



SUMITOMO ELECTRIC INDUSTRIES, LTD.

Preliminary

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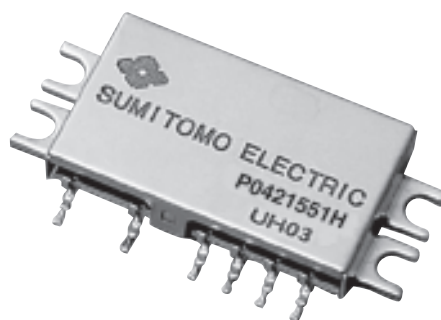
P0421551H

1.5 GHz band

Power Amplifier Module

◆ **Features**

- Low voltage operation of 4.8 V with negative voltage of -3 V
- 1477 - 1487 MHz frequency band
- Typical P1dB of 30 dBm
- Excellent Adjacent Leakage Power
- Typical 36 dB power gain
- Cost-effective metal package
- Low thermal resistance structure



◆ **Applications**

- Power Amplifier for use in smaller zone size of PDC booster or base station systems

◆ **Description**

The P0421551H is a power amplifier module which achieves an excellent adjacent leakage power at the output power of 26 dBm with a typical 36 dB gain at an 1.5 GHz band, housed in a cost effective metal package. It features a low voltage operation of 4.8 V. The P0421551H is designed to achieve the total output power of 26 dBm at ACP 25 kHz of -42 dBc with a low power consumption of 3.2 W. It operates with 4.8 V and -3 V power supplies.

◆ **Absolute Maximum Ratings**

Case Temperature Tc=25 °C

Parameter	Symbol	Value	Units
DC Supply Voltage	Vd	6 *	V
	Vg	-5	V
Input Power	Pin	-3	dBm
Storage Temperature	Tstg	-40 to + 90	°C
Operating Case Temperature	Topt	-20 to + 75	°C

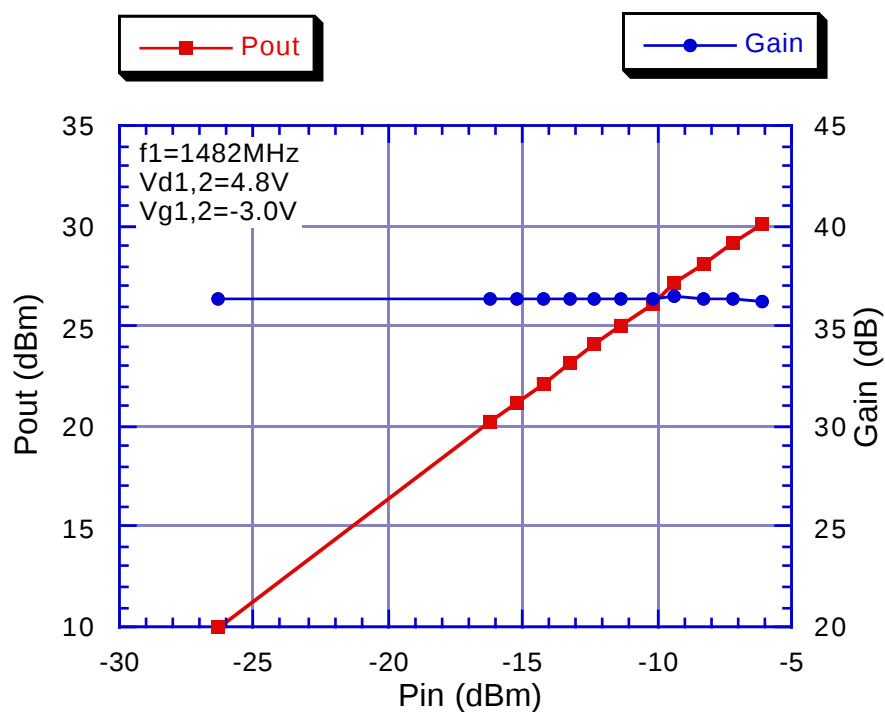
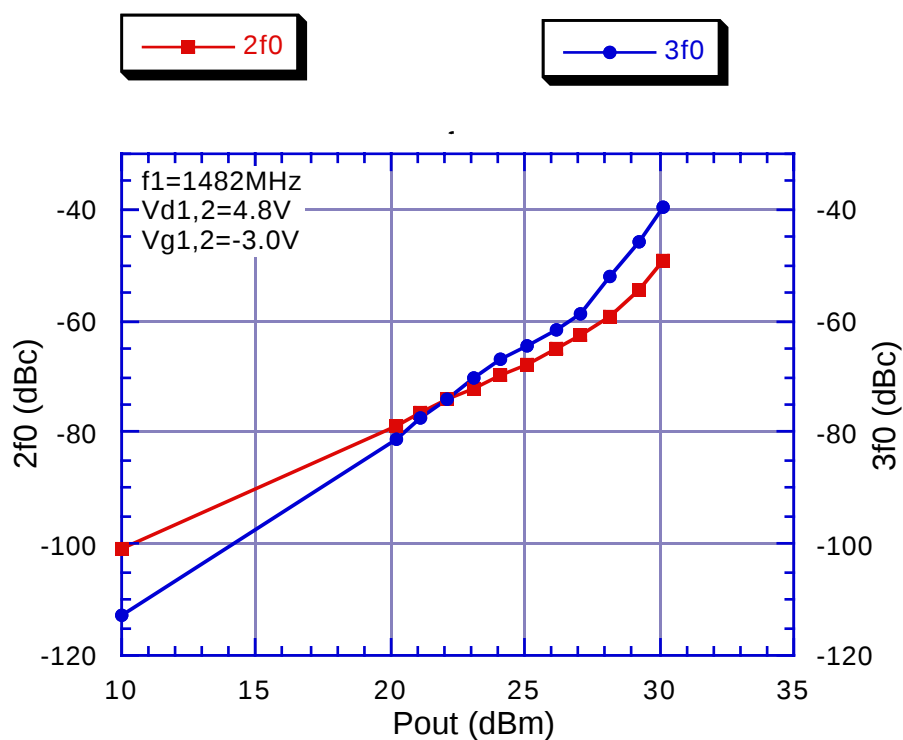
Notes: Operating of this device above any one of these parameters may cause permanent damage.

