

### FEATURES

- BROAD BAND INTERNALLY MATCHED HEMT
- HIGH POWER  
Pout= 51.0dBm at Pin= 44.0dBm
- HIGH GAIN  
GL= 12.0dB at Pin= 20.0dBm
- LOW INTERMODULATION DISTORTION  
IM3(Min.)= -25dBc at Pout= 44.0dBm  
Single Carrier Level
- HERMETICALLY SEALED PACKAGE



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

CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Output Power	Pout	VDS= 40V IDSset= 0.8A f = 7.1 to 7.9GHz @Pin= 43.5dBm	dBm	50.0	51.0	—
Drain Current	IDS1		A	—	7.0	9.0
Power Added Efficiency	$\eta_{add}$		%	—	36	—
Linear Gain	GL	@Pin= 20dBm	dB	11.0	12.0	—
Gain flatness	$\Delta G$		dB	—	—	$\pm 0.8$
3rd Order Intermodulation Distortion	IM3	Two-Tone Test Po= 44.0dBm (Single Carrier Level) $\Delta f = 5\text{MHz}$ (IM3) $\Delta f = 150\text{MHz}$ (IM3-2)	dBc	-25	-30	—
	IM3-2		dBc	-25	-27	—
Drain Current	IDS2		A	—	—	5.0
Channel Temperature Rise *1	$\Delta T_{ch}$		°C	—	120	140

**Recommended Gate Resistance(Rg): 10  $\Omega$**

\*1:  $\Delta T_{ch} = (VDS \times IDS + Pin(\text{two-tone}) - Po(\text{two-tone})) \times R_{th}(c-c)$ , calculated using parameters of IM3 test

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

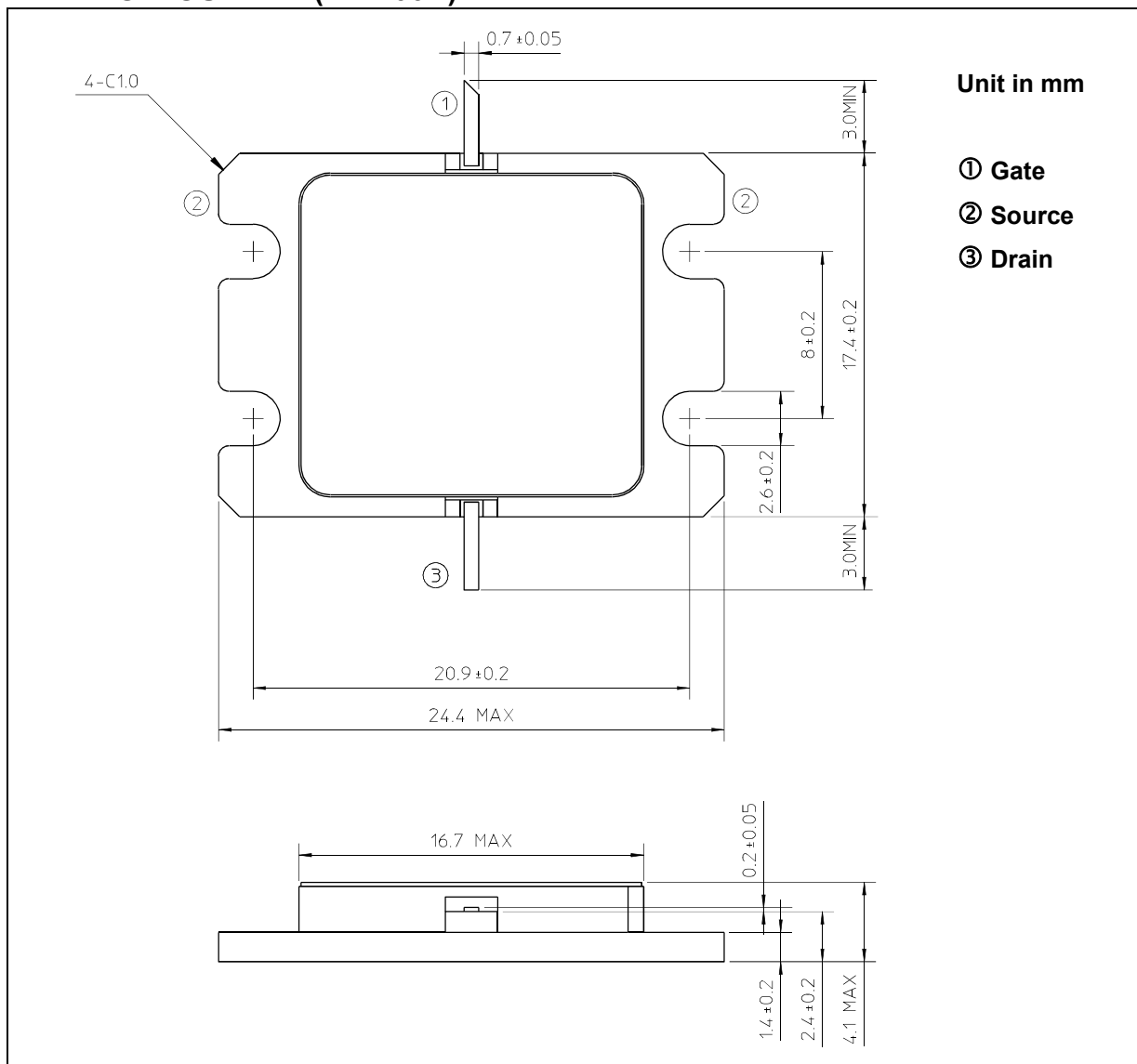
CHARACTERISTICS	SYMBOL	CONDITIONS	UNIT	MIN.	TYP.	MAX.
Transconductance	gm	VDS= 5V IDS= 10.0A	S	—	8.0	—
Pinch-off Voltage	VGSoff	VDS= 5V IDS= 30mA	V	-2.0	-3.0	-5.0
Saturated Drain Current	IDSS	VDS= 5V VGS= 0V	A	—	20	—
Gate-Source Breakdown Voltage	VGSO	IGS= -25mA	V	-10	—	—
Thermal Resistance	Rth(c-c)	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	50
Gate-Source Voltage	VGS	V	-10
Drain Current	IDS	A	6
Total Power Dissipation (Tc= 25°C)	PT	W	200
Channel Temperature	Tch	°C	225
Storage Temperature	Tstg	°C	-65 to +175

