



SUMITOMO ELECTRIC INDUSTRIES, LTD.

Preliminary

00.05.09

P0400830H

800 MHz band

Power Amplifier Module

◆ **Features**

- 925 - 960 MHz frequency band
- Typical P1dB of 35 dBm
- Excellent IM3 of -40 dBc at 26 dBm output with low power consumption of 14.4 W
- 2nd and 3rd harmonic distortion of less than -35 dBc at 36 dBm output for single carrier application
- Typical 28 dB power gain
- Power supplies of 9 V and -3 V
- Cost-effective metal package



◆ **Applications**

- Power Amplifier for use in base station of GSM systems
- Both for single carrier application and multi carrier application

◆ **Description**

The P0400830H is a power amplifier module which achieves an excellent IM3 of -40 dBc at the output power of 26 dBm (S.C.L.) with a typical 28 dB gain at an 800MHz band, housed in a cost effective metal package. This power amplifier for smaller zone size of the GSM booster or base station systems is required a low 3rd order distortion because of amplifying several carriers at the same time. The P0400830H is designed to achieve the total output power of 29 dBm at IM3 of -40 dBc with a low power consumption of 14.4 W, and can be used for the single carrier application, showing the 2nd and 3rd harmonic distortion of less than -35 dBc at the output power of 36 dBm with the low power consumption of 14.4 W. It operates with 9 V and -3 V power supplies.

◆ **Absolute Maximum Ratings**Case Temperature T_c=25 °C

Parameter	Symbol	Value	Units
DC Supply Voltage	V _d	11 *	V
	V _g	- 6	V
Input Power	P _{in}	10	dBm
Storage Temperature	T _{stg}	-40 to + 85	°C
Operating Case Temperature	T _{opt}	-20 to + 80	°C

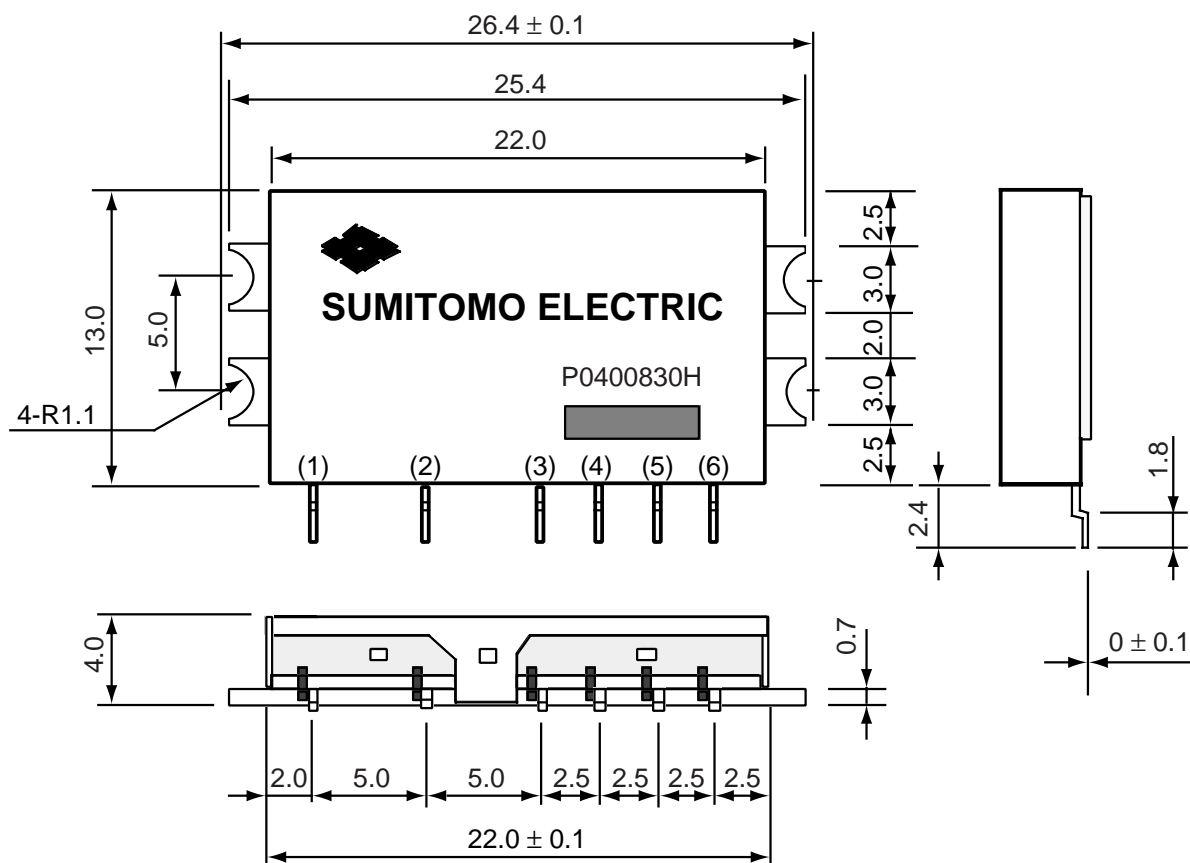
Notes: Operating of this device above any one of these parameters may cause permanent damage.
damage.*V_g=-3 V

◆ **Electrical Specifications**Case Temperature T_c=25 °C

Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Frequency	f		925	—	960	MHz
Supply Current (under operation)	I _d	P _{out} = 36 dBm V _d =9 V V _g =-3 V	—	1.6	1.7	A
Gate Current	I _g		—	—	4	mA
Power Gain	G _a		27	28	—	dB
Input VSWR	—		—	—	3.0	—
Harmonic Distortion	2f ₀		—	-.35	-30	dBc
	3f ₀		—	-45	-40	dBc
Third Order Intermodulation Ratio	I _{M3}	P _{out} = 26 dBm* Δf = 1 MHz	—	—	-40	dBc

* Single Carrier Level

◆ **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) Vg2

(5) Vd2

(6) RFout

Case : GND

◆ Evaluation Board Layout (Dimensions are mm)

