ADRF5024: Rec. Power Handling for Input at RFx Ports



Recommended Power Handling in Data Sheet Rev. C

| RECOMMENDED OPERATING CONDITONS | | T' | | | |
|---------------------------------|-------------------|--|-------|-------|-----|
| Supply Voltage | | | | | |
| Positive | Voo | | 3.15 | 3.45 | ٧ |
| Negative | Vss | | -3.45 | -3.15 | ٧ |
| Digital Control Voltage | VCTRL | | 0 | VDD | V |
| RF Input Power ² | PiN | f = 200 MHz to 40 GHz, TCASE = 85°C3 | | | |
| Through Path | | RF signal is applied to RFC or through connected RF1/RF2 | | 27 | dBm |
| Hot Switching | | RF signal is present at RFC while switching between RF1 and RF2 | | 27 | dBm |
| Case Temperature | T _{CASE} | | -40 | +105 | °C |

¹ For input linearity performance over frequency, see Figure 13 to Figure 16.

Updated Recommended Power Handling with 'Input at RFx' specified in Data Sheet Rev. D

| RECOMMENDED OPERATING CONDITONS | | | | | |
|---------------------------------|-------------------|--|-------|----------|-----|
| Supply Voltage | | | | | |
| Positive | V _{DD} | | 3.15 | 3.45 | V |
| Negative | V _{SS} | | -3.45 | -3.15 | V |
| Digital Control Voltage | V _{CTRL} | | 0 | V_{DD} | V |
| RF Input Power ² | P _{IN} | f = 200 MHz to 40 GHz, T _{CASE} = 85°C ³ | | | |
| Input at RFC | | | | | |
| Through Path | | RF signal is applied to RFC | | 27 | dBm |
| | | RF signal is present at RFC while switching between | | | |
| Hot Switching | | RF1 and RF2 | | 27 | dBm |
| Input at RFx | | | | | |
| Through Path | | RF signal is applied through connected RFx | | 26 | dBm |
| Hot Switching | | RF signal is present at RFx while switching between | | 26 | dBm |
| | | (RF1 and RF2) | | | |
| Case Temperature | T _{CASE} | | -40 | +105 | °C |

For input linearity performance over frequency, see Figure 13 to Figure 16.

² For power derating over frequency, see Figure 2 and Figure 3.

³ For 105°C operation, the power handling degrades from the T_{CASE} = 85°C specification by 3 dB.

² For power derating over frequency, see Figure 2 and Figure 3. This power derating is applicable for insertion loss path and hot switching power specifications.

³ For 105°C operation, the power handling degrades from the T_{CASF} = 85°C specification by 3 dB.

ADRF5024: AMR Power Handling for Input at RFx



AMR Power Handling in Data Sheet Rev. C

| Table 2. | |
|--|-----------------------|
| Parameter | Rating |
| Positive Supply Voltage | -0.3 V to +3.6 V |
| Negative Supply Voltage | -3.6 V to +0.3 V |
| Digital Control Input Voltage | |
| Voltage | -0.3 V to VDD + 0.3 V |
| Current | 3 mA |
| RF Input Power ¹ (f = 200 MHz to 40 GHz, T _{CASE} = 85°C ²) | |
| Through Path | 27.5 dBm |
| Hot Switching | 27.5 dBm |
| RF Input Power Under Unbiased Condition ¹ (V_{DD} , $V_{SS} = 0$ V) | 21 dBm |
| Temperature | |
| Junction, T _J | 135°C |
| Storage Range | -65°C to +150°C |
| Reflow | 260°C |
| ESD Sensitivity | |
| Human Body Model (HBM) | |
| RFC, RF1, and RF2 Pins | 500 V |
| Digital Pins | 2000 V |
| Charged Device Model (CDM) | 1250 V |

¹ For power derating vs. frequency, see Figure 2 and Figure 3. This power derating is applicable for insertion loss path and hot switching power specifications.

Updated AMR Power Handling with 'Input at RFx' specified in Data Sheet Rev. D

| Parameter | Rating |
|--|-----------------------|
| Positive Supply Voltage | -0.3 V to +3.6 V |
| Negative Supply Voltage | -3.6 V to +0.3 V |
| Digital Control Input Voltage | |
| Voltage | -0.3 V to VDD + 0.3 V |
| Current | 3 mA |
| RF Input Power ¹ (f = 200 MHz to 40 GHz, $T_{CASE} = 85^{\circ}C^{2}$) | |
| Input at RFC | |
| Through Path | 27.5 dBm |
| Hot Switching | 27.5 dBm |
| Input at RFx | |
| Through Path | 26.5 dBm |
| Hot Switching | 26.5 dBm |
| RF Input Power Under Unbiased Condition ¹ (V _{DD} , | |
| V _{SS} = 0 V) | 21 dBm |
| Temperature | |
| Junction, T _J | 135°C |
| Storage Range | -65°C to +150°C |
| Reflow | 260°C |
| ESD Sensitivity | |
| Human Body Model (HBM) | |
| RFC, RF1, and RF2 Pins | 500 V |
| Digital Pins | 2000 V |
| Charged Device Model (CDM) | 1250 V |

¹ For power derating vs. frequency, see Figure 2 and Figure 3. This power derating is applicable for insertion loss path and hot switching power specifications.

² For 105°C operation, the power handling degrades from the TCASE = 85°C specification by 3 dB.

 $^{^2}$ For 105°C operation, the power handling degrades from the T_{CASE} = 85°C specification by 3 dB.

ADRF5024: Power Derating Curve at Low Frequency



Low Frequency Power Derating in Data Sheet Rev. C

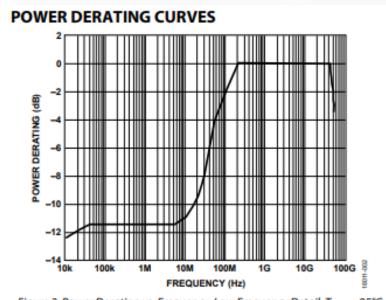


Figure 2. Power Derating vs. Frequency, Low Frequency Detail, TCASE = 85°C

Low Frequency Power Handling for 'Input at RFC' and 'Input at RFx' in Data Sheet Rev. D

