SUMITOMO ELECTRIC

03.06.04

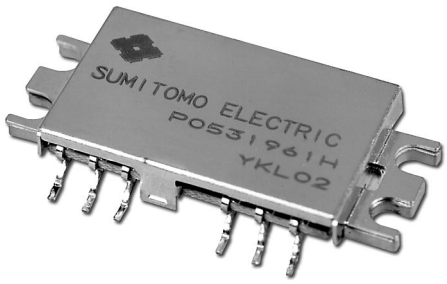
P0531961H

1.9 GHz band

Power Amplifier Module

♦ *Features*

- 1.9 GHz frequency band
- Typical 33.5 dBm output power
- Low power consumption 11 W typ.
- Excellent adjacent leakage power
- Typical 33 dB power gain
- Cost-effective metal package
- Low thermal resistance structure



♦ *Applications*

- Final stage power amplifier of base station for PHS

♦ *Description*

The P0531961H is a high performance 1.9 GHz band power amplifier module capable of 33.5 dBm output power with a typical 33 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 1100 mA typical. It operates from +10 V and -5 V power supplies.

♦ *Absolute Maximum Ratings*

Case Temperature Tc=25 °C

Parameter	Symbol	Value	Units
DC Supply Voltage	Vd1, Vd2	12 *	V
	Vg1, Vg2	- 7	V
Input Power	Pin	10	dBm
Storage Temperature	Tstg	-40 to + 95	°C
Operating Case Temperature	Topt	-20 to + 80	°C

