



SUMITOMO ELECTRIC INDUSTRIES, LTD.

Preliminary

00.05.11

P0622141H

2.1 GHz band

Power Amplifier Module

◆ **Features**

- 2.1 GHz frequency band
- Typical 18 dBm output power
- Low power consumption 11 W typ.
- Excellent IM3 < -50 dBc@P_{out}=15 dBm (S.C.L.)
- Typical 28 dB power gain
- Low gain deviation
- Cost-effective metal package
- Low thermal resistance structure



◆ **Applications**

- For base station of wide band CDMA

◆ **Description**

The P0622141H is a power amplifier module for a base station of wideband CDMA Communication system, and is capable of 18 dBm output power with typical 28 dB gain at 2.1 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 1.1 A.

◆ **Absolute Maximum Ratings**Case Temperature T_c=35 °C

Parameter	Symbol	Value	Units
DC Supply Voltage	Vd12,Vd3	11 *	V
	Vg12,Vg3	- 4	V
Input Power	P _{in}	13	dBm
Storage Temperature	T _{stg}	-20 to + 85	°C
Operating Case Temperature	T _{opt}	-20 to + 75	°C
Supply Current	I _{d12}	350	mA
	I _{d3}	800	mA

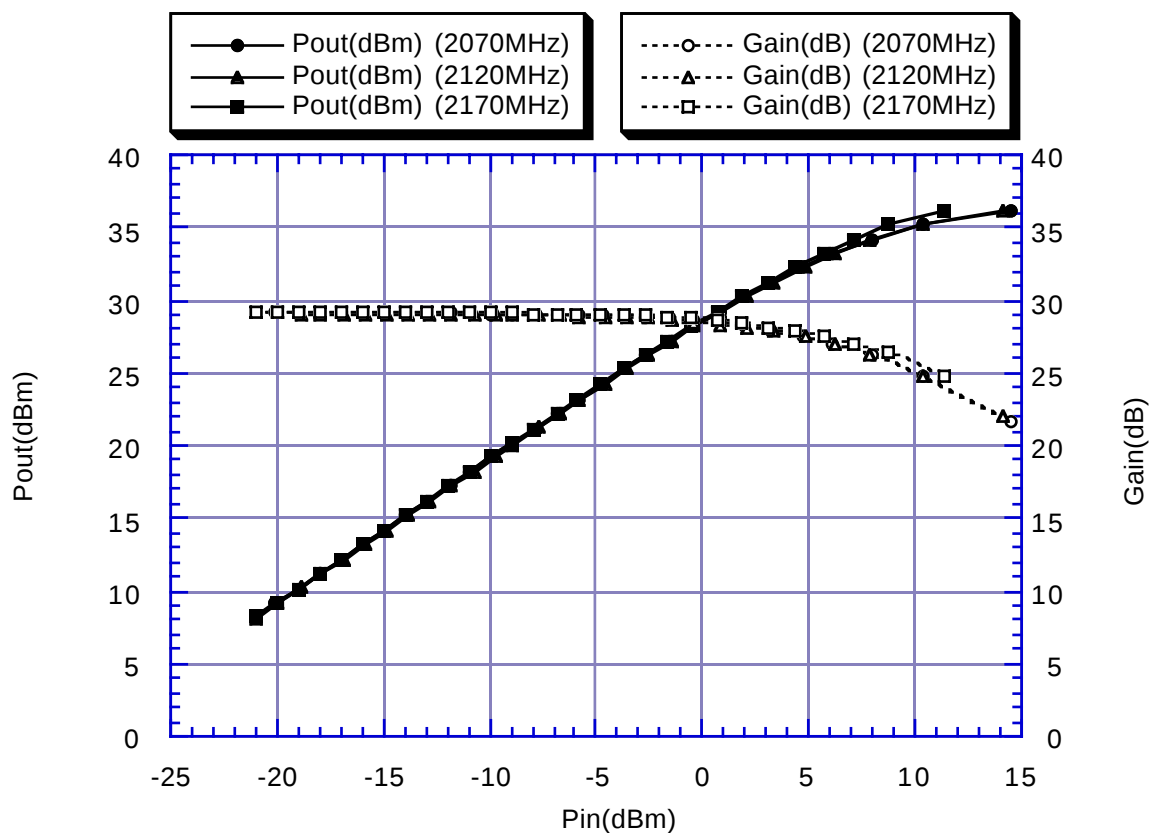
Notes: Operating of this device above any one of these parameters may cause permanent damage.

