



SUMITOMO ELECTRIC INDUSTRIES, LTD.

00.05.10

P0400861H

800MHz band

Power Amplifier Module

◆ **Features**

- Low voltage operation of 5 V with negative voltage of -3 V
- 810 - 885 MHz frequency band
- Typical P1dB of 26 dBm
- Excellent adjacent channel leakage power of -58 dBc (50 kHz offset) at 21 dBm output with low power consumption of typical 1.6 W
- Typical 30 dB power gain
- Cost-effective metal package
- Low thermal resistance structure



◆ **Applications**

- Power Amplifier for use in driver stage of PDC base station systems

◆ **Description**

The P0400861H is a power amplifier module which achieves an excellent adjacent leakage power at the output power of 21 dBm at an 800MHz band, housed in a cost effective metal package. It features a low voltage operation of 5 V. This power amplifier can be used for a driver stage of the PDC base station systems. The P0400861H is designed to achieve the output power of 21 dBm with the adjacent channel leakage power (Padj) of -47 dBc at 25 kHz offset, with the Padj of -58 dBc at 50 kHz offset, and with the Padj of -68 dBc at 100 kHz offset, dissipating as low as typical 1.6 W. It operates with 5 V and -3 V power supplies.

◆ **Absolute Maximum Ratings**

Case Temperature Tc=30 °C

Parameter	Symbol	Value	Units
DC Supply Voltage	Vd	6 *	V
	Vg	- 6	V
Input Power	Pin	0	dBm
Storage Temperature	Tstg	-40 to + 85	°C
Operating Case Temperature	Topt	-20 to + 85	°C

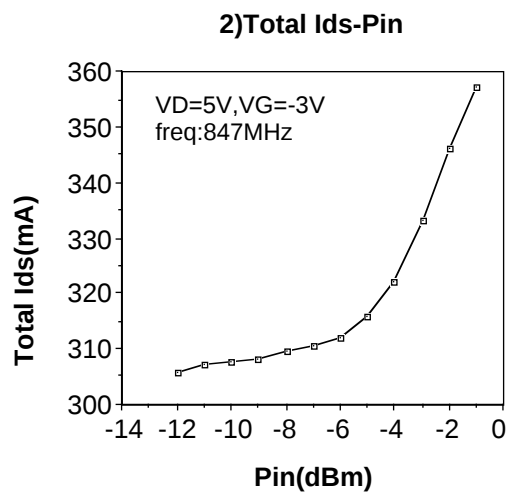
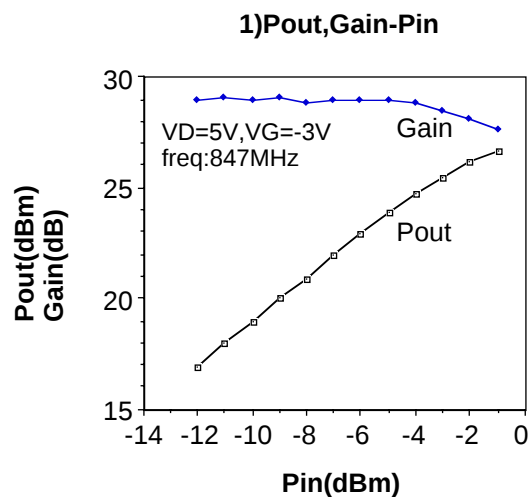
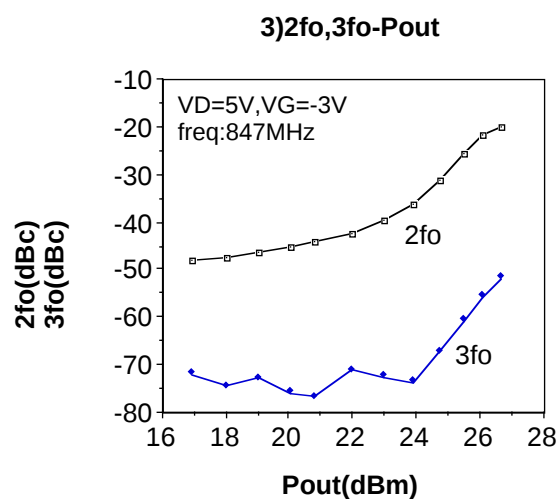
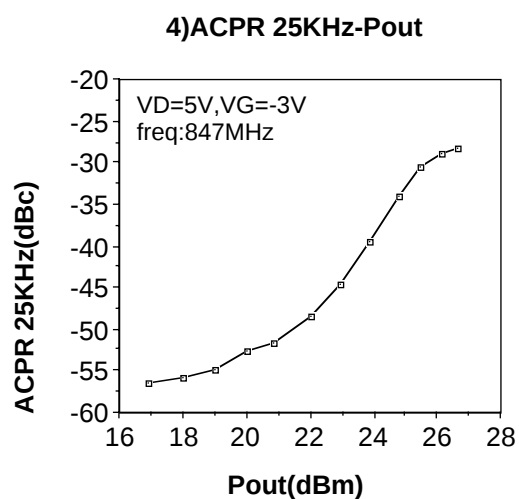
Notes: Operating of this device above any one of these parameters may cause permanent damage.

