# 33000–37000 MHz MMIC Power Amplifier Die

LCI-PA-33000-37000-PS45T is a MMIC power amplifier supplied as bare die for 33000–37000 MHz. It supports pulsed operation.

PSAT: 45 dBm (typical); PAE: 22 % (typical); Small-signal gain: 23 dB (typical). Die dimensions: 3.6 × 6.2 × 0.08 mm.



## RF characteristics

TA = +25 °C; Vd = +28 V; Id = 2.1 A

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Operating frequency | f | 33000 | - | 37000 | MHz |
| Small-signal gain | S21 | - | 23 | - | dB |
| Small-signal gain flatness | ΔS21 | - | ±1 | - | dB |
| Saturated output power | Psat | - | 45 | - | dBm |
| Power-added efficiency | PAE | - | 22 | - | % |
| Input VSWR | VSWR(in) | - | 2.1 | - | - |
| Output VSWR | - | - | 1.4 | - | - |
| Saturation current | - | - | 5.2 | 5.5 | A |

## DC bias and current

| Parameter | Symbol | Minimum | Typical | Maximum | Value | Unit |
|---|---|---|---|---|---|---|
| Drain voltage [1] | Vd | - | - | - | 28 | V |
| Gate voltage [1] | Vg | - | - | - | -1.89 | V |
| Bias current [2] | - | - | - | - | 2.1 | A |

[1] Value stated without a Min/Typ/Max qualification.

[2] Vd = +28 V; Vg = -1.89 V; Value stated without a Min/Typ/Max qualification.

## Absolute limits

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Maximum drain-source voltage | Vd | - | - | 30 | V |
| Minimum gate bias | Vg | -5 | - | - | V |
| Maximum input power | Pin | - | - | 35 | dBm |
| Storage temperature | TSTG | -65 | - | 150 | °C |

## Environmental specifications

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Operating temperature | - | -55 | - | 85 | °C |

## Die dimensions

| Parameter | Value | Unit |
|---|---|---|
| Die dimensions | 3.6 × 6.2 × 0.08 | mm |

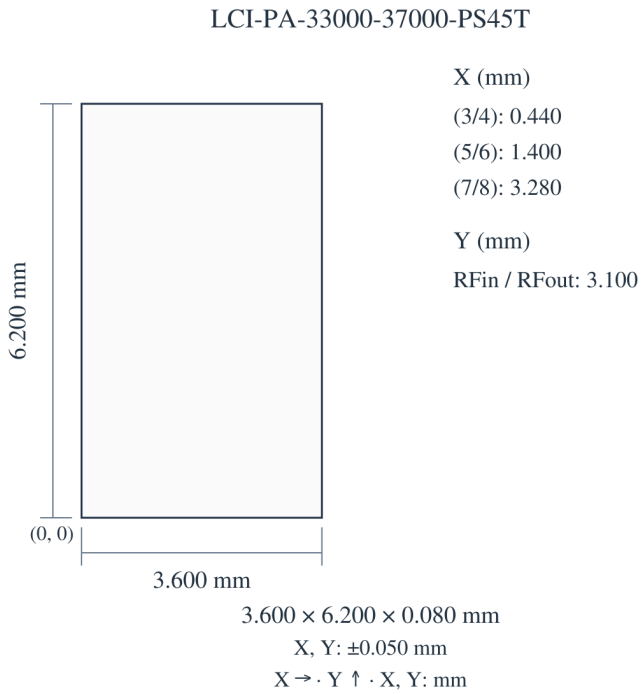
**Current publication record** · 1.8 · 2026-11-12. Product description or editorial content updated. Replaces revision 1.7.

## Die integration and bias sequencing

Separate characterization: TA = +25 °C; Vd = +22 V; Id = 2.1 A; τ = 100 µs; D = 10%. Apply gate bias before drain bias. Remove drain bias before gate bias.

## Mechanical Outline

Outline and dimensioned coordinates in mm. Use this drawing as a dimensional reference. Fabrication and wire bonding require complete drawings.