*V_{g1},V_{g2}=-3.0 V◆ **Electrical Specifications**Case Temperature T_c=35 °C

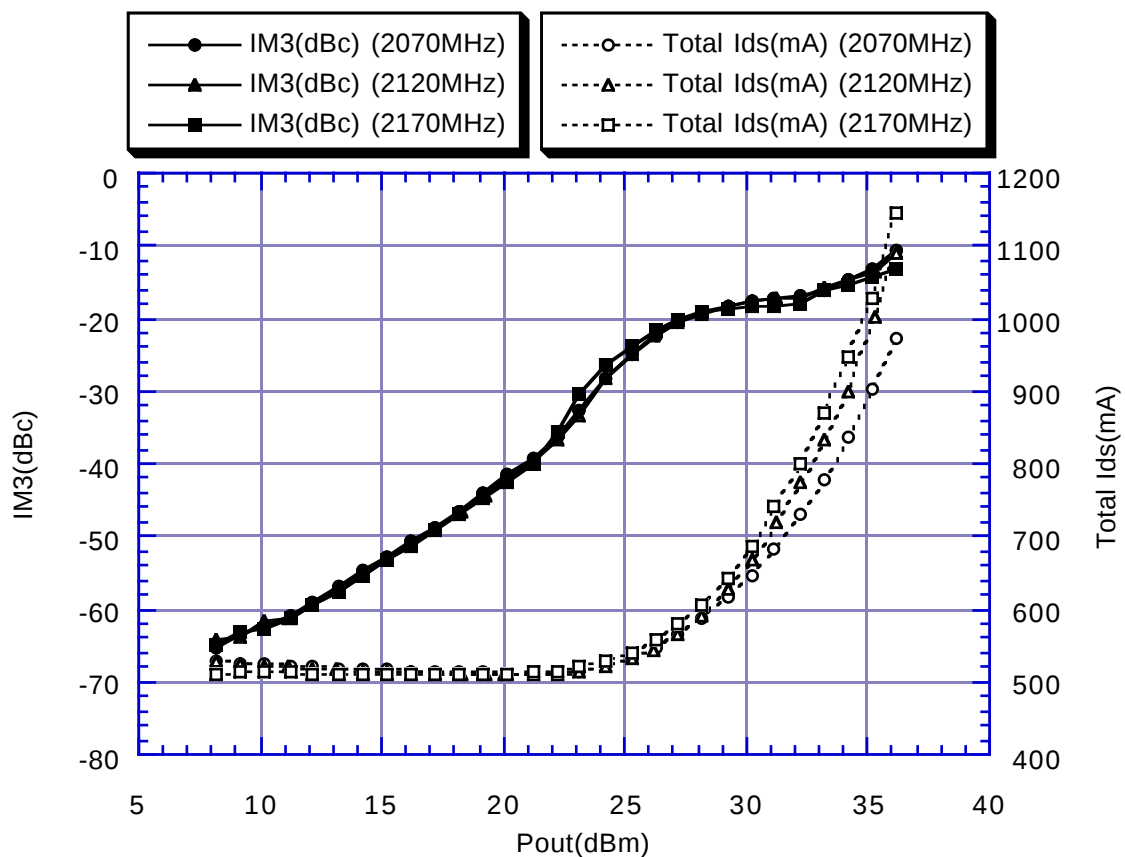
Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Frequency	f		2070	—	2170	MHz
Supply Current (under operation)	I _d	P _{out} =10 dBm V _d =10 V V _g =-3 V	—	—	600	mA
Gate Current	I _g		—	—	7	mA
Power Gain	G _a		25	—	—	dB
Input VSWR	—		—	2.0	3.0	—
Third Order Intermodulation Ratio	IM3	P _{out} =15 dBm* Δf = 1 MHz	—	—	-50	dBc

