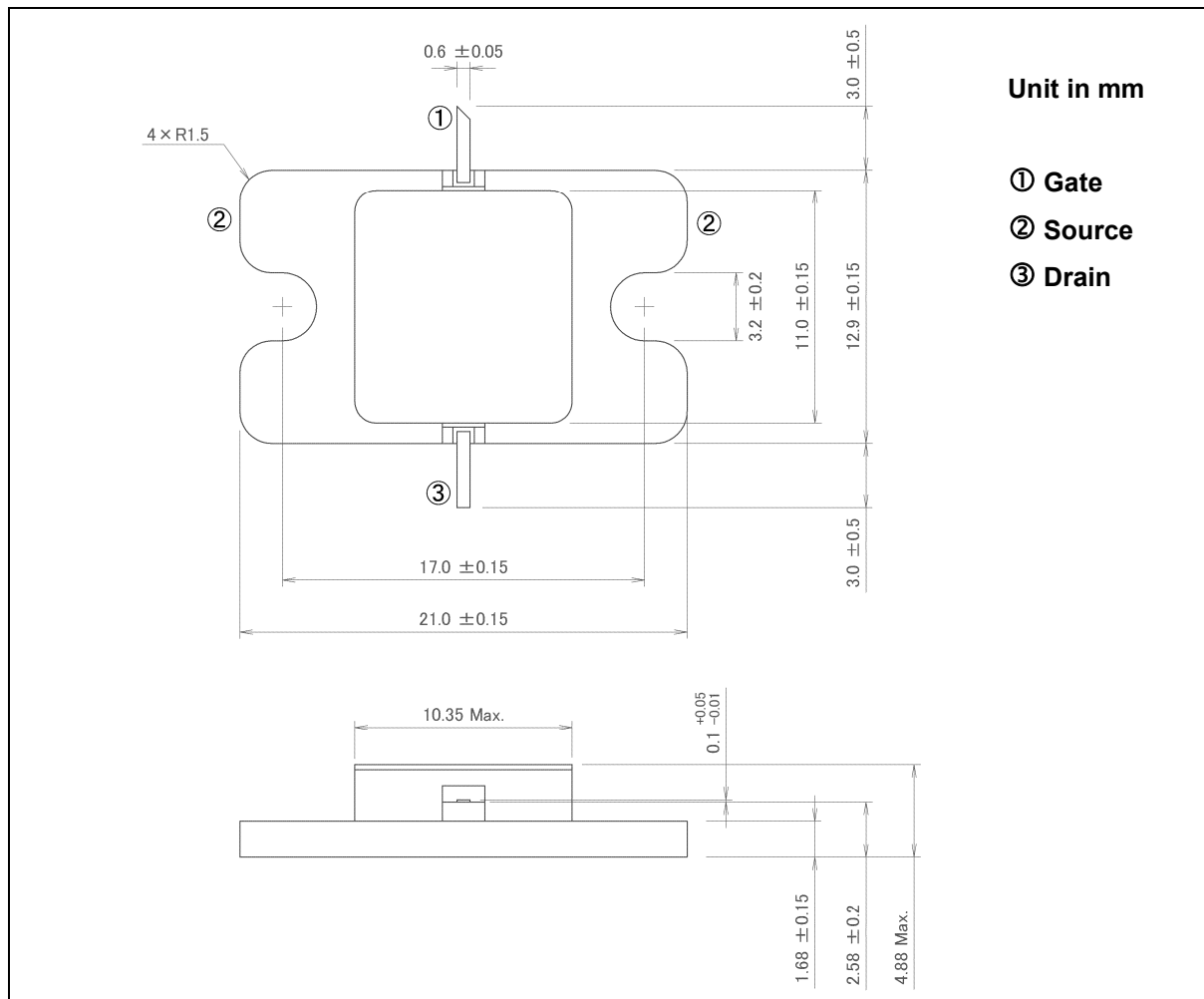
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 5V IDS= 5.0A	S	—	4.5	—
Pinch-off Voltage	VGSoff	VDS= 5V IDS= 23mA	V	-2.0	-4.0	-6.0
Saturated Drain Current	IDSS	VDS= 5V VGS= 0V	A	—	15	—
Gate-Source Breakdown Voltage	VGS0	IGS= -10mA	V	-10	—	—
Thermal Resistance	Rth(c-c)	Channel 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)

