



SUMITOMO ELECTRIC INDUSTRIES, LTD.

Preliminary

00.06.27

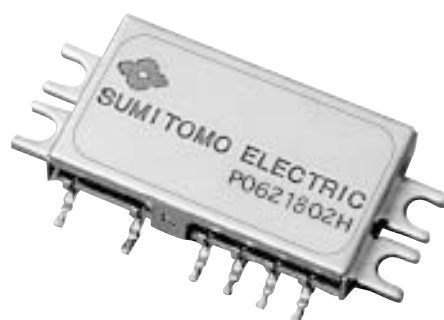
P0621802H

1.8 GHz band

Power Amplifier Module

◆ **Features**

- 1.8 GHz frequency band
- Low power consumption 1.5 W typ.
- Excellent $IM3 \leq 46 \text{ dBc@Pout}=20\text{dBm}$ (S.C.L.)
- Typical 24 dB power gain
- Cost-effective metal package
- Low thermal resistance structure



◆ **Applications**

- For base station of PCS

◆ **Description**

The P0621802H is a power amplifier module for a base station of PCS, and is capable of typical 24 dB gain at 1.8 GHz band, housed in a cost effective metal package.

The P0621802H is designed to perform the total output of 23 dBm at $IM3 = -46 \text{ dBc}$. It operates from +8 V and -3 V power supplies.

◆ **Absolute Maximum Ratings**

Case Temperature Tc=35 °C

Parameter	Symbol	Value	Unit	Condition
Drain Voltage	Vd1,Vd2	9	V	Vg1=Vg2=-3V
Gate Voltage	Vg1,Vg2	-5	V	Vd1=Vd2=0 to 8V
Drain Current at Vd1 Terminal	Id1	120	mA	Vd1=Vd2=0 to 8V
Drain Current at Vd2 Terminal	Id2	700	mA	Vd1=Vd2=0 to 8V
RF Input Power	Pin	5	dBm	
Storage Temperature	Tstg	-20 to 85	°C	
Operating Case Temperature	Topt	-20 to 75	°C	

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

*Vg1,2 = -3.0 V

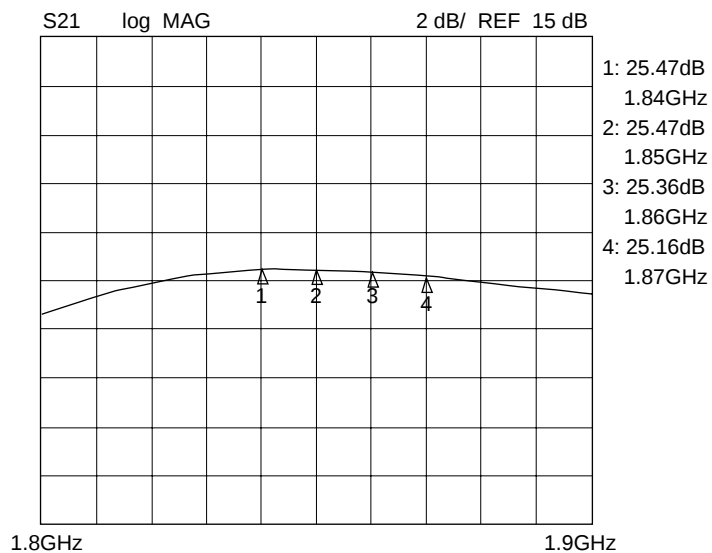
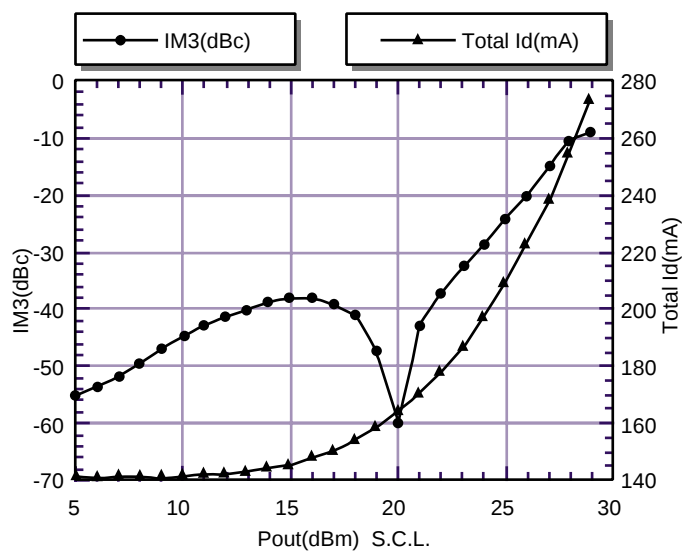
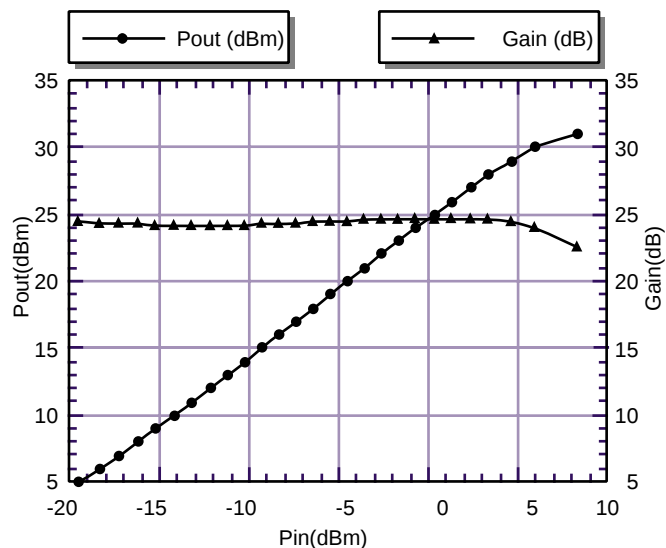
◆ **Electrical Specifications**

