



SUMITOMO ELECTRIC INDUSTRIES, LTD.

00.05.10

P0521902H

1.9 GHz band

Power Amplifier Module

◆ *Features*

- 1.9 GHz frequency band
- Typical 27 dBm output power
- Low power consumption 3.0 W typ.
- Excellent adjacent leakage power
- Typical 27 dB power gain
- Cost-effective metal package
- Low thermal resistance structure



◆ *Applications*

- Final stage power amplifier of subscriber system for PHS-WLL

◆ *Description*

The P0521902H is a high performance 1.9 GHz band power amplifier module capable of 27 dBm output power with a typical 27 dB gain at 1.9 GHz band, housed in a cost effective metal package. This device features a low power consumption owing to the excellent linearity and high gain of the pulse-doped GaAs MESFET developed by SEI, dissipating 500 mA typical. It operates from +5.8 V and -3 V power supplies.

◆ **Absolute Maximum Ratings**

Case Temperature Tc=25 °C

Parameter	Symbol	Value	Units
DC Supply Voltage	Vd1, Vd2	7 *	V
	Vg1, Vg2	- 5	V
Input Power	Pin	9	dBm
Storage Temperature	Tstg	-40 to + 90	°C
Operating Case Temperature	Topt	-20 to + 85	°C

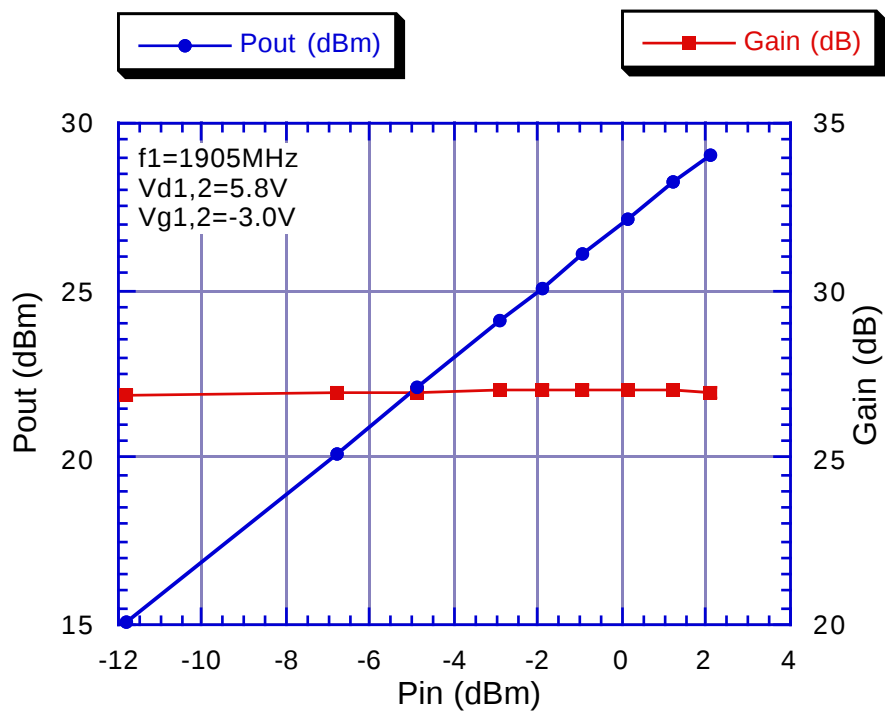
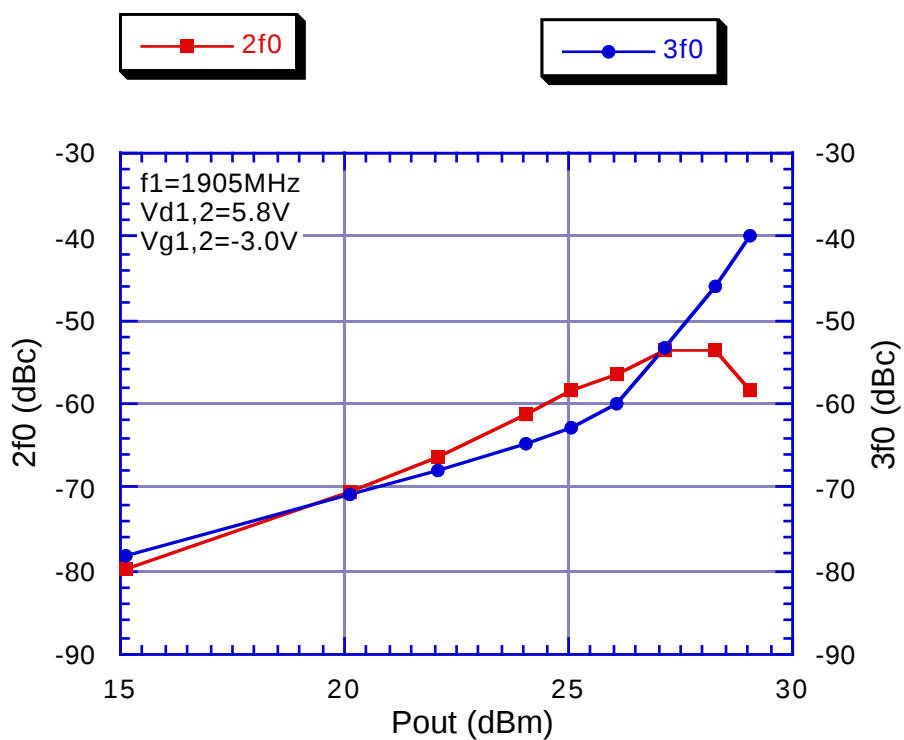
Notes: Operating of this device above any one of these parameters may cause permanent damage.