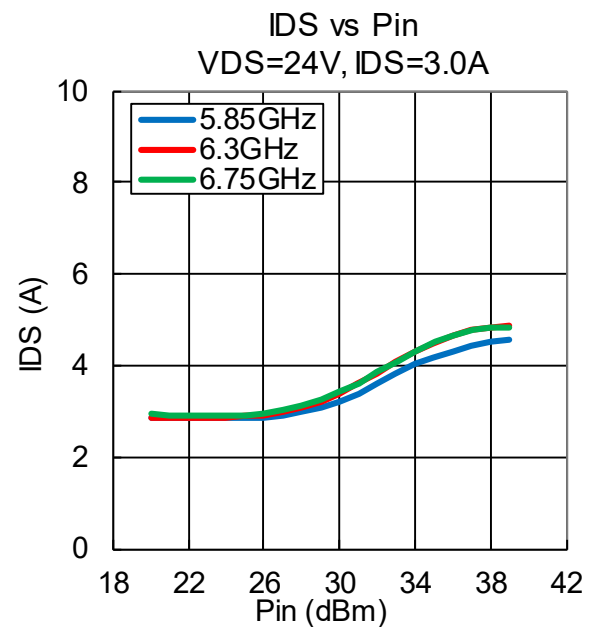
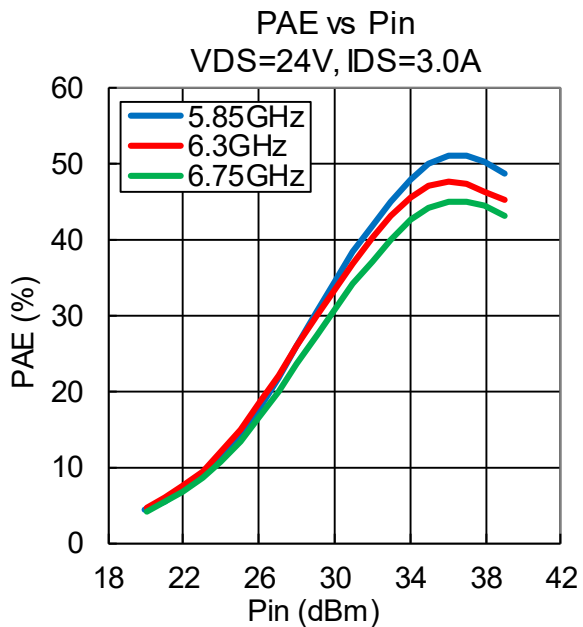
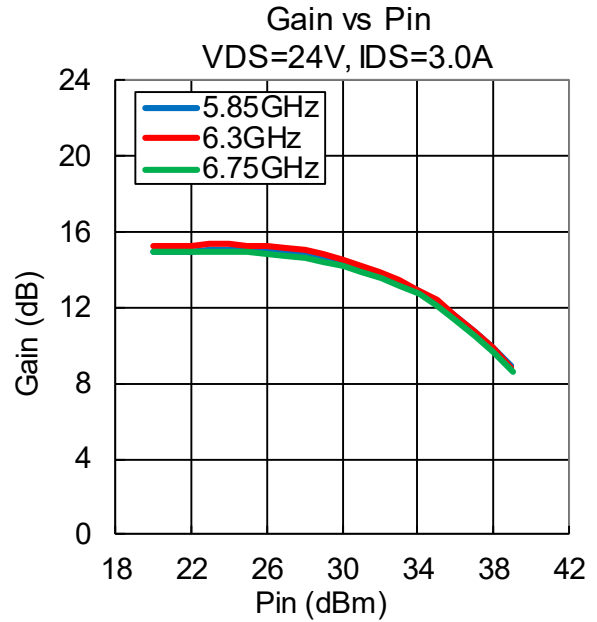
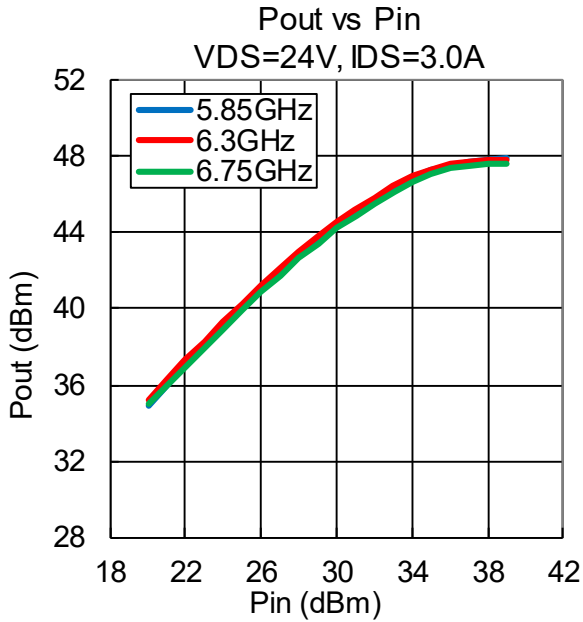