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

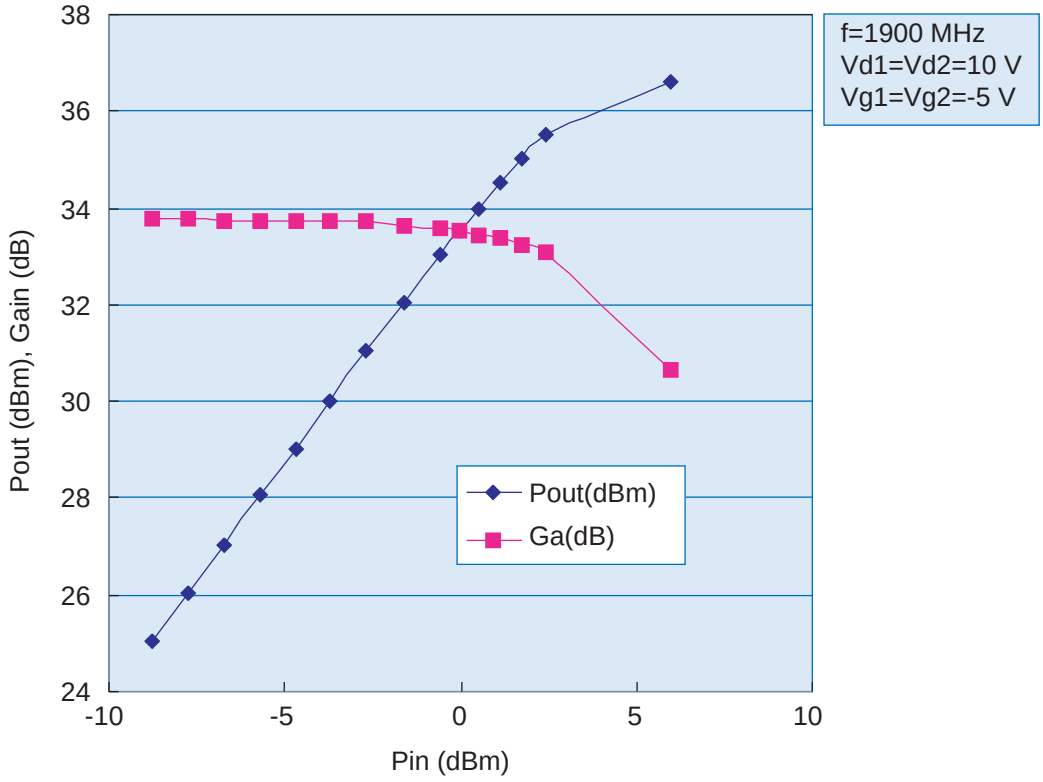
*Vg1,Vg2=-5V

♦ *Electrical Specifications*

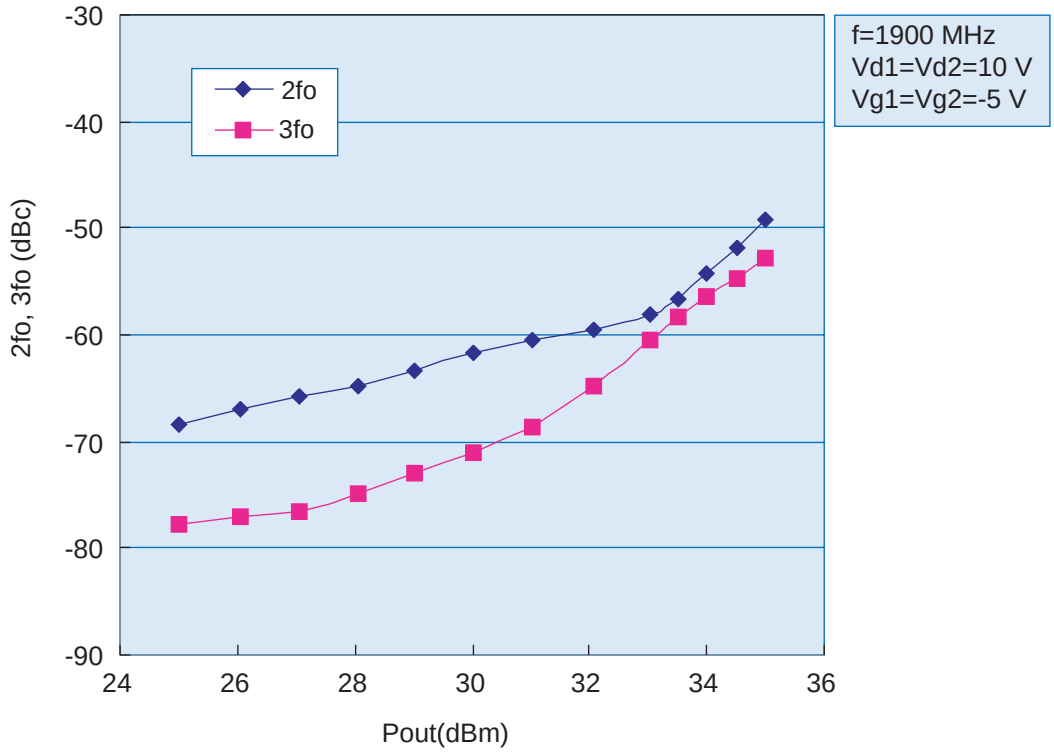
Case Temperature Tc=25 °C

Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Frequency	f		1880	—	1920	MHz
Supply Current (under operation)	Id	Pout=33.5 dBm Vd1=10 V Vd2=10 V Vg1=-5 V Vg2=-5 V	—	1100	1250	mA
Gate Current	Ig		—	8	15	mA
Power Gain	Ga		31	33	—	dB
Input VSWR	ρin		—	1.5	2.5	—
Harmonic Distortion	2f0		—	-50	-40	dBc
	3f0		—	-50	-36	dBc
Adjacent Channel Leakage Power	Padj1	600 kHz offset	—	-68	-64	dBc
	Padj2	900 kHz offset	—	-72	-69	dBc

