



SUMITOMO ELECTRIC INDUSTRIES, LTD.

00.05.11

P0521917H

1.9 GHz band

Power Amplifier Module

◆ ***Features***

- 1.9 GHz frequency band
- Typical 30 dBm output power
- Low power consumption 7.0 W typ.
- Excellent adjacent leakage power
- Typical 26 dB power gain
- Cost-effective metal package
- Low thermal resistance structure



◆ ***Applications***

- Final stage power amplifier of base station for PHS

◆ ***Description***

The P0521915H is a high performance 1.9 GHz band power amplifier module capable of 30 dBm output power with a typical 26 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 700 mA typical. It operates from +10 V and -3 V power supplies.

◆ **Absolute Maximum Ratings**

Case Temperature Tc=25 °C

Parameter	Symbol	Value	Units
DC Supply Voltage	Vd1, Vd2	11 *	V
	Vg1, Vg2	- 5	V
Input Power	Pin	10	dBm
Storage Temperature	Tstg	-40 to + 90	°C
Operating Case Temperature	Topt	-20 to + 75	°C

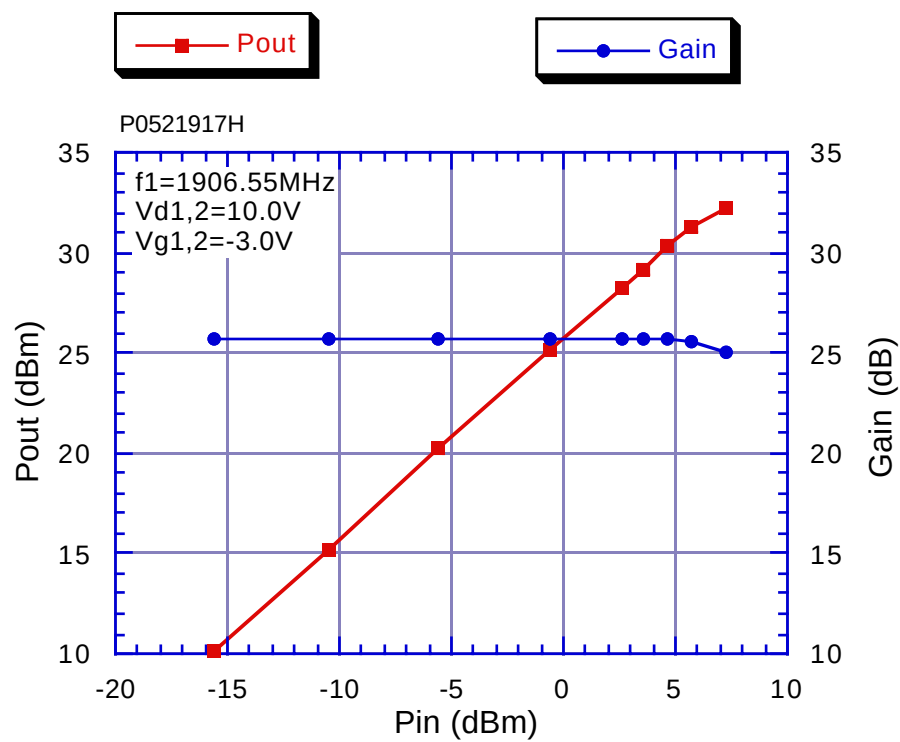
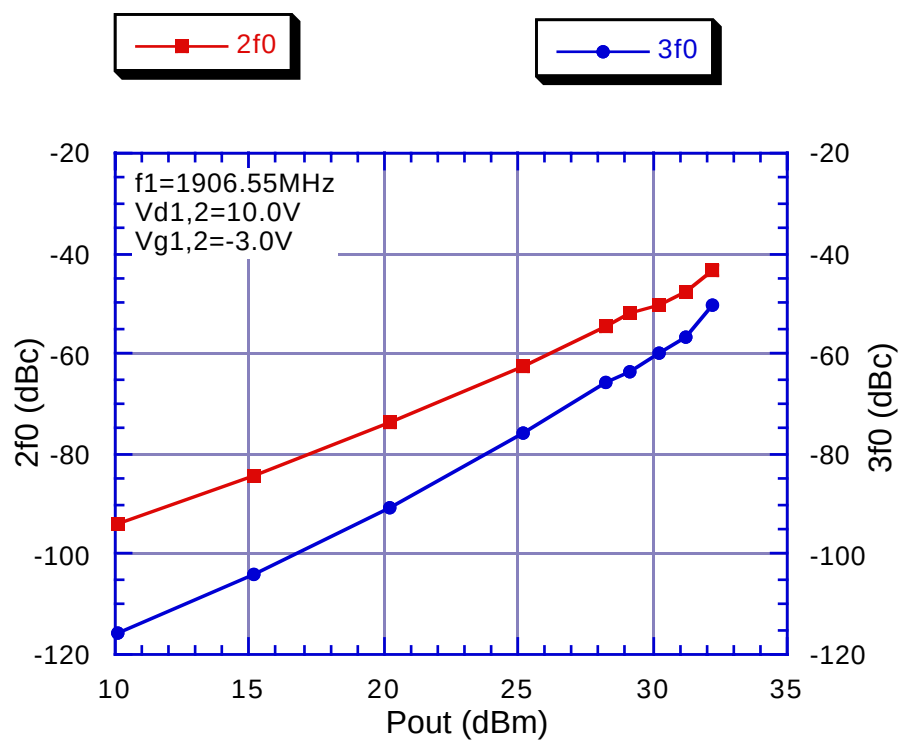
Notes: Operating of this device above any one of these parameters may cause permanent damage.