HANDLING PRECAUTIONS FOR PACKAGE MODEL

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

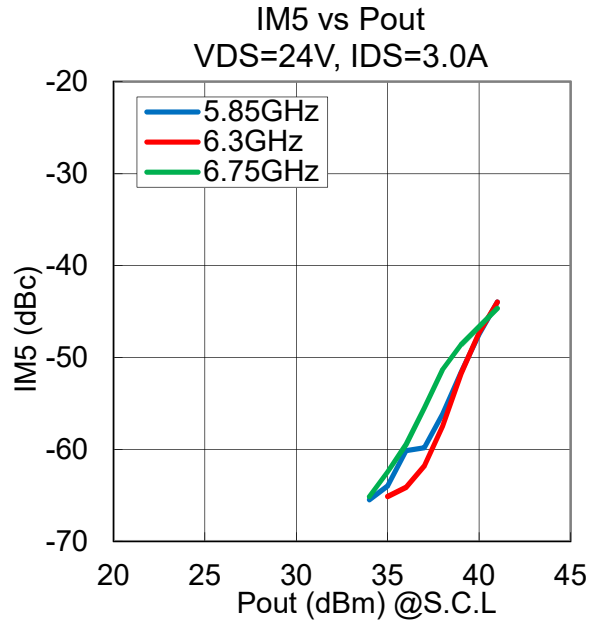
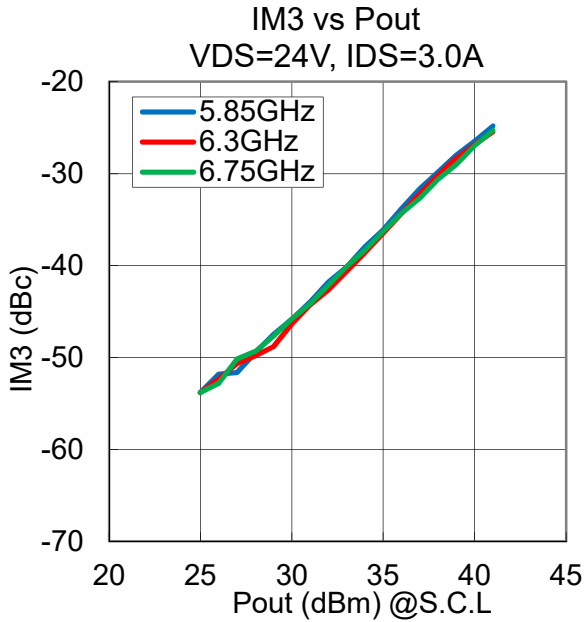
•Pout , Gain , PAE , IDS vs. Pin

