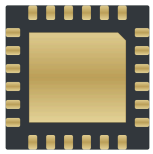
# 100–8000 MHz Digital Step Attenuator IC — 6-bit; 0.5 dB

LCI-ATT-100-8000-6B · 100–8000 MHz · Digital Step Attenuator IC.

The RF table specifies: Attenuation range 0.5–31.5 dB; Attenuation accuracy 0.2 dB (typical); Insertion loss 2 dB (typical). RF test conditions: TA = +25 °C.



QFN24

The RF ports require external DC-blocking capacitors.

TTL: H = 5 V; L = 0 V; Aref: A1–A6 = L

A1 = H → ΔA = 0.5 dB

A2 = H → ΔA = 1 dB

A3 = H → ΔA = 2 dB

A4 = H → ΔA = 4 dB

A5 = H → ΔA = 8 dB

A6 = H → ΔA = 16 dB

T_peak ≤ 260 °C

RF: 4, 15

VEE: 6

GND: 3, 5, 14, 16

A1: 12

A2: 11

A3: 10

A4: 9

A5: 8

A6: 7

## RF characteristics TA = +25 °C

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Operating frequency | f | 100 | - | 8000 | MHz |
| Insertion loss | - | - | 2 | - | dB |
| Attenuation range | - | 0.5 | - | 31.5 | dB |
| Attenuation accuracy | - | - | 0.2 | - | dB |
| Attenuation-induced phase variation | - | - | ±3 | - | ° |
| Input VSWR | - | - | 1.3 | - | - |

## RF characteristics TA = +25 °C

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Output VSWR | - | - | 1.3 | - | - |

## DC bias and current TA = +25 °C

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Negative supply voltage | - | -5.3 | -5 | -4.7 | V |
| Negative-supply quiescent current | - | - | 0.006 | - | A |
| Input drive current [1] | - | - | 0.0002 | - | A |
| High-level input voltage | - | 4 | - | 5 | V |
| Low-level input voltage | - | 0 | - | 0.4 | V |

[1] VIH = 5 V; TTL

## Pin assignments

| Symbol | Pins | Function |
|---|---|---|
| NC | 1,2,13,17,18,19,20,21,22,23,24 | Not connected |

## Control truth table

| State | A1 | A2 | A3 | A4 | A5 | A6 |
|---|---|---|---|---|---|---|
| Reference state | L | L | L | L | L | L |
| 0.5dB | H | L | L | L | L | L |
| 1dB | L | H | L | L | L | L |
| 2dB | L | L | H | L | L | L |
| 4dB | L | L | L | H | L | L |
| 8dB | L | L | L | L | H | L |
| 16dB | L | L | L | L | L | H |

## Integration notes

QFN24 The RF ports require external DC-blocking capacitors. TTL: H = 5 V; L = 0 V; Aref: A1–A6 = L A1 = H → ΔA = 0.5 dB A2 = H → ΔA = 1 dB A3 = H → ΔA = 2 dB A4 = H → ΔA = 4 dB A5 = H → ΔA = 8 dB A6 = H → ΔA = 16 dB T_peak ≤ 260 °C RF: 4, 15 VEE: 6 GND: 3, 5, 14, 16 A1: 12 A2: 11 A3: 10 A4: 9 A5: 8 A6: 7

**Document notice**

Specifications are subject to revision. Before design release, confirm the current document revision and product-specific requirements with LCRF. The approved quotation and order documentation define the supplied configuration.