

PRELIMINARY DATA SHEET: CKRF3509MM34
L TO S BAND LOW NOISE AMPLIFIER



Features :

- Low noise figure and high associated gain
 NF=0.40dB Typ., Ga=17.5dB Typ.
 @Vdd=3.0V, Idd=15mA, f=1.575GHz

Description :

- Low Noise and High Gain
- On chip Bias supply circuit
- On chip ESD protection diode

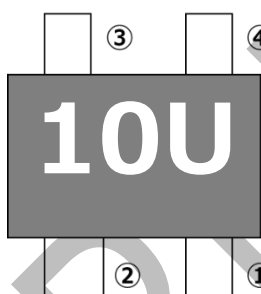
Applications :

- Low Noise Amplifier IC for Global Navigation Satellite Systems (GNSS) like GPS, GLONASS, Beidou and Galileo
- Low Noise Amplifier IC for Satellite Radio (SDARS, DMB, etc.) Antenna
- Low Noise Amplifier for Microwave Communication

Package :

- Flat-lead 4-pin thin-type super minimold package

PIN Configuration :



| PIN No. | PIN Name |
|---------|----------|
| 1 | Source |
| 2 | OUT |
| 3 | Source |
| 4 | IN |

Ordering Information :

| Part Number | Order Number | Package | Marking | Supplying Form |
|-----------------|-----------------|--|---------|---|
| CKRF3509MM34-C2 | CKRF3509MM34-C2 | Flat-lead 4-pin thin-type super minimold package | 10U | <ul style="list-style-type: none"> • Embossed 8 mm wide • Pin 1 (Source), Pin 2 (OUT) • Face the perforation side of the Tape • Qty 15Kpcs/reel |

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Absolute Maximum Ratings :

| Parameter | Symbol | Rating | Unit |
|-------------------------------|----------------|----------|------|
| Supply Voltage | Vdd | 4.0 | V |
| Input Power | Pin | -5 | dBm |
| Operating Ambient Temperature | T _A | -45~+85 | °C |
| Storage Temperature | Tstg | -55~+150 | °C |

Recommended Operating Range :

(T_A=+25°C, unless otherwise specified)

| Parameter | Symbol | MIN. | TYP. | MAX. | Unit |
|----------------|--------|------|------|------|------|
| Supply Voltage | Vdd | 2.7 | 3.0 | 3.3 | V |
| Supply Current | Idd | TBD | 15 | TBD | mA |

Electrical Characteristics :

(T_A=+25°C, unless otherwise specified)

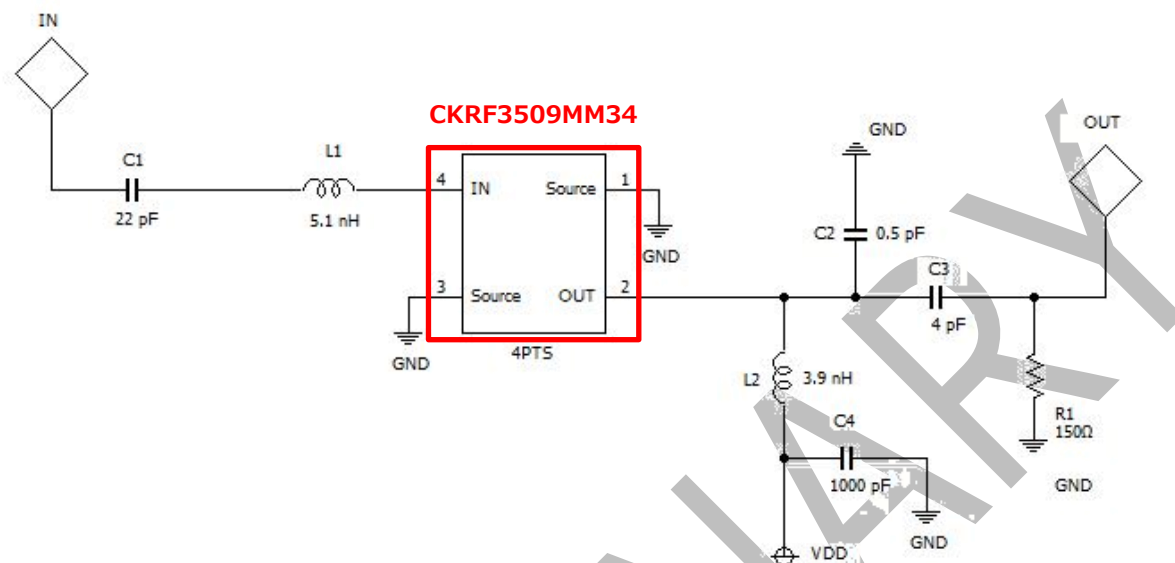
| Parameter | Symbol | Condition | MIN. | TYP. | MAX. | Unit |
|---------------------------------------|---------------------|--|------|------|------|------|
| Power Gain | Gain | Vdd=3.0V, Idd=15mA, | TBD | 17.5 | - | dB |
| Noise Figure | NF | f=1.575GHz | - | 0.4 | TBD | dB |
| Input 3rd Order Intercept Point | IIP3 | Vdd=3.0V, Id=15mA, f=1.575GHz | - | TBD | - | dBm |
| Output Power at 1dB Compression Point | P _{O(1dB)} | Vdd=3.0V, Idd=15mA (Non-RF) f=1.575GHz | - | 13.0 | - | dBm |