VDS= 24 V, IDSset= 3.0 A, f= 5.85, 6.3, 6.75 GHz, Ta= +25 °C



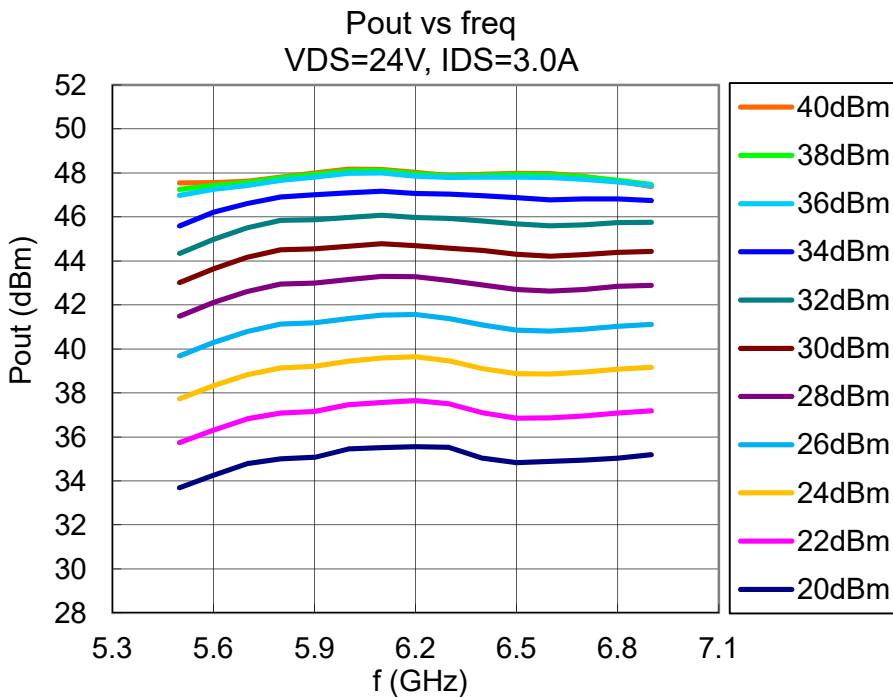
•IM3, IM5 vs. Pout

VDS= 24 V, IDSset= 3.0 A, f= 5.85, 6.3, 6.75 GHz, Δf= 5 MHz , Ta= +25 °C