**PACKAGE OUTLINE (7-AA06A)**

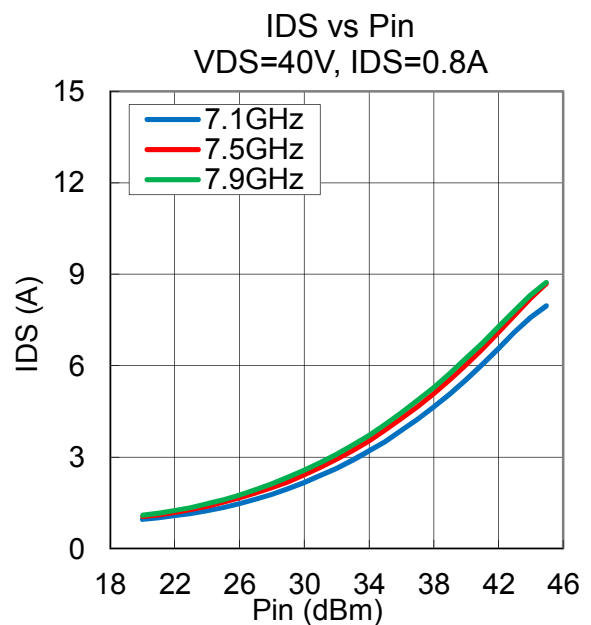
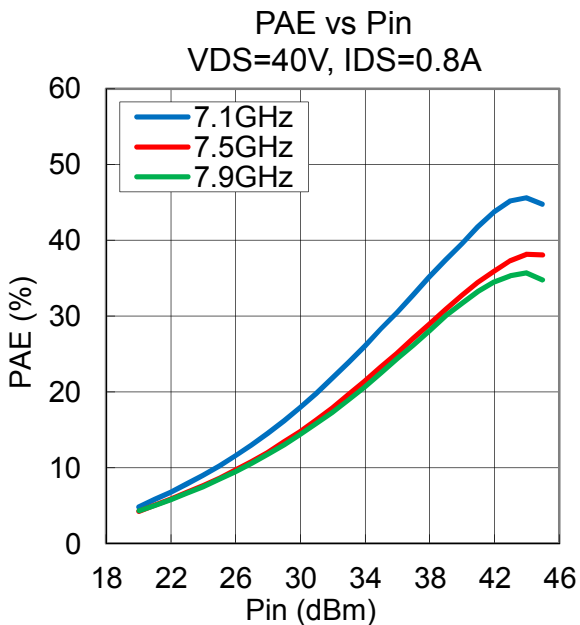
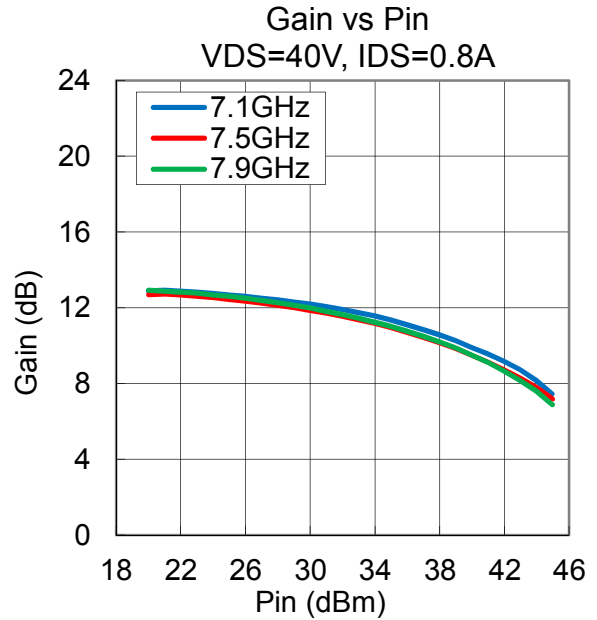
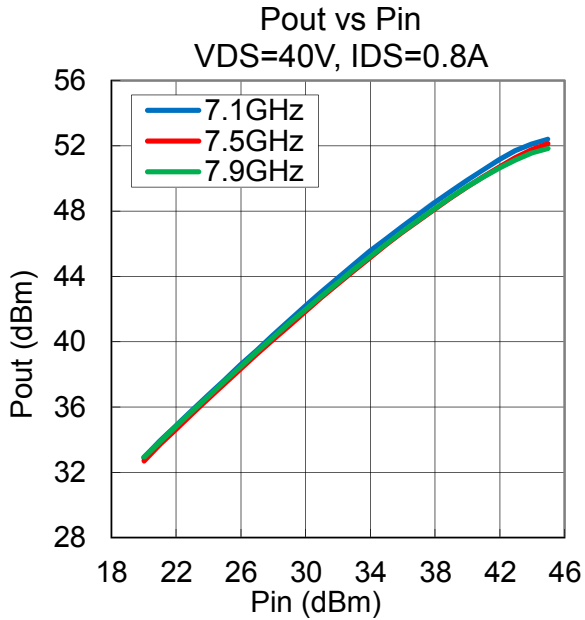


