



SUMITOMO ELECTRIC INDUSTRIES, LTD.

01.02.08

P0581941H

1.9 GHz band

Power Amplifier Module

◆ **Features**

- 1.9 GHz frequency band
- Typical 38.5 dBm output power
- Low power consumption 38 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 base station for PHS

◆ **Description**

The P0581941H is a high performance 1.9 GHz band power amplifier module capable of 38.5 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 3.8A typical.

The P0581941H is designed to perform the output power of 2.4 W/time-slot at antenna for use in a base station of personal handy phone system (PHS) in Japan. It operates from +10 V and -5.0 V power supplies.

◆ **Absolute Maximum Ratings**

Case Temperature Tc=50 °C

Parameter	Symbol	Value	Units
DC Supply Voltage	Vd	11 *	V
	Vg	- 6	V
Input Power	Pin	12	dBm
Storage Temperature	Tstg	-40 to + 90	°C
Operating Case Temperature	Topt	-20 to + 75	°C

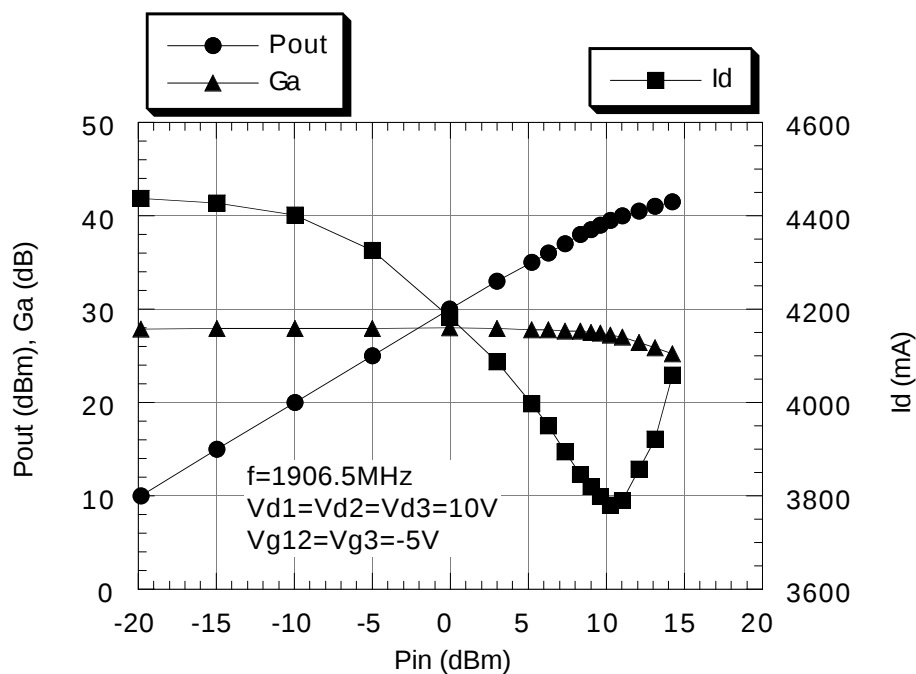
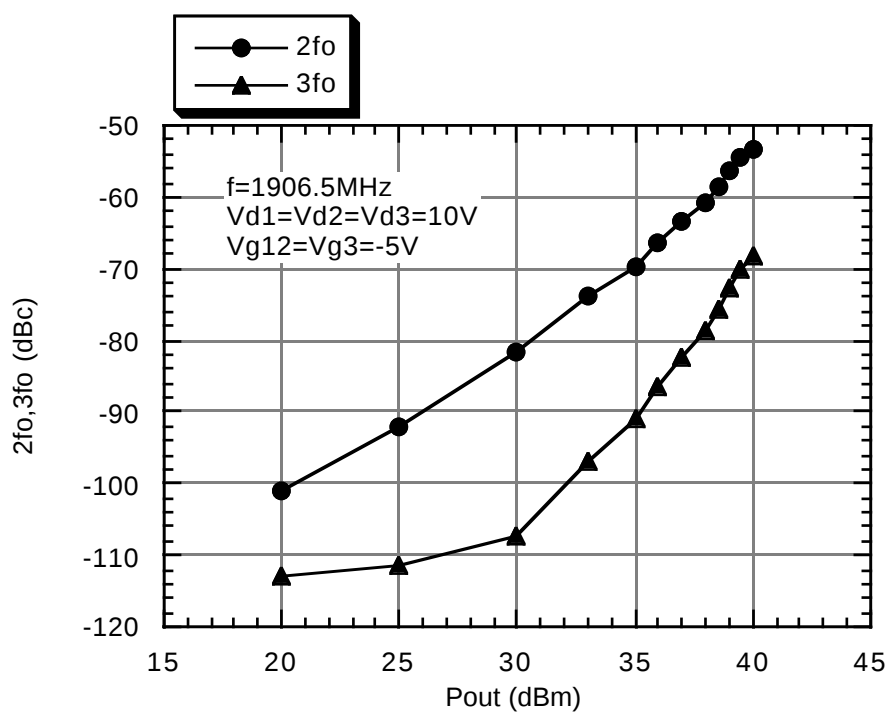
Notes: Operating of this device above any one of these parameters may cause permanent damage.