*Vg=-3 V

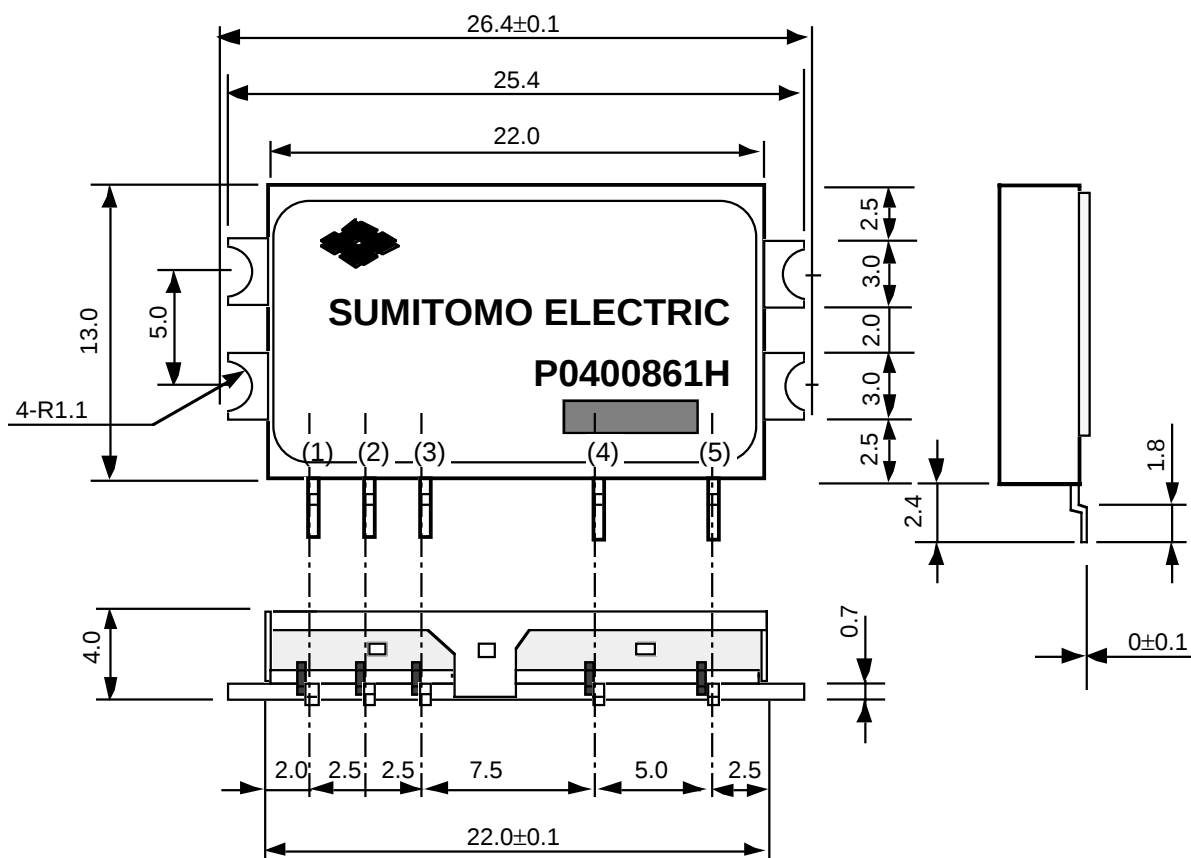
◆ **Electrical Specifications**

Case Temperature Tc=30 °C

Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Frequency	f		810	—	885	MHz
Supply Current (under operation)	Id	Pout=21 dBm Vd1=Vd2=5V Vg1=-3 V	—	330	360	mA
Gate Current	Ig		—	—	4	mA
Power Gain	Ga		27	30	33	dB
Input VSWR	—		—	1.8	3.0	—
Harmonic Distortion	2f0		—	-40	-30	dBc
	3f0		—	-50	-30	dBc
Adjacent Channel Leakage Power	ACPR	25 KHz offset	—	-49	-47	dBc
	Padj 1	50 KHz offset	—	-60	-58	dBc
	Padj 2	100 KHz offset	—	-74	-68	dBc

