



SUMITOMO ELECTRIC INDUSTRIES, LTD.

00.05.10

**P0460840H**

800MHz band

***Power Amplifier Module***

### ◆ **Features**

- Low voltage operation of 4.8 V with negative voltage of -3 V
- 810 - 885 MHz frequency band
- Typical P1dB of 30 dBm
- Excellent IM3 of -40 dBc at 20 dBm output with low power consumption of 2.3 W
- Typical 29 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 P0460840H is a power amplifier module which achieves an excellent IM3 of -40 dBc at the output power of 20 dBm (S.C.L.) with a typical 29 dB gain at an 800MHz band, housed in a cost effective metal package. It features a low voltage operation of 4.8 V. This power amplifier for smaller zone size of the PDC booster or base station systems is required a low 3rd order distortion because of amplifying several carriers at the same time. The P0460840H is designed to achieve the total output power of 23 dBm at IM3 of -40 dBc with a low power consumption of 2.3 W. It operates with 4.8 V and -3 V power supplies.

◆ **Absolute Maximum Ratings**Case Temperature T<sub>c</sub>=25 °C

Parameter	Symbol	Value	Units
DC Supply Voltage	V <sub>d</sub>	8 *	V
	V <sub>g</sub>	- 6	V
Input Power	P <sub>in</sub>	-5	dBm
Storage Temperature	T <sub>stg</sub>	-40 to + 85	°C
Operating Case Temperature	T <sub>opt</sub>	-20 to + 80	°C

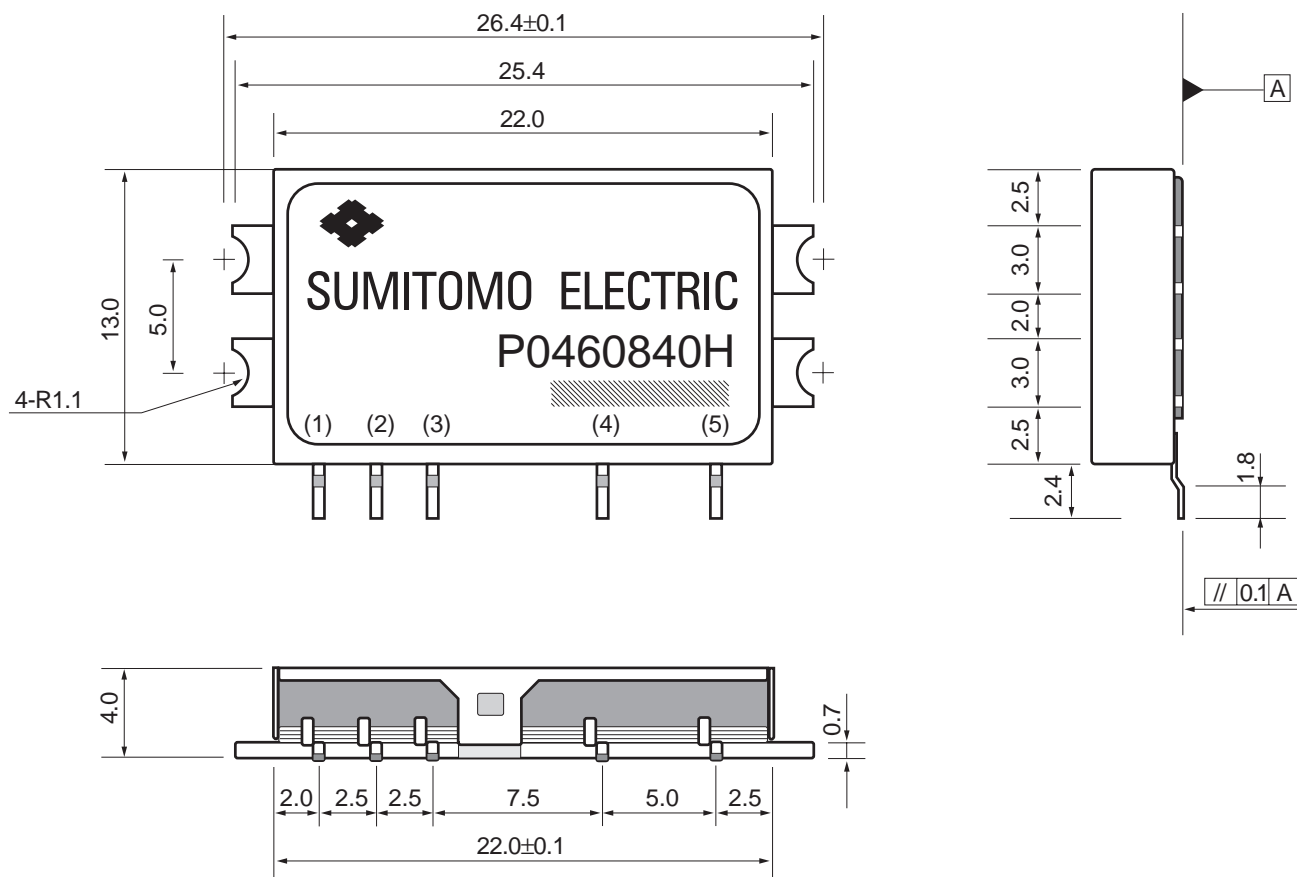
Notes: Operating of this device above any one of these parameters may cause permanent damage.

