BeRex Introduces Front-End RFIC Modules for 802.15.4 ZigBee, Bluetooth, Thread and Matter Applications



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Description







BeRex Introduces Front-End RFIC Modules for 802.15.4 ZigBee, Bluetooth, Thread **Matter Applications**



BeRex Inc. has announced the availability of the 8TR8217, 8TR8218 and 8TR8219 multi-function front-end RFIC modules designed for 802.15.4 ZigBee, Bluetooth, THREAD and Matter applications.

The 8TR8217, 8TR8218 and 8TR8219 combine a power amplifier for transmission with a low-noise amplifier for the receiver, a pair of SPDT (single-pole dual-throw) or SP3T (single-pole triple-throw) switches for transmit/receive/b functionality, along with a filter network and 50-ohm input and output matching circuitry. All of these are packaged compact 3.0 mm x 3.0 mm x 0.45 mm 16-pin QFN package.

The 8TR8217, 8TR8218 and 8TR8219 offer cutting-edge technology, providing up to +23 dBm saturated output p and ultra-low noise figures of 1.6 dB to 1.9 dB. These devices can operate with a wide voltage range from 2.2 to 4 an operating temperature range from -40°C to +125°C. Their enhanced energy efficiency makes them ideal for operation.

Key Features:

Frequency Band

8TR8217= 2.4 GHz to 2.485 GHz

8TR8218= 2.4 GHz to 2.485 GHz

8TR8219= 2.4 GHz to 2.485 GHz

Transmit Saturated Output Power/2nd,3rd Harmonics

8TR8217= 23 dBm (3.3 V, 160 mA)/-10 dBm/MHz, -15 dBm/MHz (+22 dBm, OQPSK)

8TR8218= 23 dBm (3.3 V, 160 mA)/-10 dBm/MHz, -15 dBm/MHz (+22 dBm, OQPSK)

8TR8219= 23 dBm (3.3 V, 160 mA)/-10 dBm/MHz, -15 dBm/MHz (+22 dBm, OQPSK)

Receiver Noise Figure

8TR8217= 1.6 dB (Current 12 mA)

8TR8218= 1.6 dB (High Current Mode, 12 mA), 1.9 dB (Low Current Mode, 5.5 mA)

8TR8219= 1.9 dB (Current 5.5 mA)

Gain

8TR8217 = 24 dB (Tx Large-Signal), 19 dB (Rx Small-Signal)

8TR8218 = 24 dB (Tx Large-Signal), 19 dB (Rx Small-Signal)

8TR8219 = 24 dB (Tx Large-Signal), 19 dB (Rx Small-Signal)

Bypass Mode

8TR8217 = No support

8TR8218 = 1.7 dB (Insertion Loss), 3.5 μA (Current)

8TR8219 = 1.7 dB (Insertion Loss), 3.5 μA (Current)

Recommended Operating Conditions

8TR8217 = 2.2~4.0 V (Supply Voltage), -40°~+125° (Operating Temperature)

8TR8218 = $2.2\sim4.0 \text{ V}$ (Supply Voltage), $-40\hat{A}^{\circ}\sim+125\hat{A}^{\circ}$ (Operating Temperature)

 $8TR8219 = 2.2 \sim 4.0 \text{ V (Supply Voltage)}, -40 \hat{A}^{\circ} \sim +125 \hat{A}^{\circ}$ (Operating Temperature)

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Berex at Component, Distributors, Inc. (CDI)
Toll-Free: 1-800-777-7334 Email: sales@cdiweb.com

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Author

cdiwebadmin