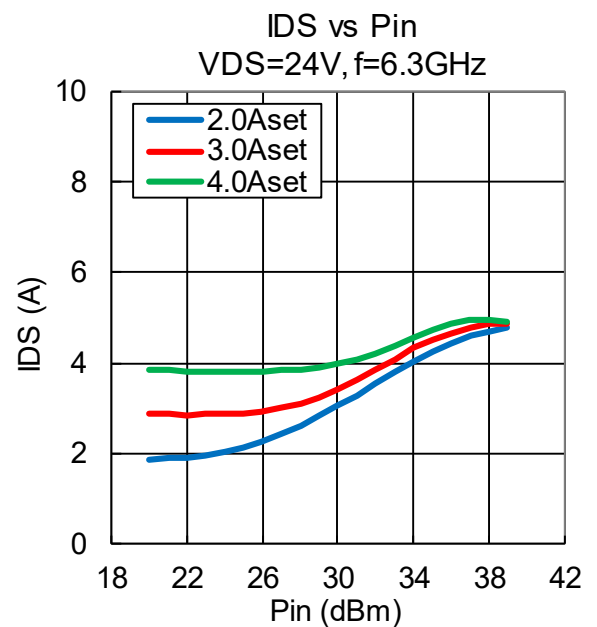
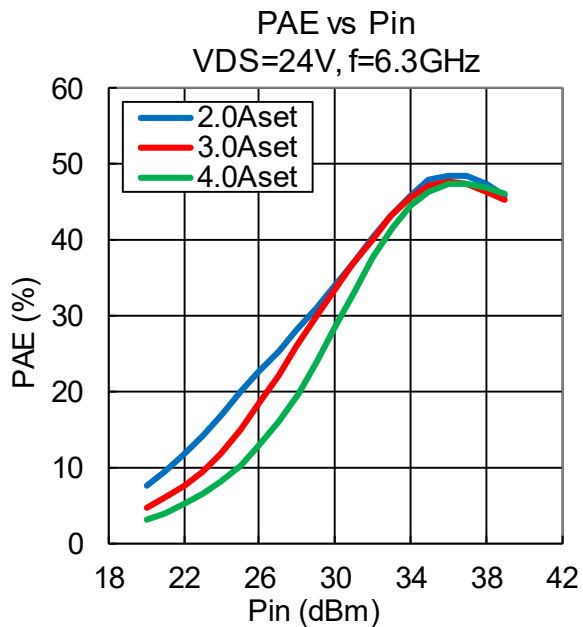
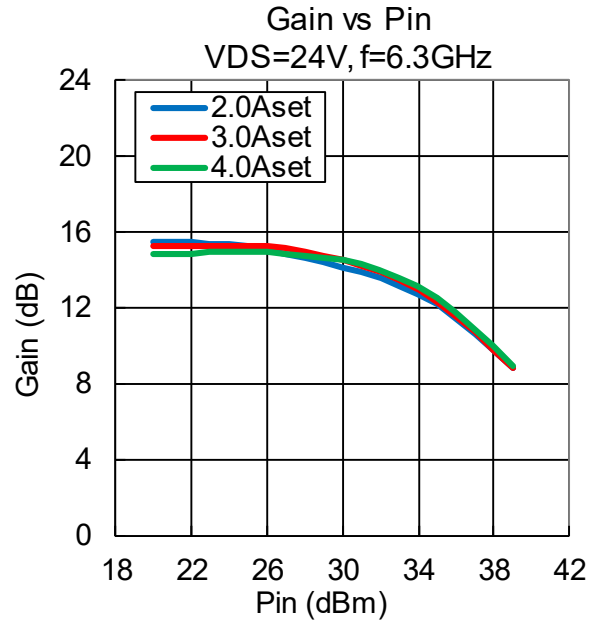
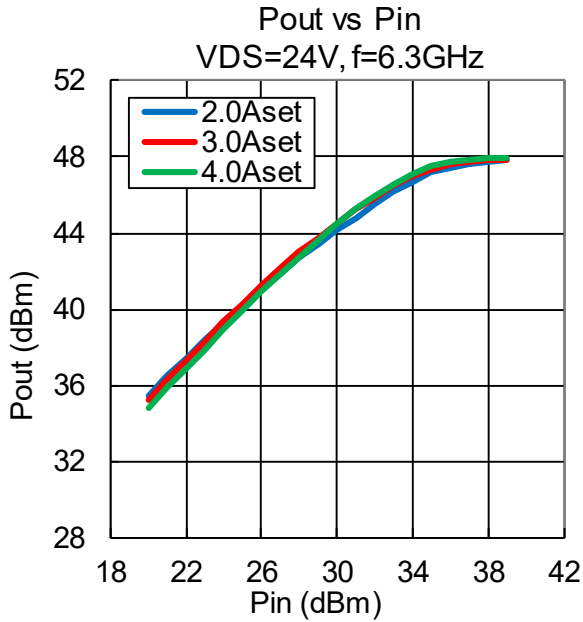
•Pout vs. Frequency