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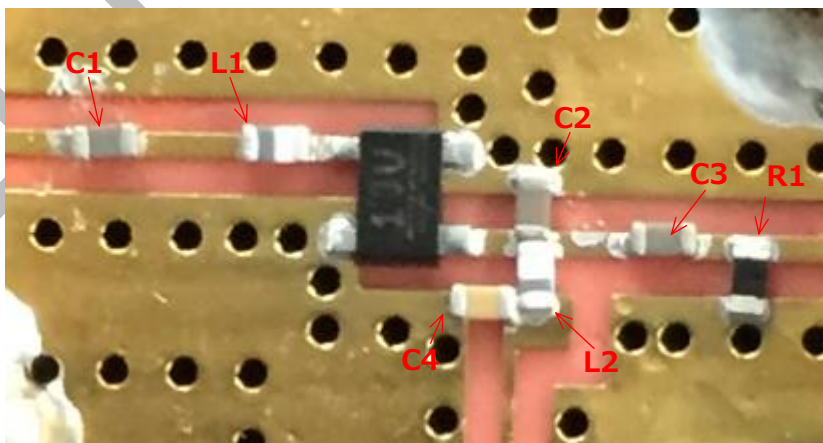


Application Circuit :



Evaluation Board Information :

<PCB>
FR-4
t = 0.2 mm
 $\epsilon_r = 4.30$
tan delta = 0.016

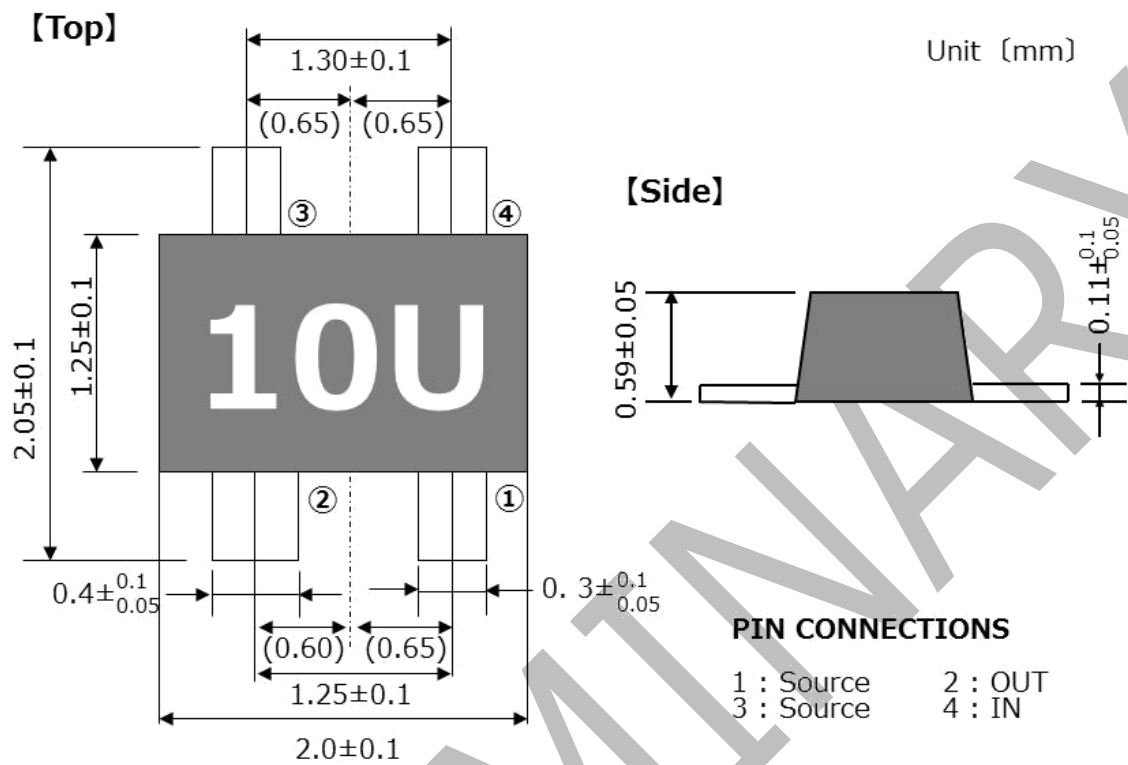


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Package Dimensions :



Recommended Soldering Conditions :

Recommended Soldering Conditions are provided on the CDK Web site.

[Original Products] → [Low Noise GaAsFET] → [Design Support] → [others]

URL <http://www.en.cdk.co.jp/products/highfrequency/rf/designsupport/index.html>

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[Caution in the gallium arsenide (GaAs) product handling]

This product uses gallium arsenide (GaAs) of the toxic substance appointed in laws and ordinances. GaAs vapor and powder are hazardous to human health if inhaled or ingested.

- Do not dispose in fire or break up this product.
- Do not chemically make gas or powder with this product.
- When discard this product, please obey the law of your country.
- Do not lick the product or in any way allow it to enter the mouth.

[CAUTION]

Although this device is designed to be as robust as possible, ESD (Electrostatic Discharge) can damage this device. This device must be protected at all times from ESD. Static charges may easily produce potentials of several kilovolts on the human body or equipment, which can discharge without detection. Industry-standard ESD precautions should be used at all times.

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