EC MICROWAVE
The door to the RF world

GaAs integrated power amplifier O242SM4

Features

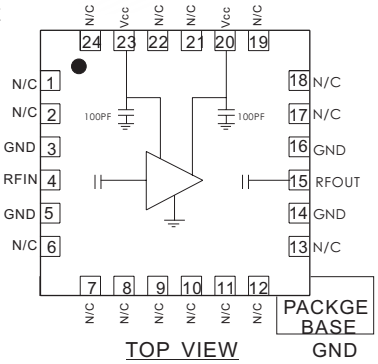
- Working frequency band: 2.2~3.5GHz
- Psat output power: 29dBm
- Gain: 22dB
- Single-supply operation: +5V@210mA
- Input/Output Impedance: 50 Ohm
- Package Size: 4.0 x 4.0 x 1.0mm

Application

Suitable for a variety of applications:

- Microwave radio
- Military and aerospace
- Test and measurement
- Instruments apparatuses
- RF/Microwave circuit

Functional block diagram



Overview

The O242SM4 is a 2.2-3.5GHz power amplifier that operates from a single supply and provides 23dB of gain and 25dBm of saturated output power at an operating voltage of +5V.

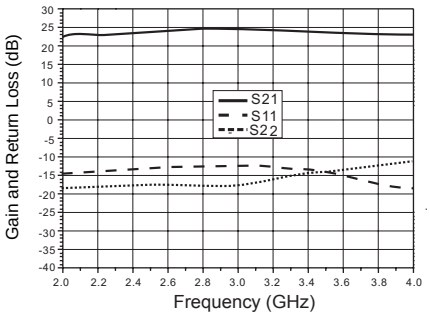
The amplifier uses a 4x4mm surface-mount non-leaded ceramic package for hermetic encapsulation. The pin pad surface is gold-plated and suitable for reflow soldering.

Electrical Characteristics(T_A =+25℃, 50Ω system)

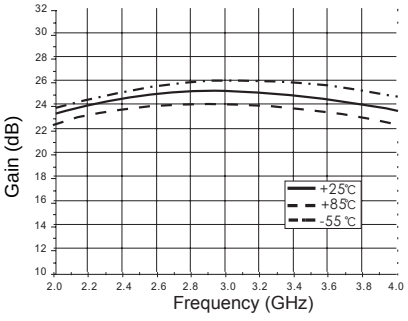
Parameter		Min.	Typ.	Max.	Unit
Frequency band			2.2-3.5		GHz
+5V	Gain		23		dB
	Saturated output power (Psat)	24	25	–	dBm
	Input/output return loss	10	12	–	dB
	Working current	–	230	–	mA

Test

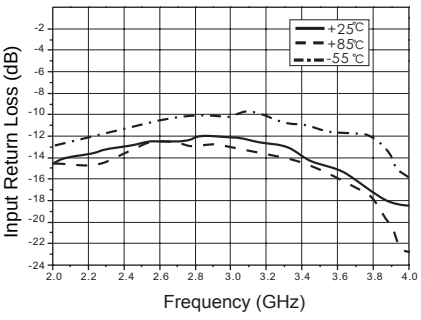
Gain & Return Loss



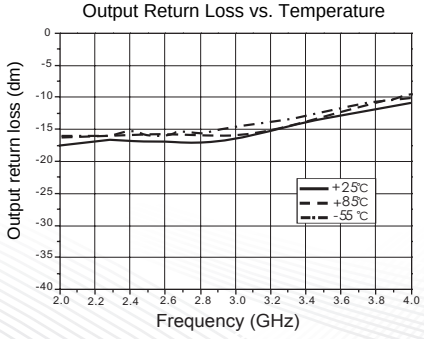
Gain & temperature



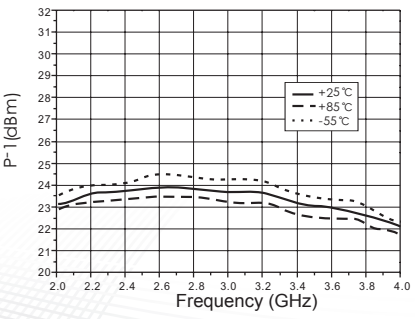
Input Return Loss vs. Temperature



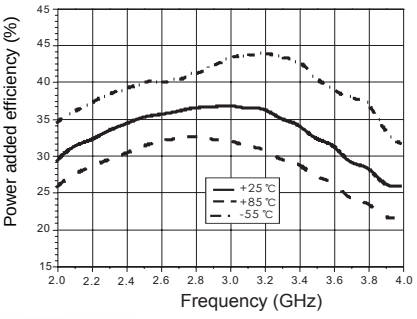
Output Return Loss vs. Temperature



P1dB Vs. Temperature



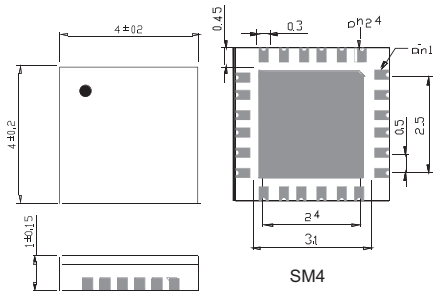
Power Added Efficiency vs. Temperature



Pin definition

Pin.NO	Pin Name	Description
4	RF in	RF signal, external 50 ohm system, no need to block straight
15	RF out	RF signal, external 50 ohm system, no need to block straight
20, 23	Vcc	Power port +5V
3, 5, 14, 16	GND	The ground pin and the bottom of the shell need a large area to ground
others	NC	Vacant

Dimensions



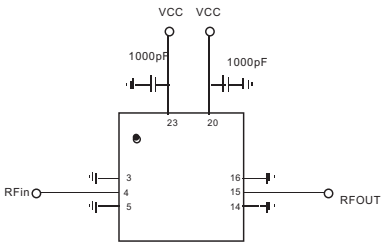
SM4

Limit parameter

Supply voltage (V)	+10
RF input power (dBm)	+20
Junction temperature (°C)	175
Storage temperature (°C)	-65~+150
Working temperature (°C)	-55~+125

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Application Information



Description:

1. Unit: mm
2. Shell Material: Alumina Ceramics
3 pin surface plating: nickel gold
4. The shell surface warpage: less than 0.05mm
5. All ground pins please connect RF ground
6. This tube is suitable for reflow mounting process