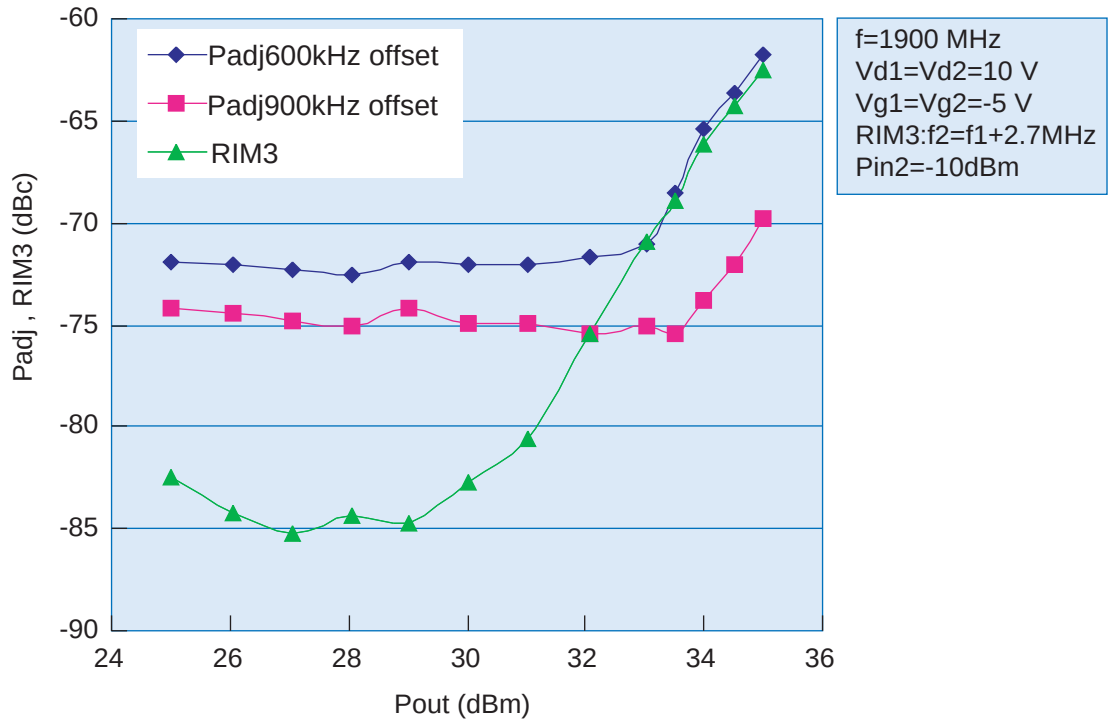
♦ *Power Characteristics*



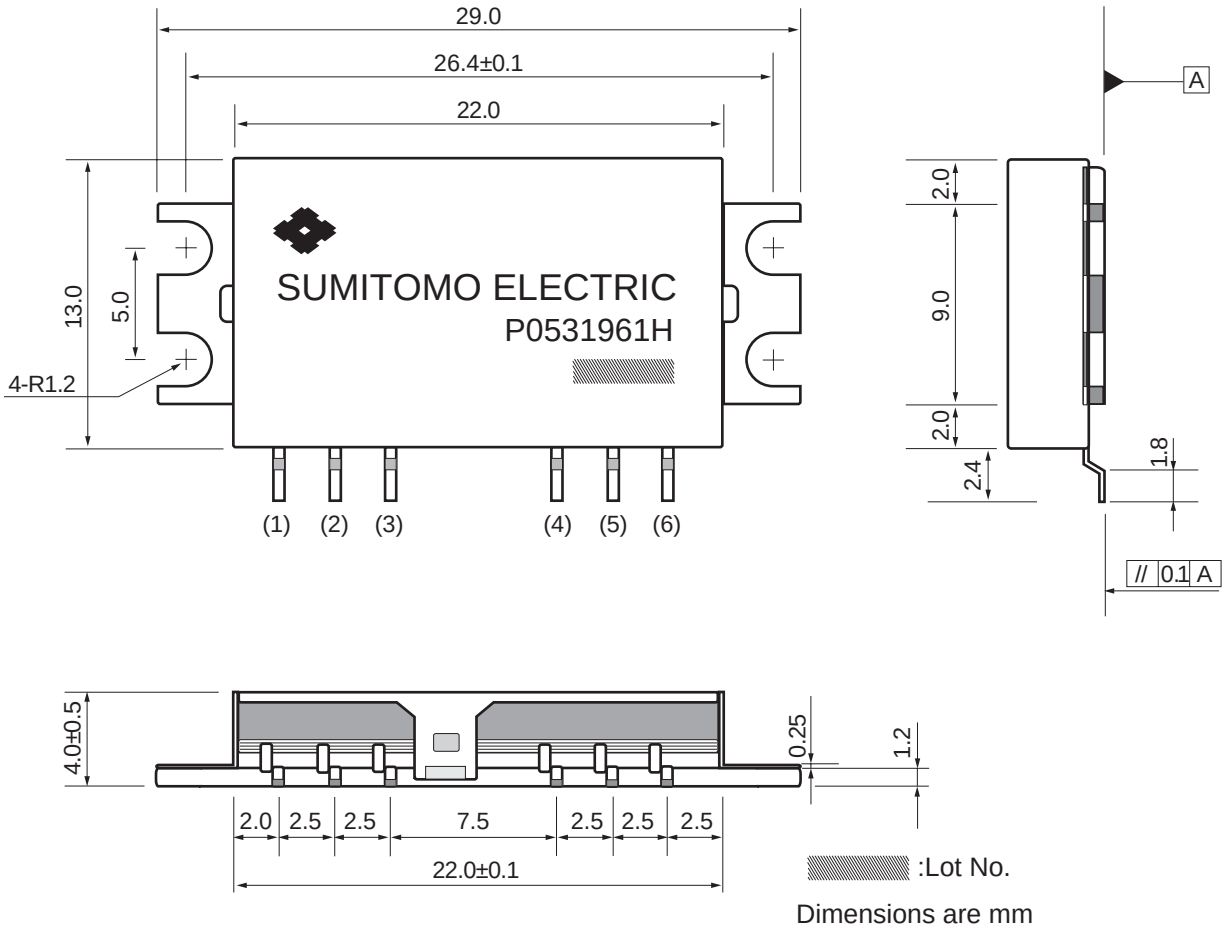
♦ *Harmonic Distortion*



♦ *Adjacent Channel Leakage Power, Reverse IM3*



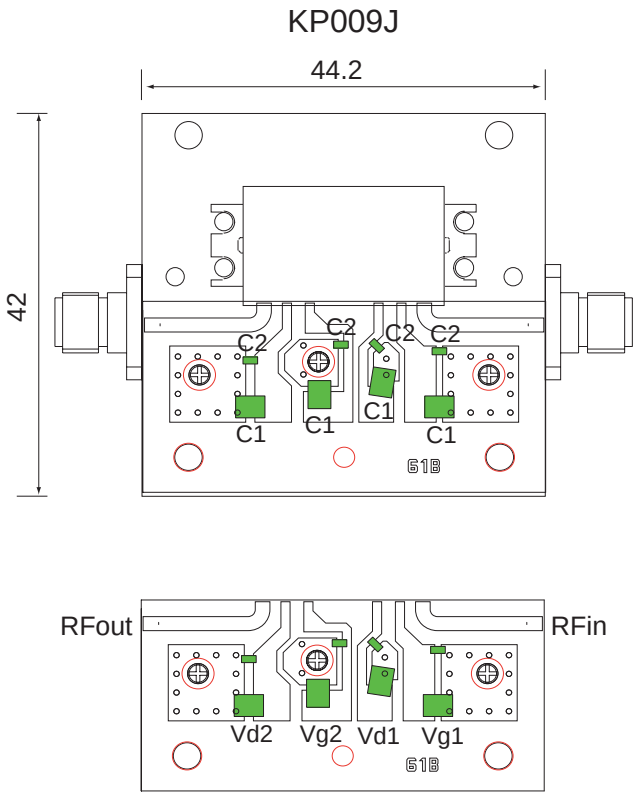