*Vg1,Vg2=-3.0V

◆ **Electrical Specifications**

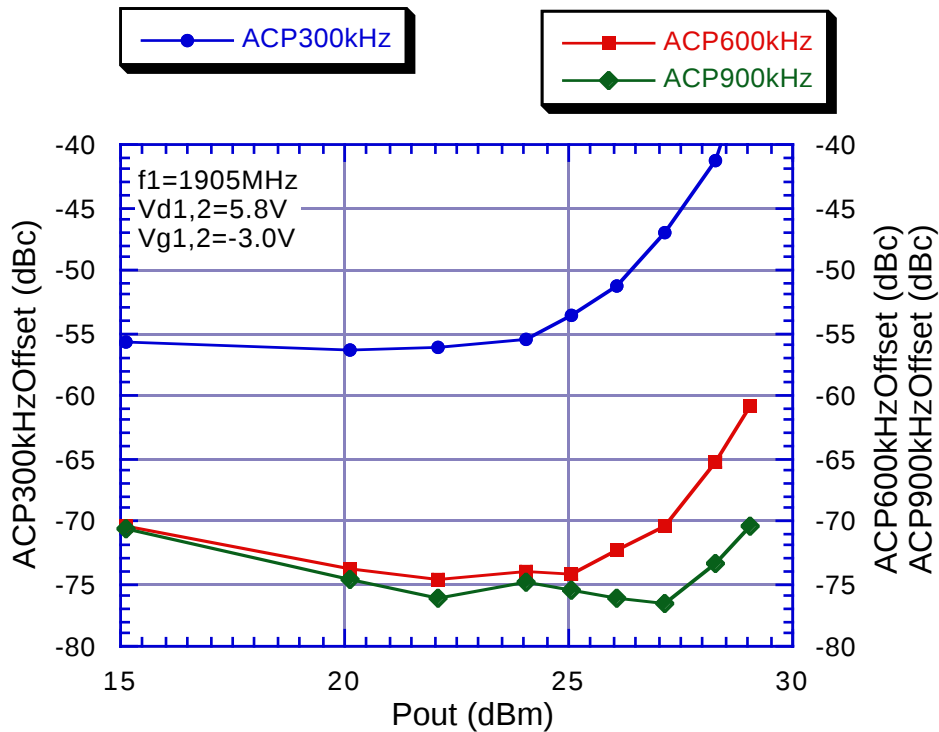
Case Temperature Tc=25 °C

Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Frequency	f		1880	—	1930	MHz
Supply Current (under operation)	Id	Pout=27 dBm Vd1=5.8 V Vd2=5.8 V Vg1=-3.0 V Vg2=-3.0 V	—	500	550	mA
Gate Current	Ig		—	—	5	mA
Power Gain	Ga		24	27	—	dB
Input VSWR	—		—	1.6	3.0	—
Harmonic Distortion	2f0		—	-50	-35	dBc
	3f0		—	-50	-40	dBc
Adjacent Channel Leakage Power	Padj1	300 kHz offset	—	-44	-40	dBc
	Padj2	600 kHz offset	—	-68	-60	dBc
	Padj3	900 kHz offset	—	-76	-70	dBc
Occupied Frequency Bandwidth	—	—	—	250	270	kHz
Reverse IM3	IM3	Pout=27 dBm f2=f1±600KHz Pin (f2)=-25dBm	—	-80	-70	dBc

◆ **Power Characteristics** $f=1905\text{ MHz}$, $V_{d1}, V_{d2}=5.8\text{ V}$, $V_{g1}, V_{g2}=-3.0\text{ V}$ ◆ **Harmonic Distortion** $f=1905\text{ MHz}$, $V_{d1}, V_{d2}=5.8\text{ V}$, $V_{g1}, V_{g2}=-3.0\text{ V}$ 

