

800 – 2500 MHz 50-mW Driver Amplifier

TQ9132

The TQ9132 amplifier is part of TriQuint's RFIC Building Block family. It is an 800 MHz to 2500 MHz amplifier capable of providing moderate output power (50 mW) for a wide variety of transmit and receive applications.

The amplifier's input and output are matched to 50 ohms with internal circuitry, simplifying

interfaces to 50-ohm systems. In addition, DC-blocking capacitors are included on the chip, permitting direct connections to the input and output.

The TQ9132's 8-pin surface-mount package and low cost are well suited to many wireless communications applications.

Electrical Specifications¹

Parameter ²	Min	Typ	Max	Units
Frequency of operation	800		2500	MHz
Gain	13.5	16		dB
Output 1 dB Gain Compression	15.5	17		dBm
Input Return Loss		12		dB
Output Return Loss		12		dB
DC Supply Current		85	100	mA
Supply Voltage	3	5	6	V

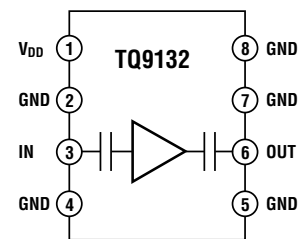
Notes: 1. Test Conditions: $V_{DD} = +5V$, $T_A = 25^\circ C$, frequency = 2500 MHz unless otherwise specified.
2. Min/Max values listed are 100% production tested.

Features

- 800 – 2500 MHz operation
- +17 dBm output power
- Single +3V to +6V supply
- Input and output matched to 50 ohms
- SO-8 plastic package

Applications

- Power amplifier drivers
- Diode-ring mixer buffers
- PCN medium-power amplifiers
- Medium-power WLANs
- Base station receivers



High-Efficiency 3-Stage AMPS Power Amplifier IC

TQ9142B

The TQ9142 is a highly efficient 3-stage power amplifier developed for handsets and portable terminals operating in the AMPS cellular band (824-849 MHz). The part is designed to require minimal external circuitry for matching or bias, simplifying design and keeping board space and cost to a minimum.

The TQ9142 provides access to each stage's gate and drain voltages. This gives maximum

flexibility in selecting an output-power control method, making output power vs. efficiency tradeoffs, or for implementing alternative biasing schemes.

The amplifier is packaged in a space-efficient SO-16 plastic package with specially modified central thermal tabs. These tabs provide reliable operation for the 1.4 watt power output.

Electrical Specifications¹

Parameter ²	Min	Typ	Max	Units
Frequency Range	824		849	MHz
Output Power	30.0	31.0		dBm
Efficiency	55	60		%
Input Return Loss		10		dB
Supply Voltage		4.8		V

Notes: 1. Test Conditions: $V_{DD} = +4.8V$, $V_{G1} = V_{G2} = V_{G3} = -1.3V$, $T_A = 25^\circ C$, $P_{IN} = 0$ dBm unless otherwise specified.
2. Min/max values listed here are 100% production tested.

Features

- 60% drain efficiency
- +31.0 dBm power output @ 4.8V
- 4.8V to 6.0V battery operation
- 50-ohm matched input
- Monolithic construction
- SO-16 plastic package with thermal tabs

Applications

- Analog cellular handsets
- CDPD terminals

