



# Product Preview

## Dual-Band CDMA Upconverter

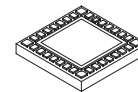
The MRFIC1884 is an integrated upmixer, RF AGC amplifier and driver amplifier designed for dual-band, tri-mode CDMA/AMPS/PCS CDMA cellular radios. The device incorporates a temperature compensated linear gain control and an active bias control that reduces supply current at lower output power. The design utilizes Motorola's RF BiCMOS process and is packaged in a small cost effective BCC32++ package.

- Designed for Dual-Band, Tri-Mode Operation
  - Total Supply Current CDMA/PCS CDMA Mode = 60 mA (Typ)
  - Total Supply Current AMPS Mode = 42 mA (Typ)
- High Output Power
  - 6.0 dBm for CDMA
  - 6.0 dBm for PCS CDMA
  - 11 dBm for AMPS
- Supply Voltage Range: 2.7 to 3.2 V

# MRFIC1884

## DUAL-BAND CDMA UPCONVERTER

### SEMICONDUCTOR TECHNICAL DATA



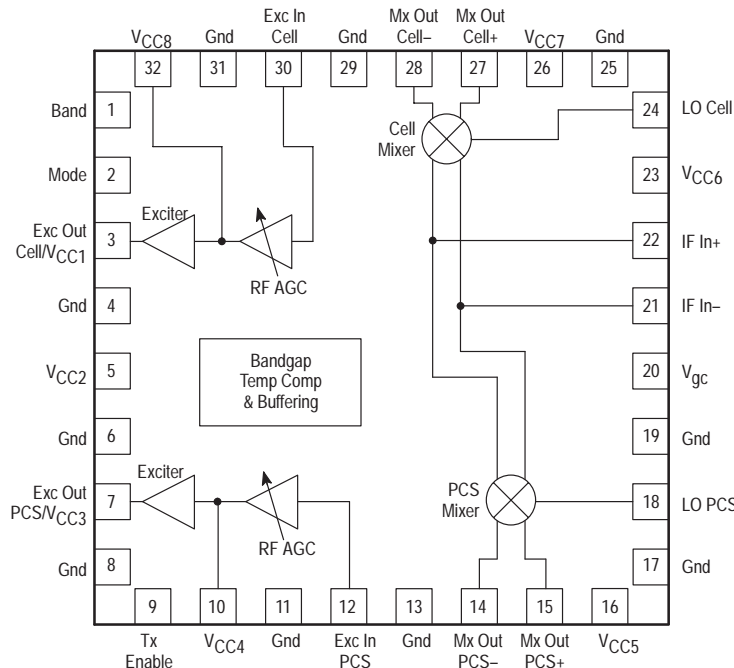
(Scale 2:1)

PLASTIC PACKAGE  
CASE 1261A  
(BCC32++)

### ORDERING INFORMATION

Device	Operating Temp Range	Package
MRFIC1884R2	T <sub>A</sub> = -40 to 85°C	BCC32++

### Simplified Block Diagram and Pin Connections



Bump Chip Carrier++ (BCC++) is a trademark of Fujitsu Microelectronics, Inc.