*Vg=-3 V

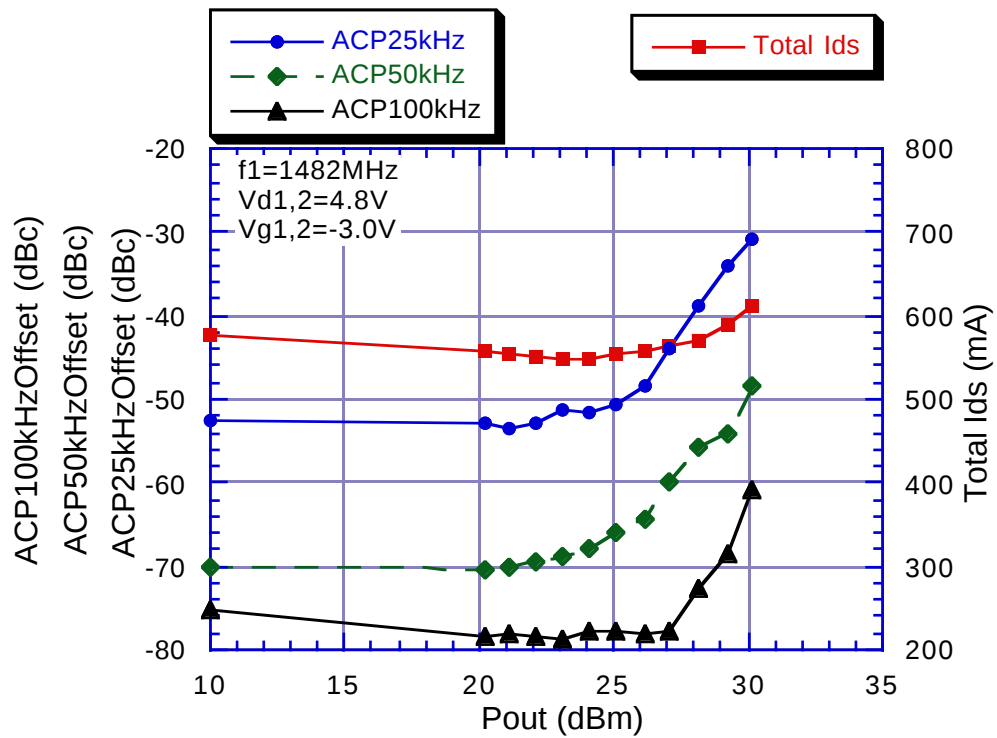
◆ **Electrical Specifications**

Case Temperature Tc=25 °C

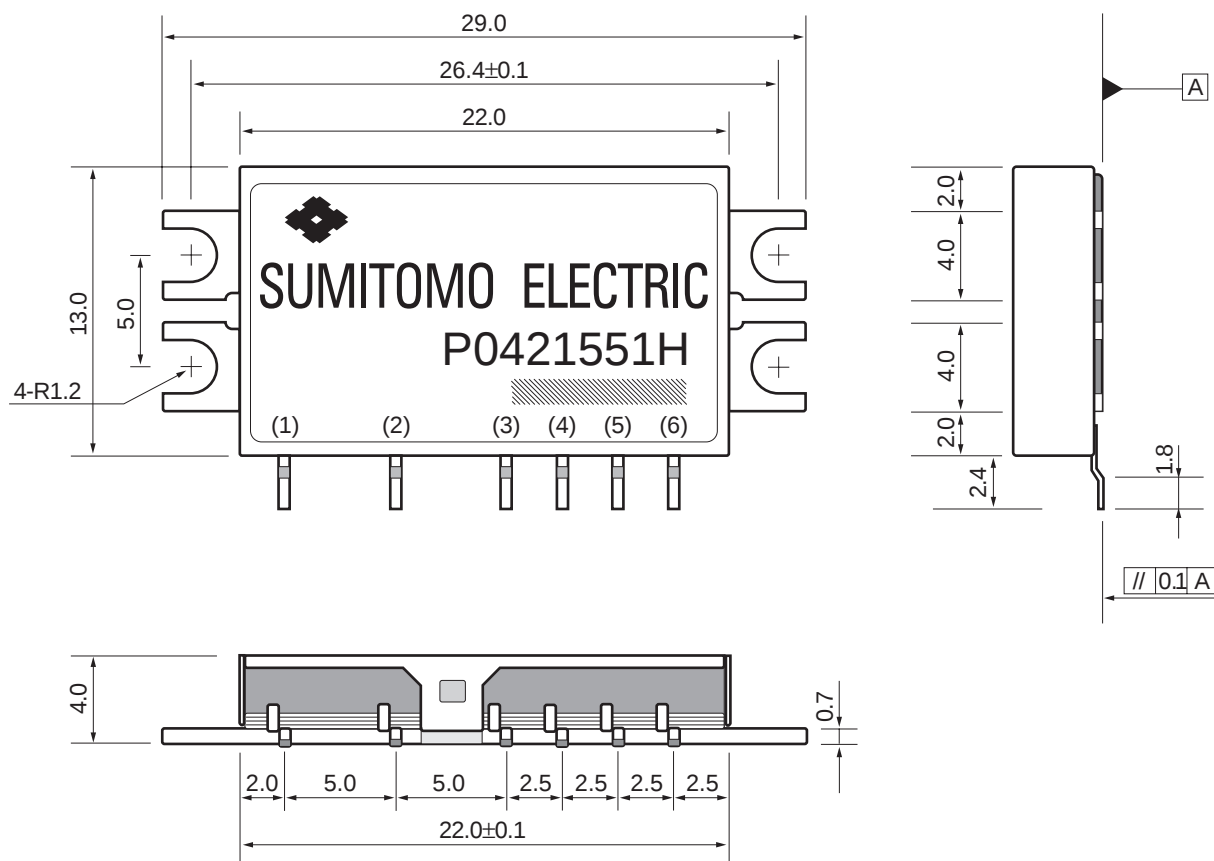
Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Frequency	f		1477	—	1487	MHz
Supply Current (under operation)	Id	Pout=26 dBm Vd=4.8 V Vg=-3 V	—	650	700	mA
Gate Current	Ig		—	—	5	mA
Power Gain	Ga		34	36	—	dB
Input VSWR	—		—	—	3.0	—
Harmonic Distortion	2f0		—	-40	-30	dBc
	3f0		—	-45	-40	dBc
Adjacent Channel Leakage Power	Padj 1	25 kHz offset	—	-42	-40	dBc
	Padj 2	50 kHz offset	—	-57	-55	dBc
	Padj 3	100 kHz offset	—	-74	-70	dBc

◆ **Power Characteristics** $f=1482\text{ MHz}$, $V_{d1}, V_{d2}=4.8\text{ V}$, $V_{g1}, V_{g2}=-3.0\text{ V}$ ◆ **Harmonic Distortion** $f=1482\text{ MHz}$, $V_{d1}, V_{d2}=4.8\text{ V}$, $V_{g1}, V_{g2}=-3.0\text{ V}$ 

◆ Adjacent Channel Leakage Power

 $f=1482\text{ MHz}$, $V_{d1}, V_{d2}=4.8\text{ V}$, $V_{g1}, V_{g2}=-3.0\text{ V}$ 

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



Lead Size : 0.25×0.5

▨ : 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)