♦ *Package Drawings (Dimensions are mm)*

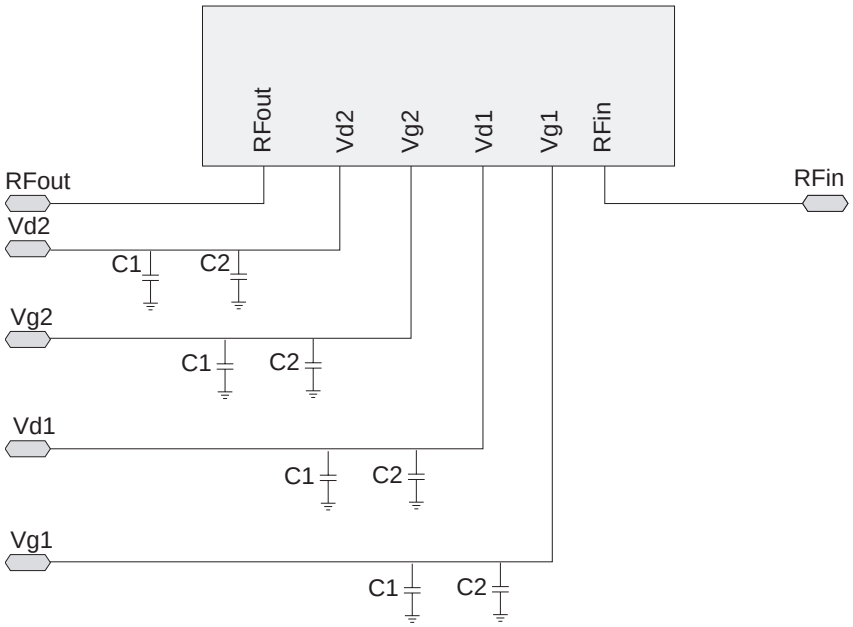


♦ *Pin Assignment*

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

♦ *Evaluation Board Layout (Dimensions are mm)*





DESIGNATION	VALUE
C1	1µF
C2	0.1µF