



SUMITOMO ELECTRIC INDUSTRIES, LTD.

**Preliminary**

01.02.13

**P0622143H**

2.1 GHz band

**Power Amplifier Module**

#### ◆ **Features**

- 2.1 GHz frequency band
- Typical 35 dBm output power
- Low power consumption 7.5 W typ.
- Excellent ACPR  $< -55$  dBc@ $P_{out}=20$  dBm (Ave.Power)
- Typical 22 dB power gain
- Low gain deviation
- Cost-effective metal package
- Low thermal resistance structure



#### ◆ **Applications**

- For base station of wide band CDMA

#### ◆ **Description**

The P0622143H is a power amplifier module for a base station of wideband CDMA Communication system, and is capable of 35 dBm output power with typical 22 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 0.75 A.

◆ **Absolute Maximum Ratings**

Case Temperature Tc=35 °C

| Parameter                  | Symbol  | Value       | Units |
|----------------------------|---------|-------------|-------|
| DC Supply Voltage          | Vd1,Vd2 | 11 *        | V     |
|                            | Vg1,Vg2 | - 4         | V     |
| Input Power                | Pin     | 16          | dBm   |
| Storage Temperature        | Tstg    | -20 to + 85 | °C    |
| Operating Case Temperature | Topt    | -20 to + 85 | °C    |
| Supply Current             | Id1     | 450         | mA    |
|                            | Id2     | 2000        | mA    |

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

\*Vg1,Vg2=-3.0 V

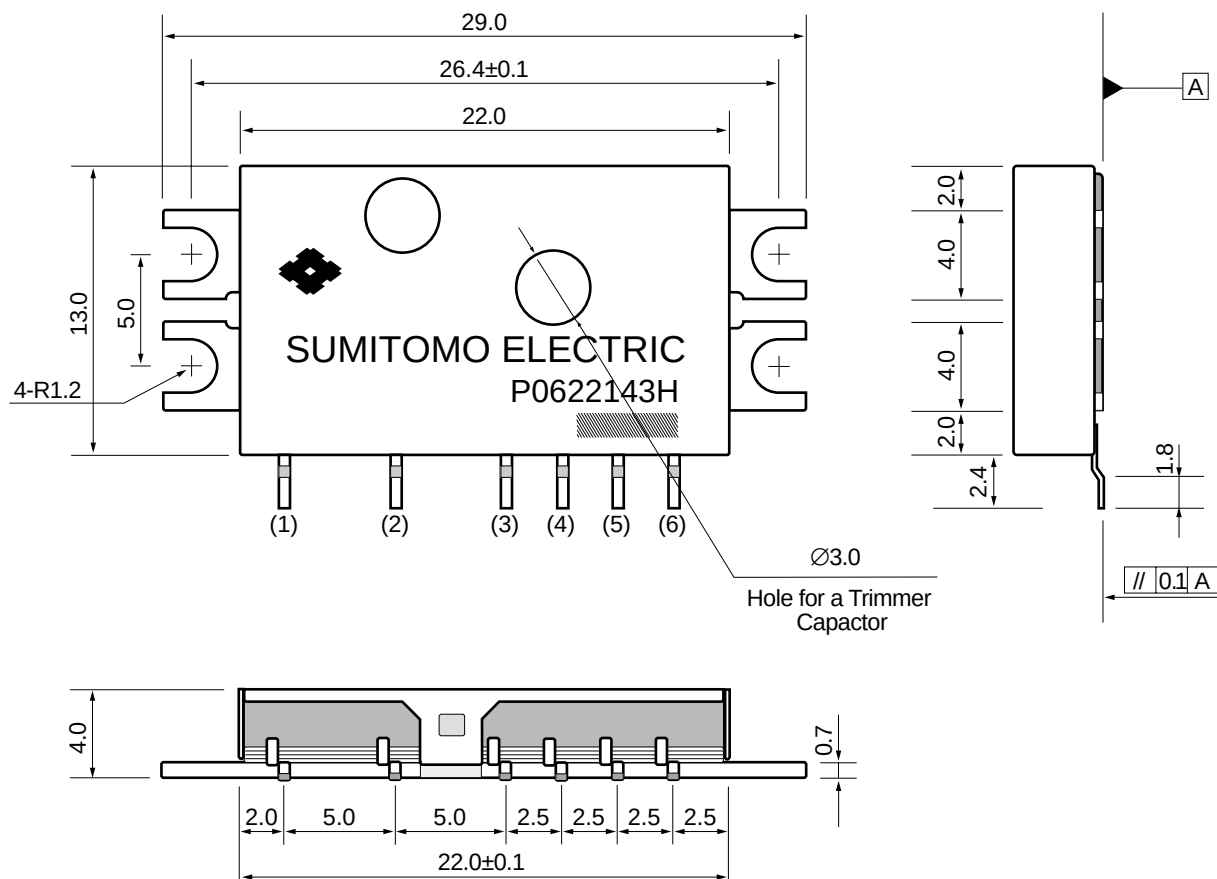
◆ **Electrical Specifications**

Case Temperature Tc=35 °C

| Parameter                                         | Symbol | Test Conditions                         | Value |      |      | Units |
|---------------------------------------------------|--------|-----------------------------------------|-------|------|------|-------|
|                                                   |        |                                         | Min.  | Typ. | Max. |       |
| Frequency                                         | f      |                                         | 2110  | —    | 2170 | MHz   |
| Supply Current (under operation)                  | Id     | Pout=17 dBm<br>Vd=10 V<br>Vg=-3.0 V     | —     | 750  | 800  | mA    |
| Gate Current                                      | Ig     |                                         | —     | 11   | 15   | mA    |
| Power Gain                                        | Ga     |                                         | 20    | 22   | —    | dB    |
| Input VSWR                                        | —      |                                         | —     | 2.0  | 2.5  | —     |
| Adjacent Channel Leakage Power Ratio 5MHz offset  | ACPR1  | Pout=17 dBm*<br>Δf=10 MHz<br>2Tone Test | —     | -58  | -55  | dBc   |
| Adjacent Channel Leakage Power Ratio 10MHz offset | ACPR2  |                                         | —     | -58  | -55  | dBc   |

\*W-CDMA Test Model 2 with 3DPCHs  
Single Carrier Level

◆ **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)