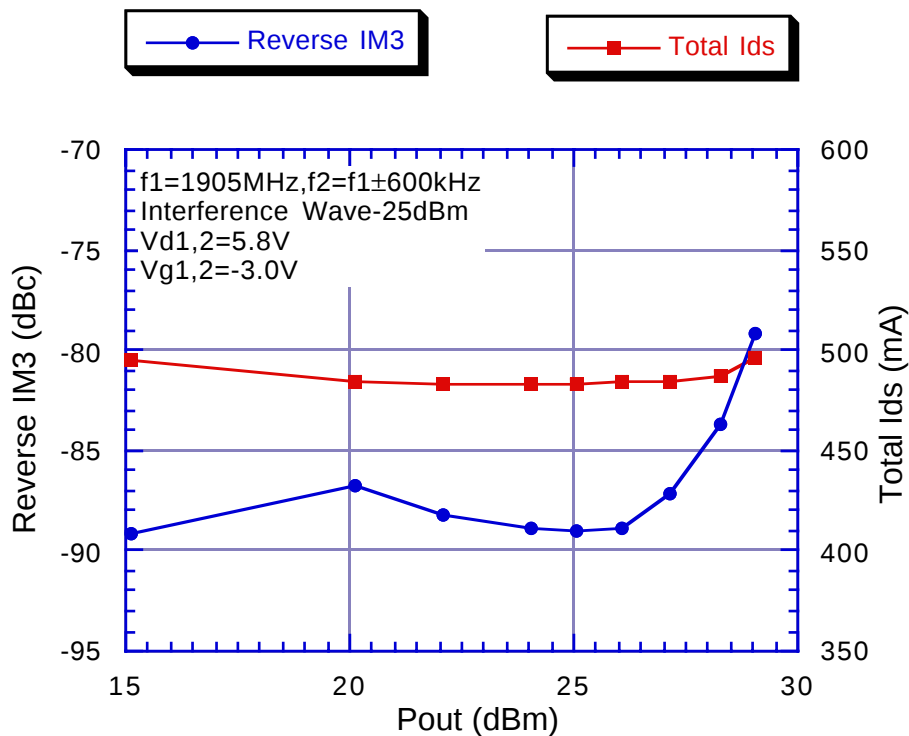
◆ Adjacent Channel Leakage Power

$f=1905\text{ MHz}$, $V_{d1},V_{d2}=5.8\text{ V}$, $V_{g1},V_{g2}=-3.0\text{ V}$

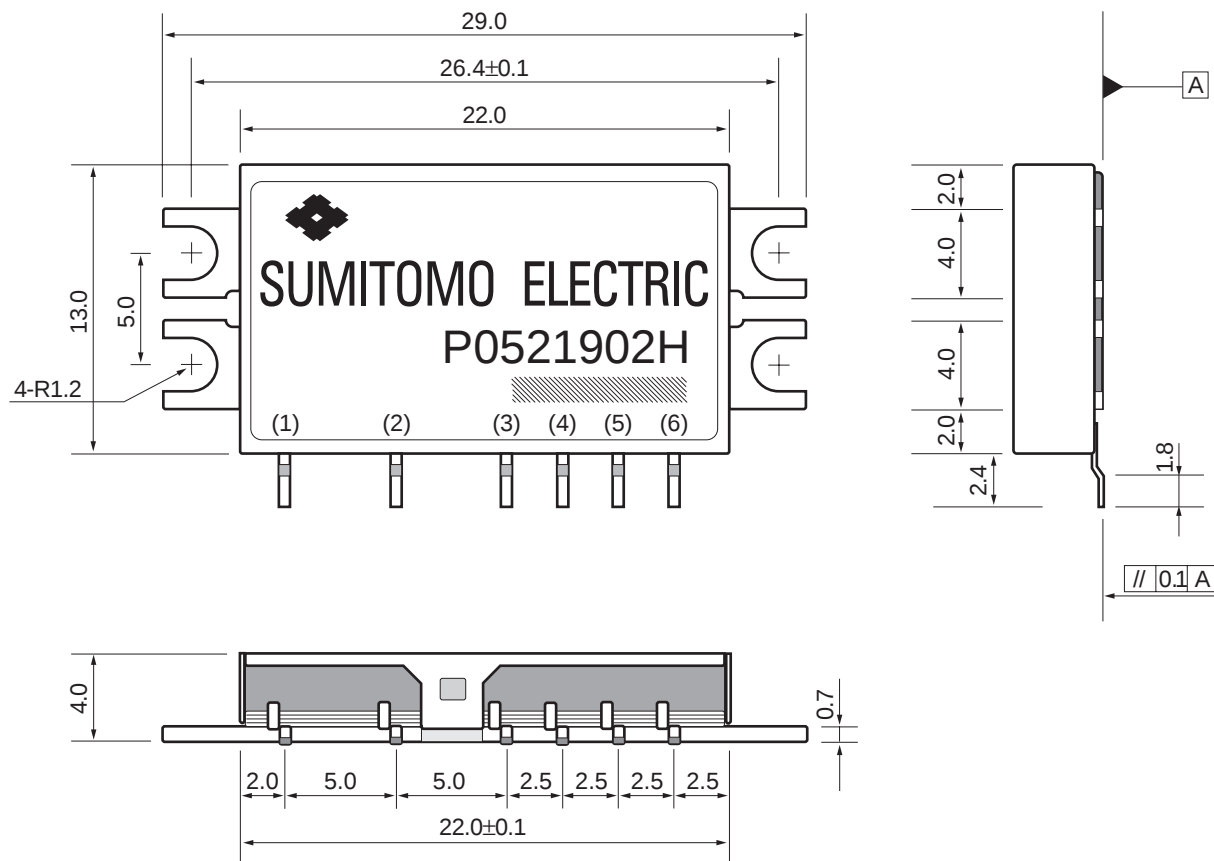


◆ Reverse IM3

$f=1905\text{ MHz}$, $V_{d1},V_{d2}=5.8\text{ V}$, $V_{g1},V_{g2}=-3.0\text{ V}$



◆ Package Drawings (Dimensions are mm)



Lead Size : 0.25×0.5

▨ : Lot No.

Dimensions are mm (±0.3mm)

Note: (1)Lead Size : 0.25x0.5
 (2)Nominal Variation of Lead Pitch : ±0.3
 (3)Nominal Variation of parts undescribed : ±0.3

◆ Pin Assignment

(1) RFin	(2) Vg1	(3) Vd1	
(4) Vg2	(5) Vd2	(6) RFout	Case: GND

◆ Evaluation Board Layout (Dimensions are mm)