**HANDLING PRECAUTIONS FOR PACKAGE MODEL**

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

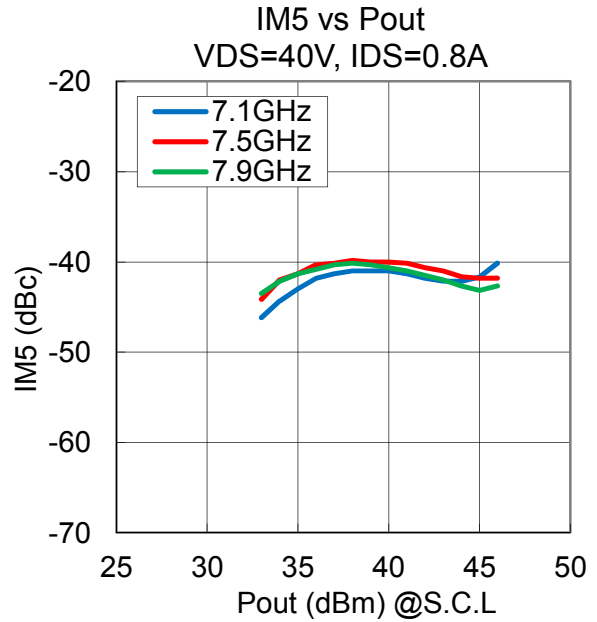
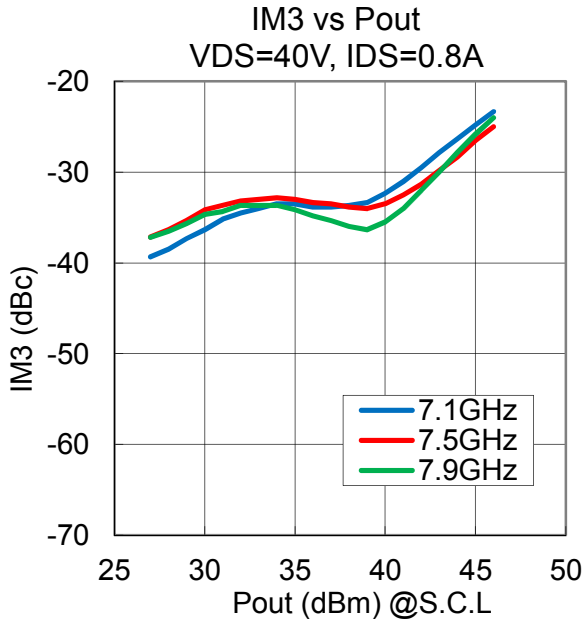
•Pout , Gain , PAE , IDS vs. Pin

