MGA-43040

High Linearity (2.3-2.4) GHz Power Amplifier Module

Product Brief - Preliminary

Description

Avago Technologies' MGA-43040 is a fully match amplifier for use in the (2.3-2.4) GHz band. High linear output power at 5V is achieved through the use of A Technologies' proprietary 0.25um GaAs Enhancement pHEMT process. MGA-43040 is housed in a miniature 5.0 5.0mm molded-chip-on-board (MCOB) module package detector is also included on-chip. The compact footprint coupled with high gain, high linearity and good efficiency the MGA-43040 an ideal choice as a power amplifier cell BTS PA applications.

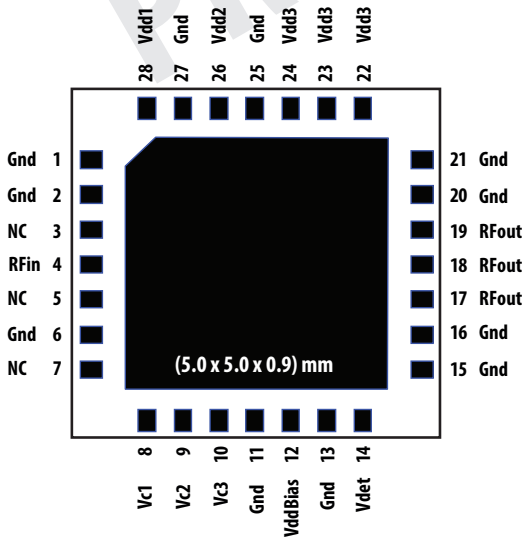
Applications

- Final stage high linearity amplifier Enterprise Femtocell PA targeted for small cell BTS downlink applications

Package Outline (Top View)

Notes:
Package marking provides orientation and identification
"43040" = Device part number
"YYWW" = Year and work week
"XXXX" = Assembly lot number

Pin Configuration



Features

- High linearity performance Max -48dBc ACPR [1] at 27.0dBm linear output power (biased with 5 supply)
- High Gain : 42dB
- Good efficiency
- Fully matched
- Built-in detector
- GaAs E-pHEMT Technology [2]
- Low cost small package size: 5.0 x 5.0 x 0.9 mm

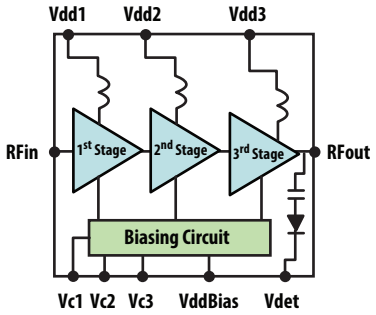
Specifications

2.35GHz; 5.0V, Idq=350mA (typ), LTE 20MHz 100RB

- PAE : 13%
- 27.0dBm linear Pout @ ACPR
- 42dB Gain
- Detector range : 20dB

Notes:
1. LTE 20MHz 100RB Test Mode 1.1
2. Enhancement mode technology employs positive Vgs, thereby eliminating the need of negative gate voltage associated with conventional depletion mode devices.

Functional Block Diagram



Attention: Observe precautions for handling electrostatic sensitive devices.
ESD Machine Model = TBD
ESD Human Body Model = TBD
Refer to Avago Application Note A004R: Electrostatic Discharge, Damage and Control.

Absolute Maximum Rating [1] $T_A = 25°C$

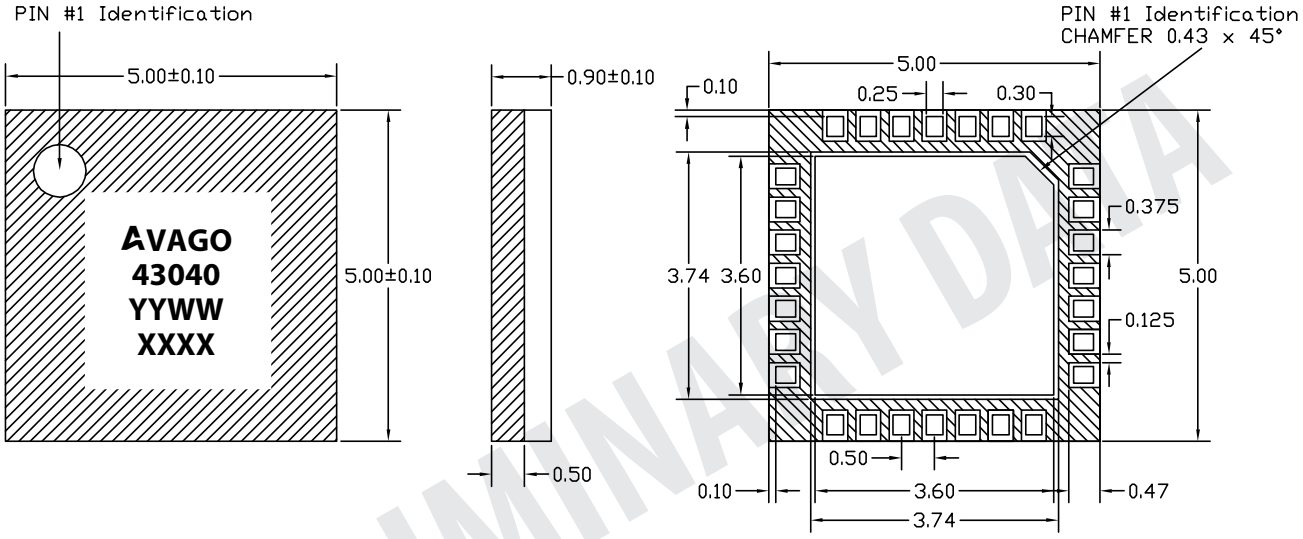
Symbol	Parameter	Units	Absolute Max.
Vdd, VddBias	Supply voltages, bias supply voltage	V	6
Vc	Control Voltage	V	(Vdd)
$P_{in,max}$	CW RF Input Power	dBm	20
P_{diss}	Total Power Dissipation [3]	W	TBD
T_j	Junction Temperature	°C	150
T_{STG}	Storage Temperature	°C	-65 to 150

Thermal Resistance [2,3]

$\theta_{jc} = 14.2°C/W$

Notes:
1. Operation of this device in excess of any of these limits may cause permanent damage.
2. Thermal resistance measured using Infra-Red Measurement Technique.
3. Board temperature (T_B) is 25 °C , for T_B >TBD °C derate the device power at TBD mW per °C rise in Board (package belly) temperature.

MCOB (5.0 x 5.0 x 0.9) mm 28-Lead Package Dimensions



Top View **Side View** **Bottom View**

Note
1. All dimensions are in millimeters.
2. Dimensions are inclusive of plating.
3. Dimensions are exclusive of mold flash and metal burr.

Part Number Ordering Information

Part Number	Qty	Container
MGA-43040-BLKG	100	Antistatic Bag
MGA-43040-TR1G	1000	7" Reel

This preliminary data is provided to assist you in the evaluation of product(s) currently under development. Until Avago Technologies releases this product for general sales, Avago Technologies reserves the right to alter prices, specifications, features, capabilities, functions, release dates, and remove availability of the product(s) at anytime.

For product information and a complete list of distributors, please go to our web site: **www.avagotech.com**

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