*Single Carrier Level

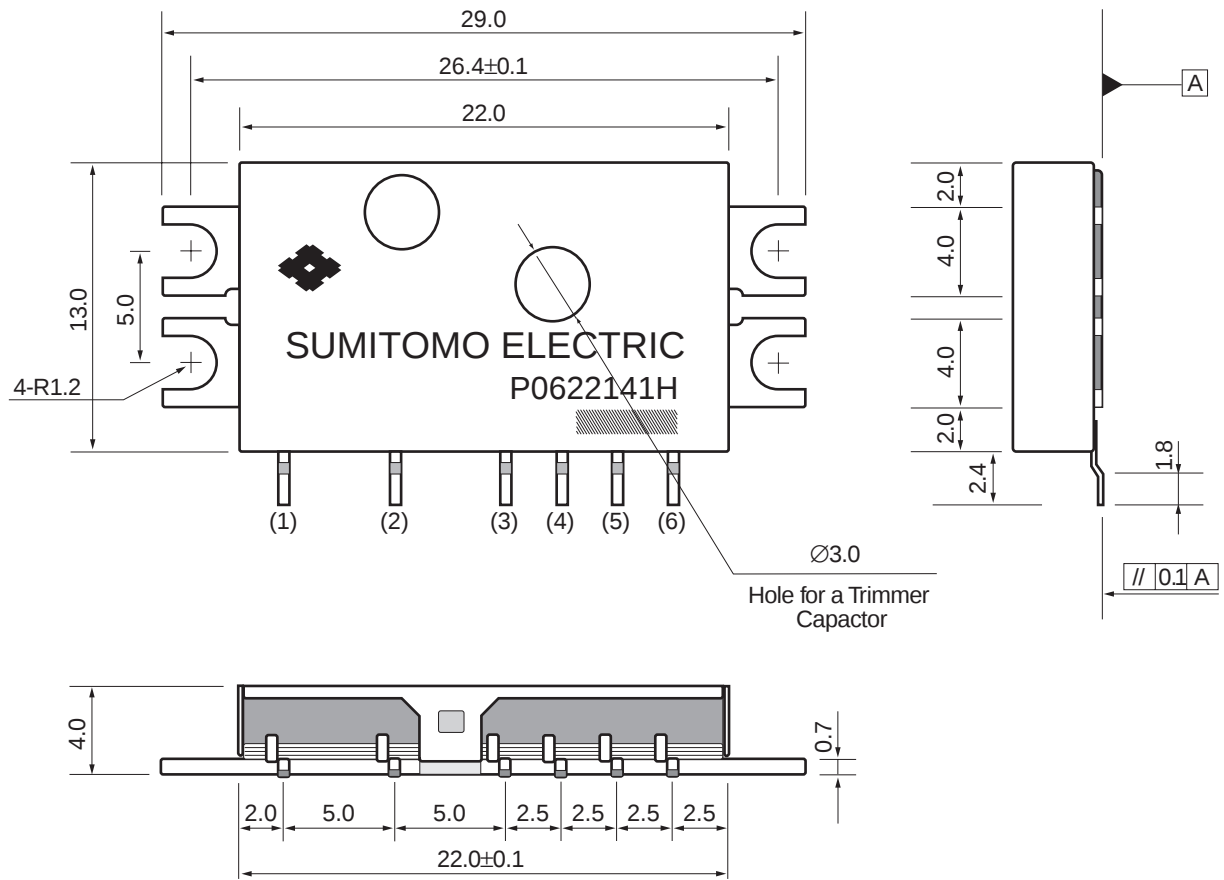
◆ Power Characteristics



◆ IM3



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



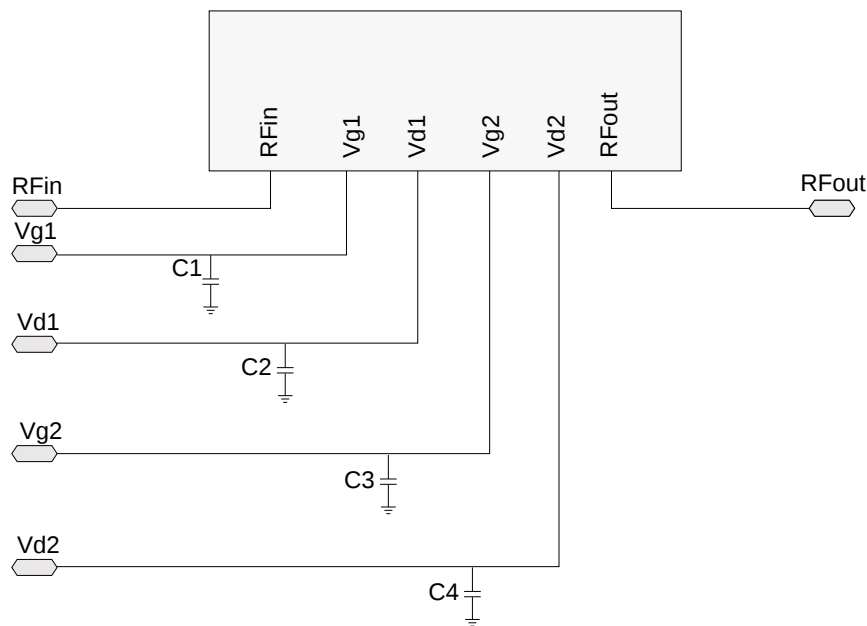
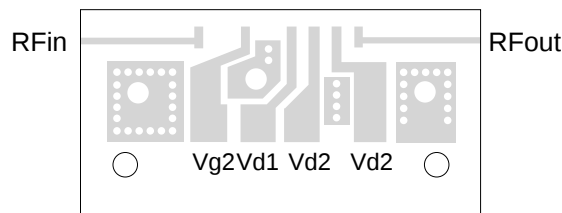
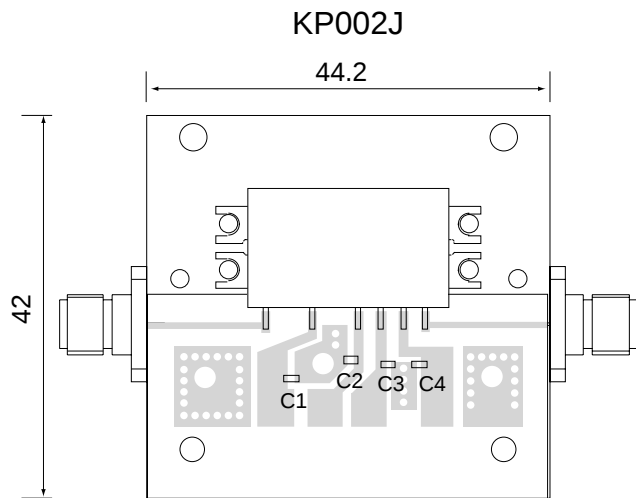
▨ : Lot No.

Dimensions are mm (±0.3mm)

◆ **Pin Assignment**

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

◆ **Evaluation Board Layout (Dimensions are mm)**



DESIGNATION	VALUE
C1,C3	0.1 μ F
C2,C4	1.0 μ F