VDS= 40 V, IDSset= 0.8 A, f= 7.1, 7.5, 7.9 GHz, Ta= +25 °C



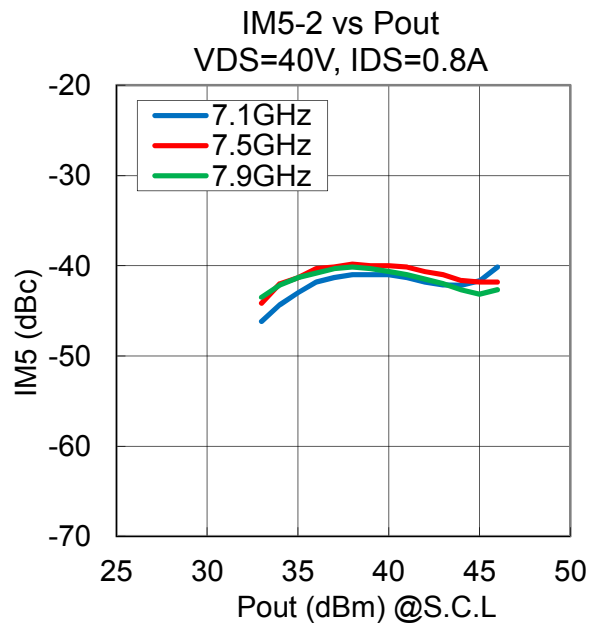
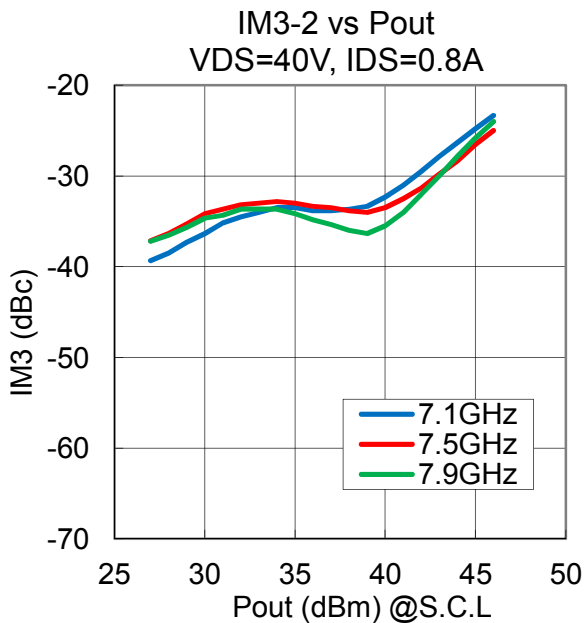
**•IM3, IM5 vs. Pout**

VDS= 40 V, IDSset= 0.8 A, f= 7.1, 7.5, 7.9 GHz, Δf= 5 MHz , Ta= +25 °C



**•IM3-2, IM5-2 vs. Pout**

VDS= 40 V, IDSset= 0.8 A, f= 7.1, 7.5, 7.9 GHz, Δf= 150 MHz , Ta= +25 °C



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