VDS= 24 V, IDSset= 3.0 A, Ta= +25 °C



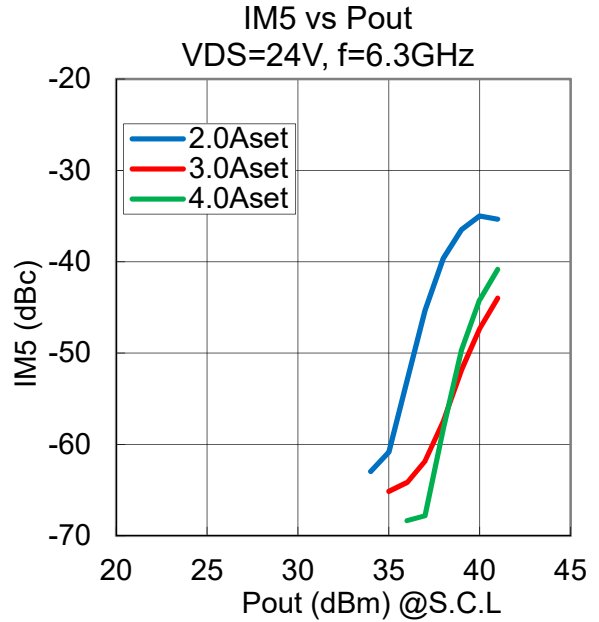
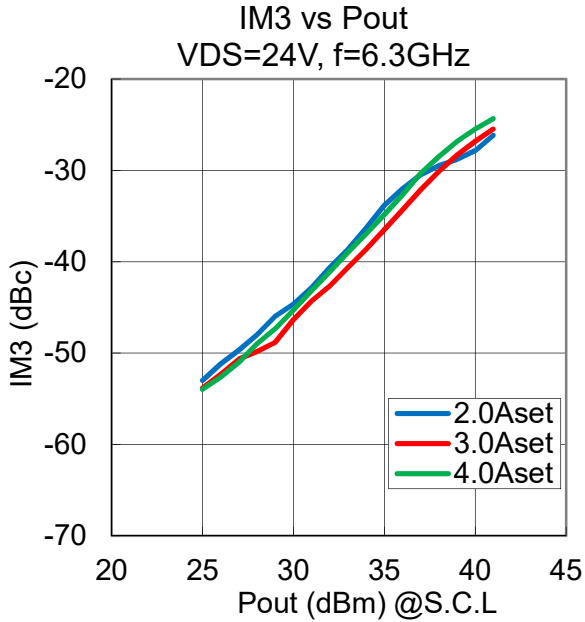
•Pout , Gain , PAE , IDS vs. Pin vs. IDSset