◆ **Power Characteristics**◆ **Harmonic Distortion**◆ **Adjacent Channel Leakage Power**

◆ **Package Drawing (Dimensions are mm)**



Nominal Variation of Lead Pitch : ± 0.3

Nominal Variation of parts undescribed : ± 0.3

Lead Size : 0.25×0.5

Lot Number

◆ **Pin Assignment**

(1) RFin

(2) Vg1

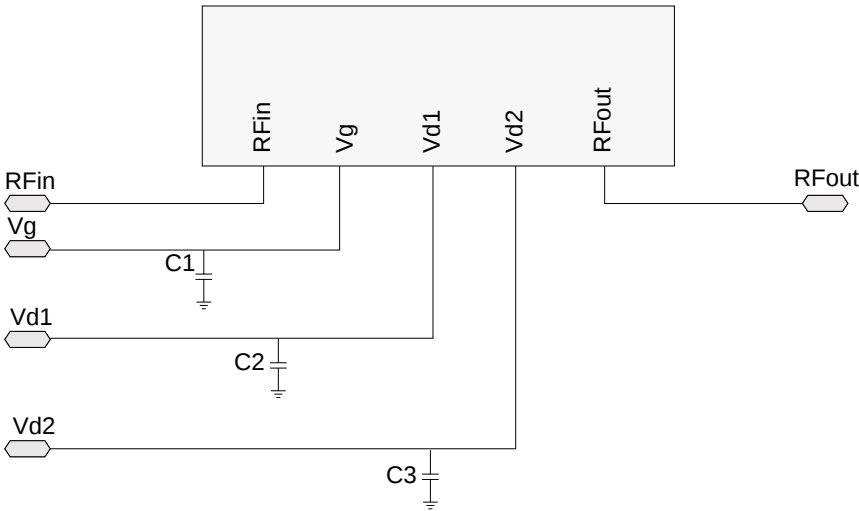
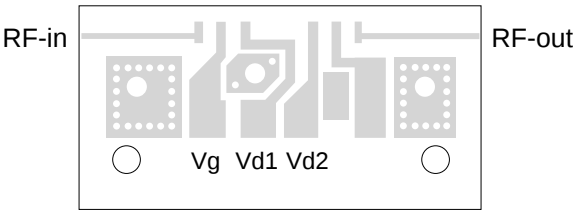
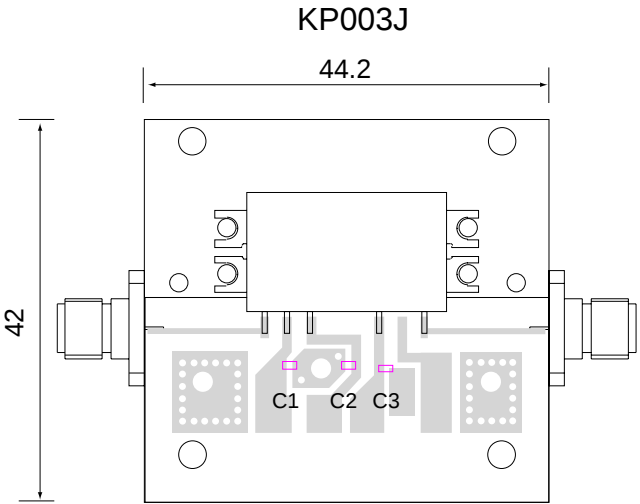
(3) Vd1

(4) Vd2

(5) RFout

Case: GND

◆ Evaluation Board Layout (Dimensions are mm)



DESIGNATION	VALUE
C1	0.1μF
C2,C3	1.0μF