\*V<sub>g</sub>=-3 V◆ **Electrical Specifications**Case Temperature T<sub>c</sub>=25 °C

Parameter	Symbol	Test Conditions	Value			Units
			Min.	Typ.	Max.	
Frequency	f		810	—	885	MHz
Supply Current (under operation)	I <sub>d</sub>	P <sub>out</sub> =23 dBm V <sub>d1</sub> =V <sub>d2</sub> =4.8 V V <sub>g1</sub> =-3 V	—	470	500	mA
Gate Current	I <sub>g</sub>		—	—	4	mA
Power Gain	G <sub>a</sub>		27	28	—	dB
Input VSWR	—		—	—	3.0	—
Harmonic Distortion	2f <sub>0</sub>		—	—	-30	dBc
	3f <sub>0</sub>		—	—	-40	dBc
Third Order Intermodulation Ratio	I <sub>M3</sub>	P <sub>out</sub> =20 dBm* Δf = 1 MHz	—	—	-40	dBc

\* Single Carrier Level

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



Lead Size : 0.25×0.5

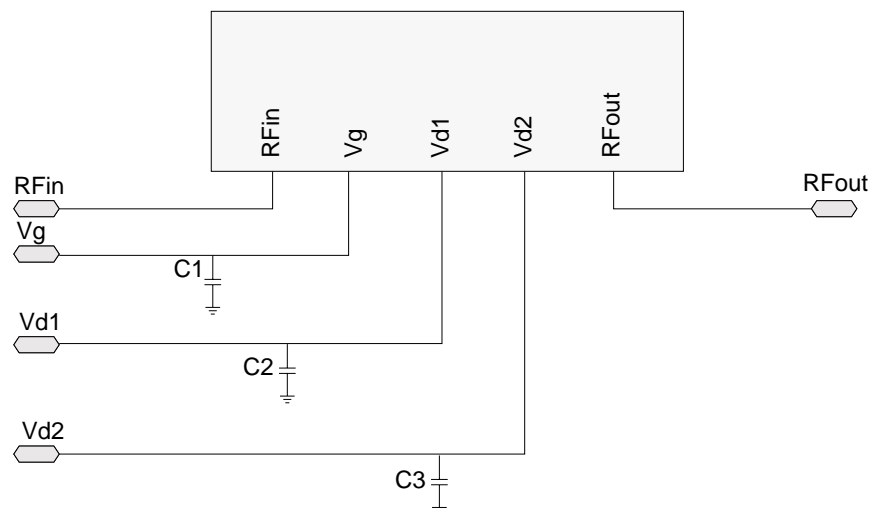
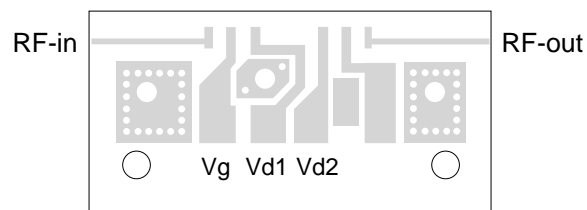
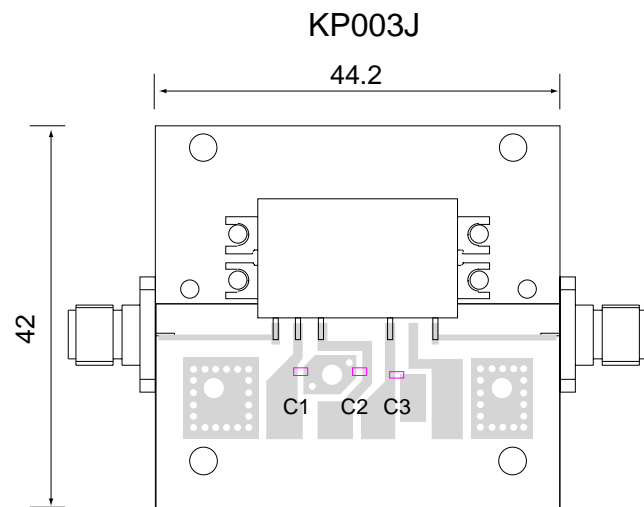
▨ : Lot No.

Dimensions are mm ( $\pm 0.3$ mm)

◆ **Pin Assignment**

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

◆ Evaluation Board Layout (Dimensions are mm)



DESIGNATION	VALUE
C1	0.1 $\mu$ F
C2,C3	1.0 $\mu$ F