VDS= 24 V, IDSset= 2.0, 3.0, 4.0 A, f= 6.3 GHz, Ta= +25 °C



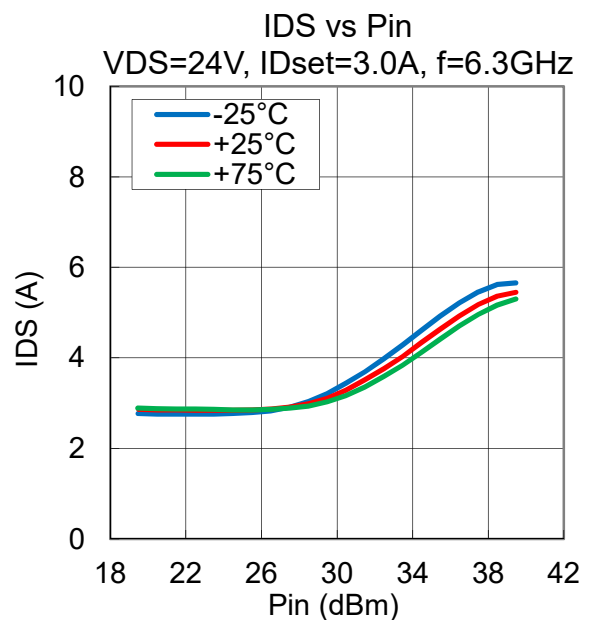
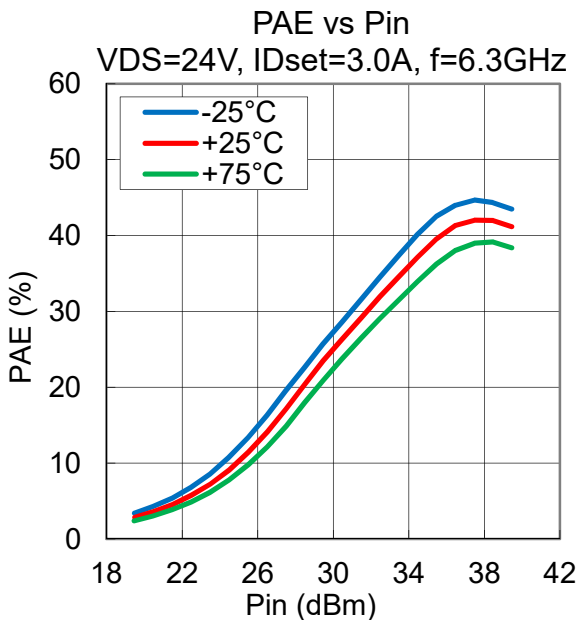
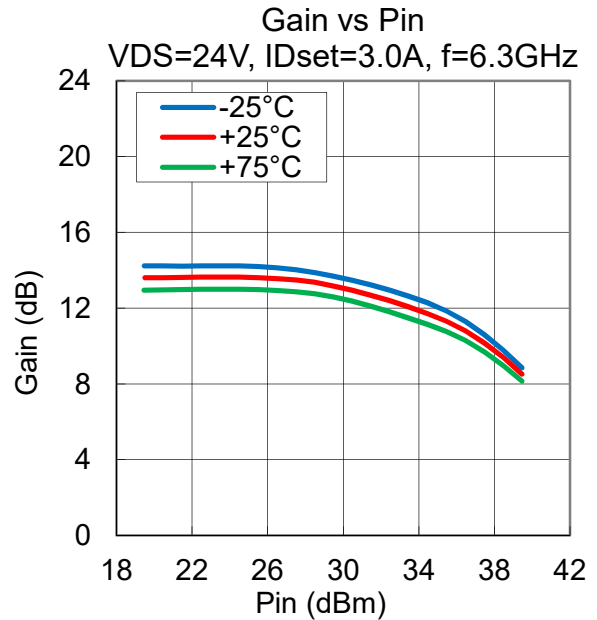
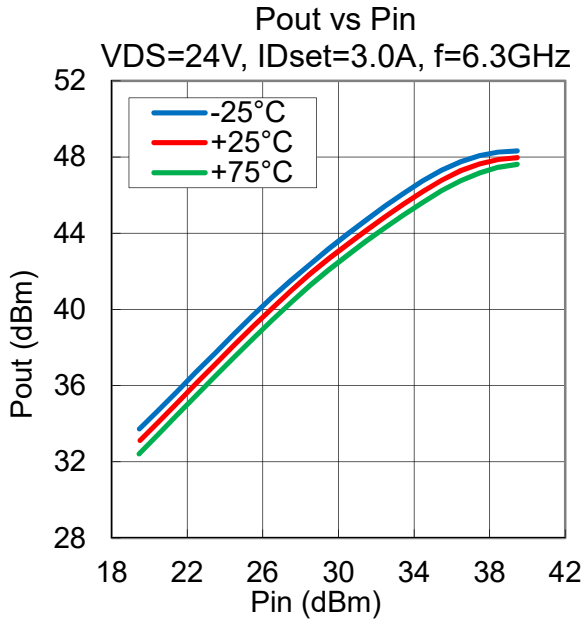
-IM3, IM5 vs. Pout vs. IDSset