*Vg12,Vg3=-5.0 V

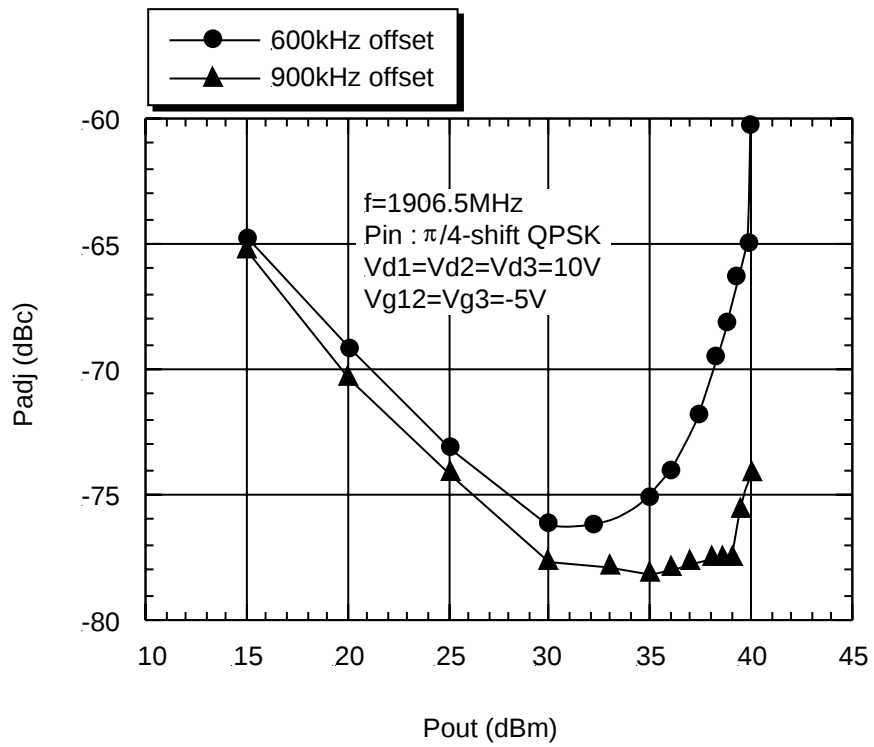
◆ **Electrical Specifications**

Case Temperature Tc=50 °C

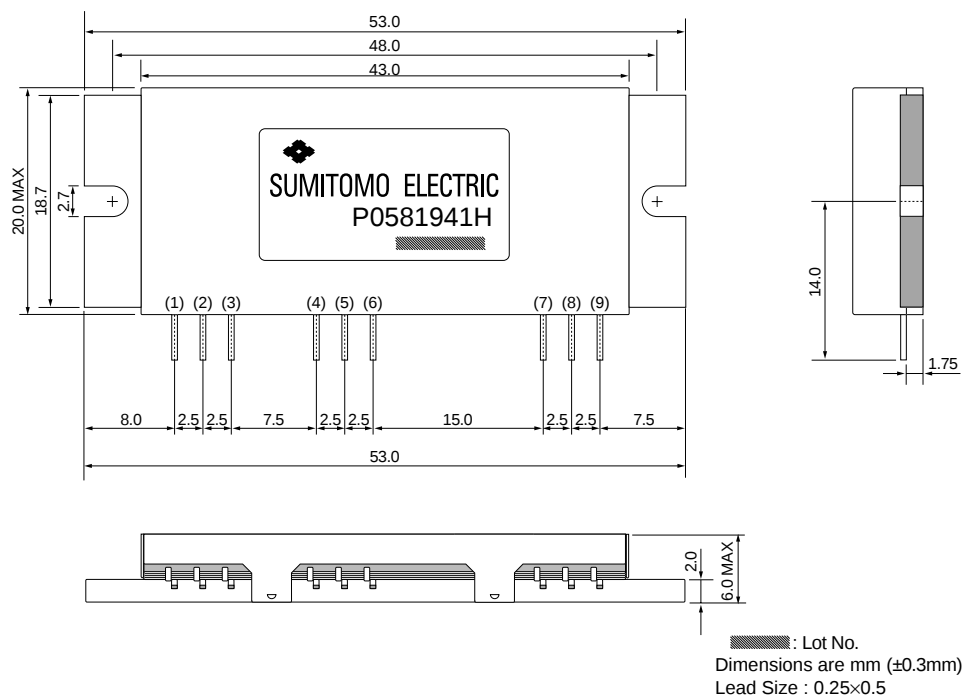
Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Frequency	f		1895	—	1921	MHz
Supply Current (under operation)	I _D	Pout=38.5 dBm Vd1=10 V Vd2=10 V Vd3=10 V Vg12=-5.0 V Vg3=-5.0 V	—	3.8	4.0	A
Gate Current	I _G		—	—	20	mA
Power Gain	Ga		25	27	—	dB
Input VSWR	—		—	2.0	3.0	—
Harmonic Distortion	2f0		—	-40	-30	dBc
	3f0		—	-45	-40	dBc
Adjacent Channel Leakage Power	Padj1	600 kHz offset	—	-69	-67	dBc
	Padj2	900 kHz offset	—	-73	-72	dBc
Occupied Frequency Bandwidth	—	—	—	250	270	kHz

◆ **Power Characteristics**◆ **Harmonic Distortion**

◆ Adjacent Channel Leakage Power



◆ Package Drawings (Dimensions are mm)



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) GND	(3) Vd1	(4) Vg12
(5) Vd2	(6) Vg3	(7) Vd3	(8) GND
(9) RFout	Case: GND		

◆ Evaluation Board Layout (Dimensions are mm)