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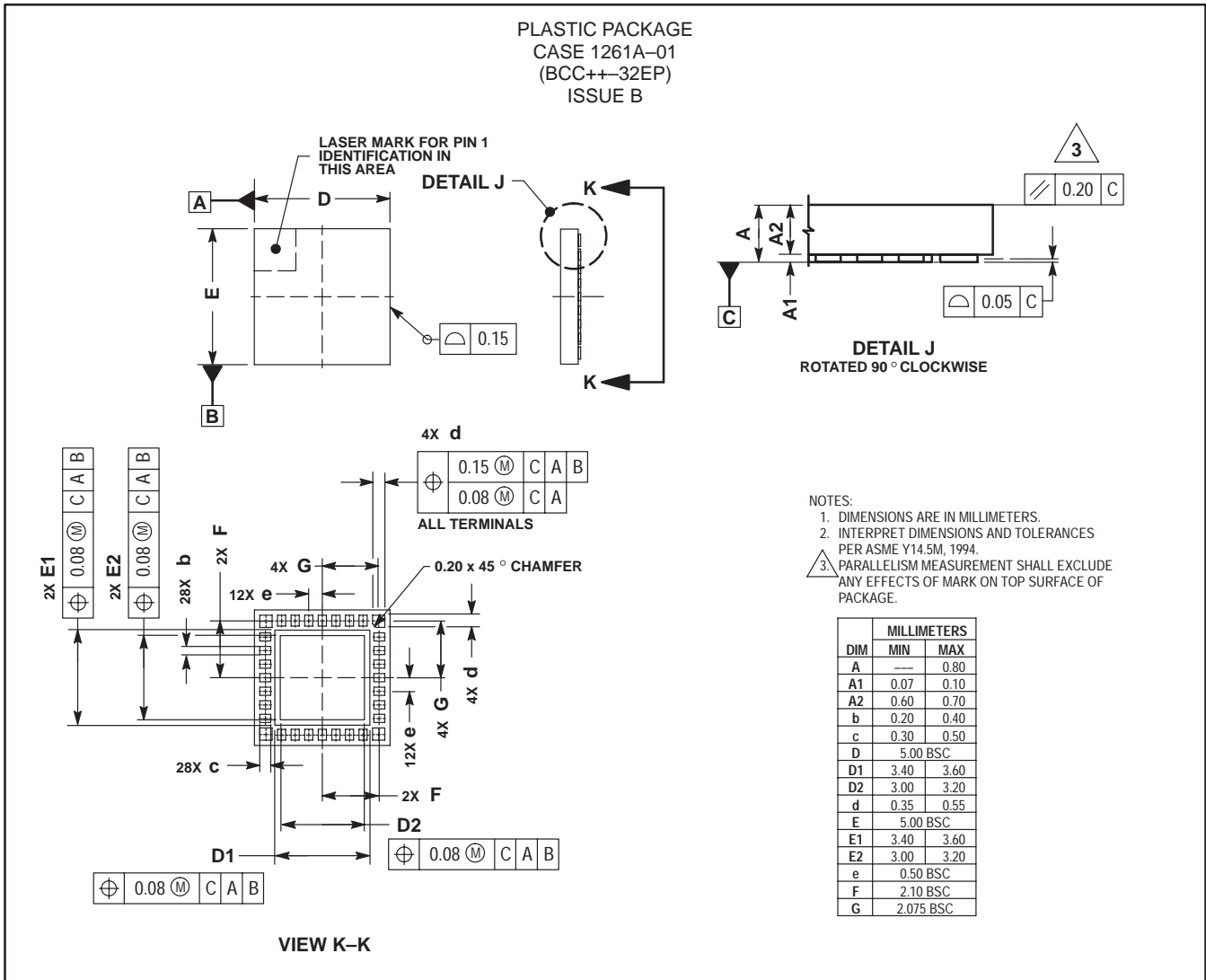
## PIN FUNCTION DESCRIPTION

Pin	Function	Description	Voltage On (V)	Voltage Off (V)
1	Band	Band Selection pin. A logic "High" (>2.4 V) selects PCS band and "Low" (<0.4 V) selects Cellular band.	2.4 to 3.2	0 to 0.4
2	Mode	Mode selection pin. A logic "High" (>2.4 V) selects CDMA band and "Low" (<0.4 V) selects AMPS band.	2.4 to 3.2	0 to 0.4
3	Exciter Out (Cellular)/ VCC1	Cellular band RF Exciter output pin.	2.7 to 3.2	
4	Gnd	Ground connection.	–	
5	VCC2	Supply Voltage.	2.7 to 3.2	
6	Gnd	Ground connection.	–	
7	Exciter Out (PCS)/ VCC3	PCS band RF Exciter output pin.	2.7 to 3.2	
8	Gnd	Ground connection.	–	
9	Tx Enable	Tx Enable pin. A logic "High" (>2.4 V) enables Tx path and "Low" (<0.4 V) disables Tx path except LO Buffer and bandgap reference (will disable the entire chip complete with Band selection pin and Mode selection pin, refer to Table ?).	2.4 to 3.2	0 to 0.4
10	VCC4	Supply Voltage.	2.7 to 3.2	
11	Gnd	Ground connection.	–	
12	Exciter In (PCS)	PCS band RF Exciter input pin.	–	
13	Gnd	Ground connection.	–	
14	Mixer Out– (PCS)	PCS band Mixer RF output pin.	2.7 to 3.2	
15	Mixer Out+ (PCS)	PCS band Mixer RF output pin.	2.7 to 3.2	
16	VCC5	Supply Voltage.	2.7 to 3.2	
17	Gnd	Ground connection.	–	
18	LO (PCS)	PCS band Mixer LO input pin.	–12 dBm (Typ)	
19	Gnd	Ground connection.	–	
20	V <sub>gc</sub>	RF AGC control pin. A 30 dB dynamic range can be achieved by adjusting voltage from 0.1 V (low gain) to 1.7 V (high gain).	0.1 to 1.7	
21	IF In–	Mixer IF input pin.	–23 dBm (Typ)	
22	IF In+	Mixer IF input pin.	–23 dBm (Typ)	
23	VCC6	Supply Voltage.	2.7 to 3.2	
24	LO (Cellular)	Cellular band Mixer LO input pin.	–13 dBm (Typ)	
25	Gnd	Ground connection.	–	
26	VCC7	Supply Voltage.	2.7 to 3.2	
27	Mixer Out+ (Cellular)	Cellular band Mixer RF output pin.	2.7 to 3.2	
28	Mixer Out– (Cellular)	Cellular band Mixer RF output pin.	2.7 to 3.2	
29	Gnd	Ground connection.	–	
30	Exciter In (Cellular)	Cellular band RF Exciter input pin.	–	
31	Gnd	Ground connection.	–	
32	VCC8	Supply Voltage.	2.7 to 3.2	

**MRFIC1884**  
**NOTES**

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## OUTLINE DIMENSIONS



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