VDS= 24 V, IDSset= 2.0, 3.0, 4.0 A, f= 6.3 GHz, Δf= 5 MHz, Ta= +25 °C



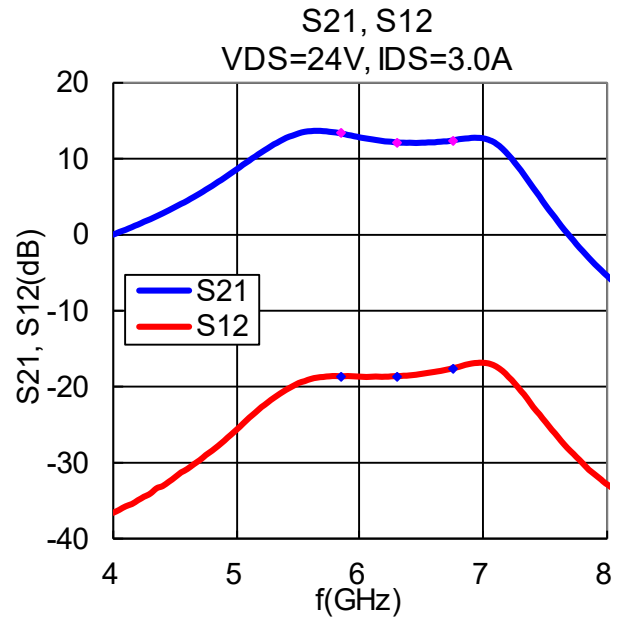
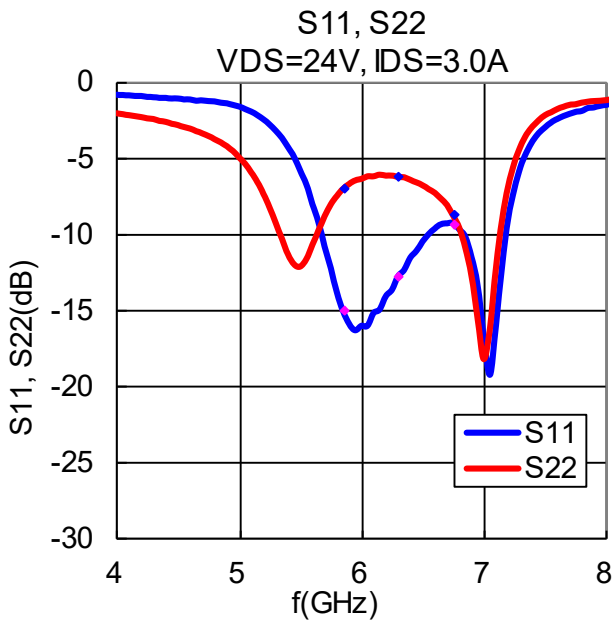
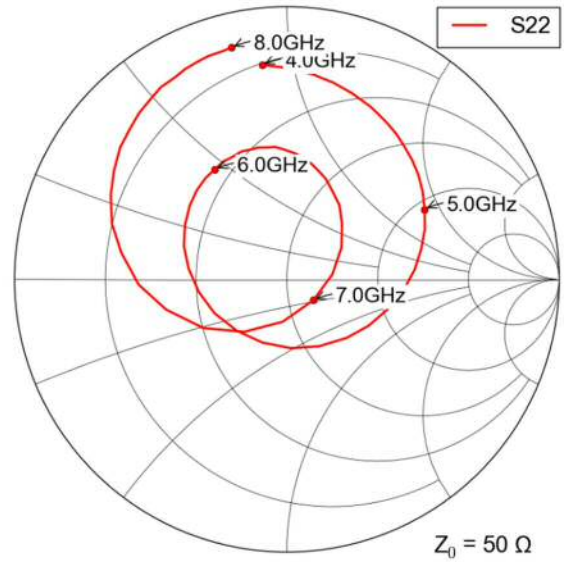
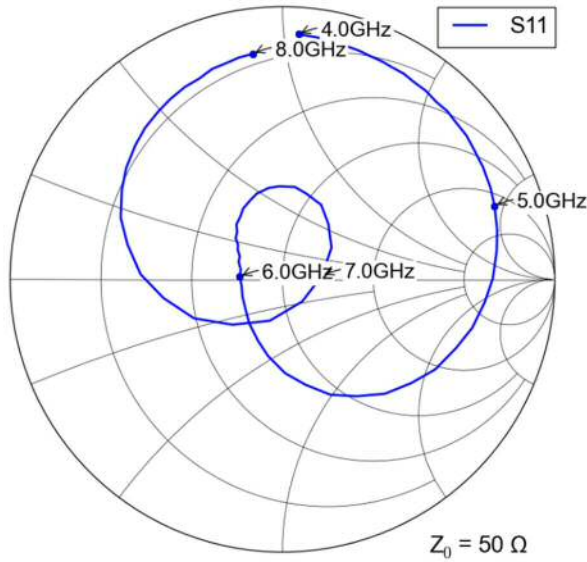
•Pout , Gain , PAE , IDS vs. Pin vs. Temperature

VDS= 24 V, IDSset= 3.0 A, f= 6.3 GHz, Ta= -25, +25, +75 °C



-S-Parameters

VDS= 24 V, IDSset= 3.0 A, f= 4.0 to 8.0 GHz, Ta= +25 °C



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