Case Temperature Tc=25 °C

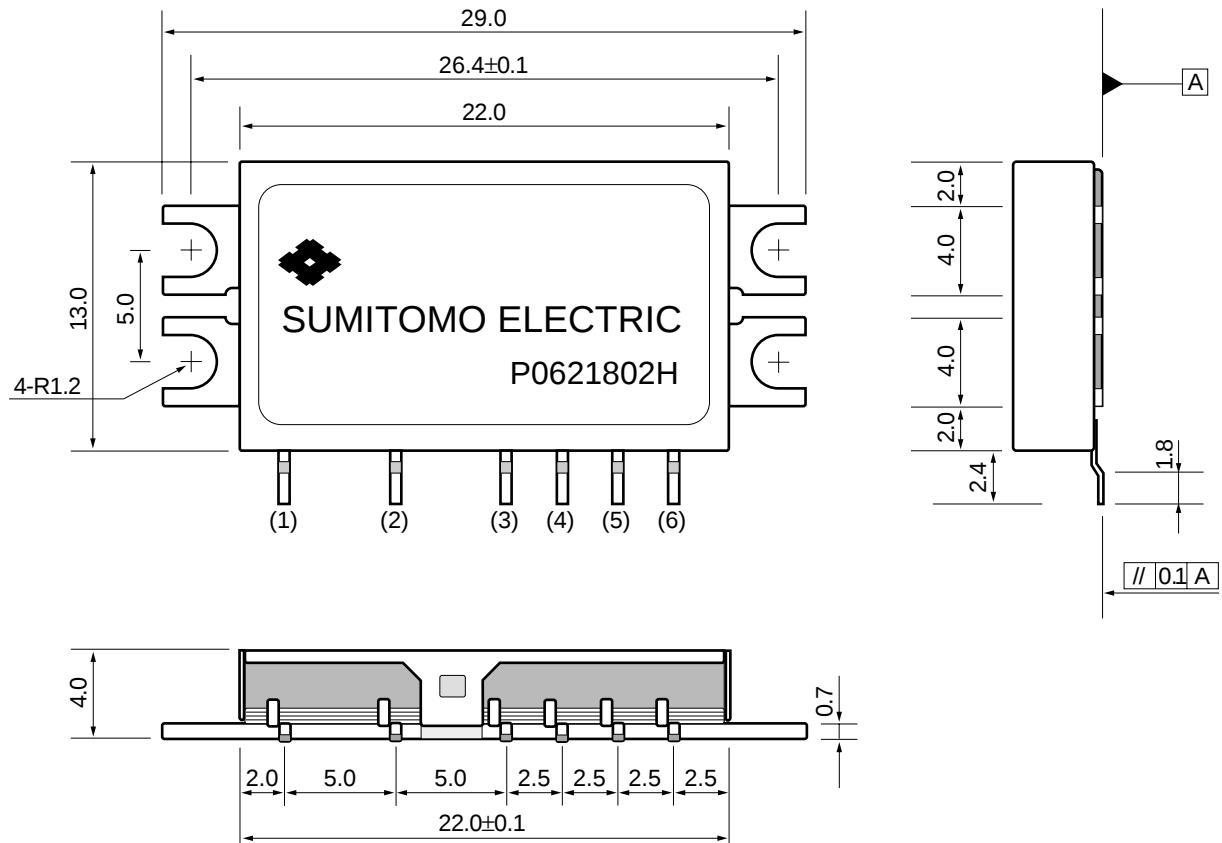
Parameter	Symbol	Value			Unit	Condition
		Min.	Typ.	Max.		
Frequency Range	f	1840	-	1870	MHz	Vg1=Vg2=-3V Vd1=Vd2=8V Pout=20dBm Single Carrier Level
Total Drain Current	Id1+Id2	-	180	300	mA	
Total Gate Current	Ig1+Ig2	-	-	5	mA	
Power Gain	Ga	23.0	24.0	-	dB	
Input VSWR	ρ	-	2.0	3.0	-	
Third Order Intermodulation Ratio*	IM3	-	-50	-46	dBc	Vg1=Vg2=-3V Vd1=Vd2=8V
Saturation Power	Psat	-	30	-	dBm	
Stability	-	No parasitic oscillation to be observed			-	Pout=20dBm Load VSWR<2.5 All Phase
Ruggedness	-	No damage to occur			-	Pout=20dBm Load VSWR<2.5 All Phase

*Single Carrier Level

◆ Power Characteristics

 $f=1855\text{ MHz}, 1856\text{ MHz}, V_d=8\text{ V}, V_g=-3\text{ V}$ 

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



Unit : mm

Tolerance : ±0.3

◆ **Pin Assignment**

(1) RF _{in}	(2) V _{G1}	(3) V _{D1}
(4) V _{G2}	(5) V _{D2}	(6) RF _{out}
Case:GND		

◆ Evaluation Board Layout (Dimensions are mm)