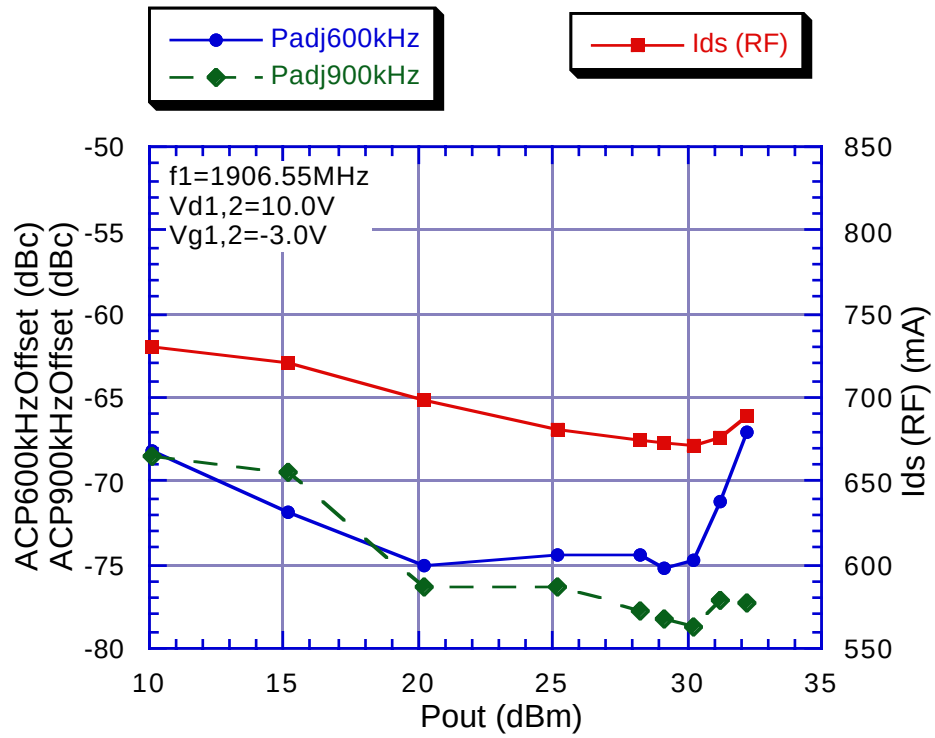
*Vg1,Vg2=-3.0V

◆ **Electrical Specifications**

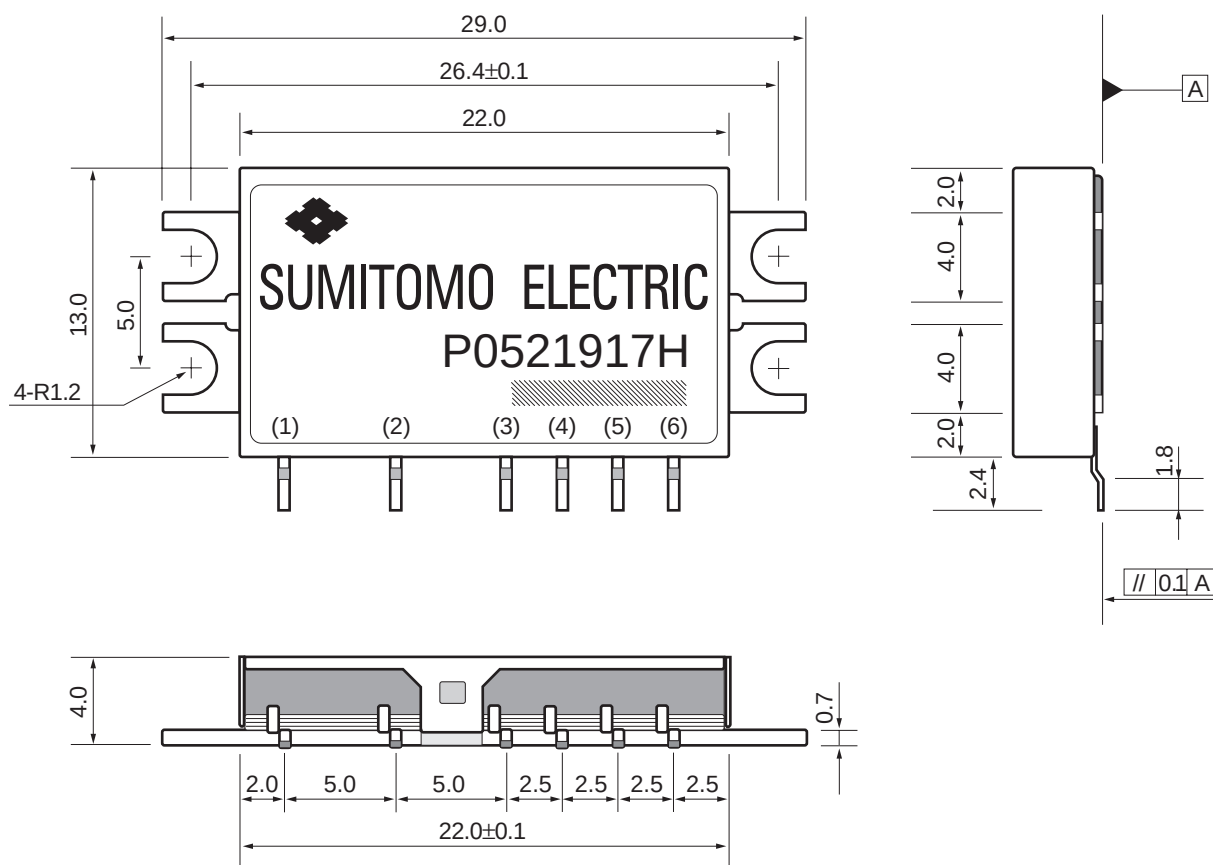
Case Temperature Tc=25 °C

Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Frequency	f		1892	—	1921	MHz
Supply Current (under operation)	Id	Pout=30 dBm Vd1=10 V Vd2=10 V Vg1=-3.0 V Vg2=-3.0 V	—	700	750	mA
Gate Current	Id		—	—	7	mA
Power Gain	Ga		24	26	—	dB
Input VSWR	—		—	1.8	3.0	—
Harmonic Distortion	2f0		—	-45	-35	dBc
	3f0		—	-60	-40	dBc
Adjacent Channel Leakage Power	Padj1	600 kHz offset	—	-73	-72	dBc
	Padj2	900 kHz offset	—	-75	-73	dBc
Occupied Frequency Bandwidth	—	—	—	250	270	kHz

◆ **Power Characteristics** $f=1906.55\text{ MHz}$, $V_{d1}, V_{d2}=10\text{ V}$, $V_{g1}, V_{g2}=-3.0\text{ V}$ ◆ **Harmonic Distortion** $f=1906.55\text{ MHz}$, $V_{d1}, V_{d2}=10\text{ V}$, $V_{g1}, V_{g2}=-3.0\text{ V}$ 

◆ **Adjacent Channel Leakage Power** $f=1906.55\text{ MHz}$, $V_{d1}, V_{d2}=10\text{ V}$, $V_{g1}, V_{g2}=-3.0\text{ V}$ 

◆ 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	Case: GND
(4) Vg2	(5) Vd2	(6) RFout	

◆ Evaluation Board Layout (Dimensions are mm)