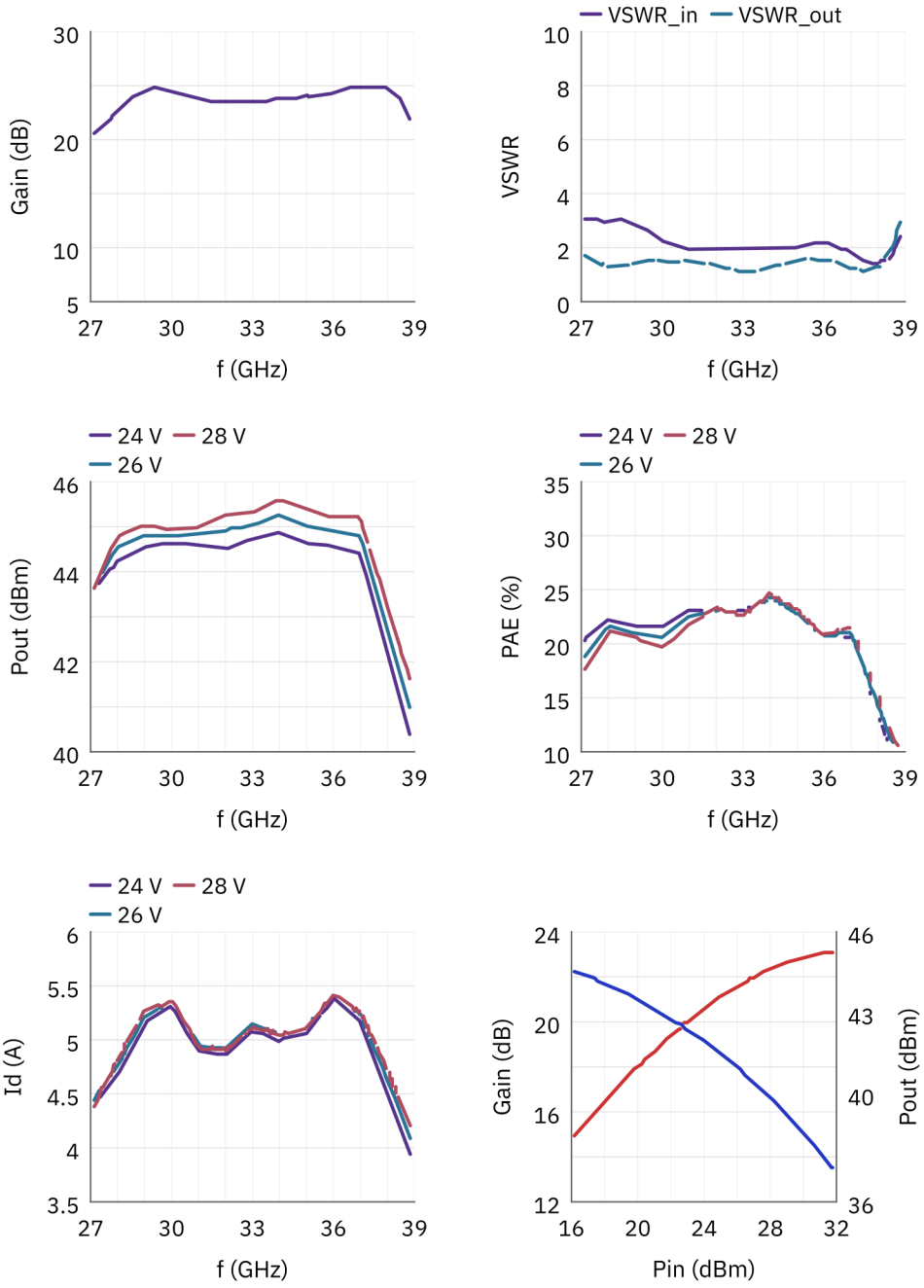


## Performance curves

Each performance plot applies to its stated operating conditions.

### Pulsed — Small-signal gain; Input matching; Output matching; Output power; Power-added efficiency; Drain current.

Figure notes: TA=+25°C; Vd=22V; Id=2.1A. Readings are approximate. Pulse width = 100 µs; duty cycle = 10%. Pout / PAE / Id: Pin = 32 dBm. Use the operating conditions in each trace's legend. f = 33 GHz; Pin = 16–32 dBm. The fixed Pin applies only to the named frequency plots, not to the variable-Pin sweep. The last plot gives Gain and Pout axes but no curve-to-axis key. Curve colors have no specified axis assignment. Two axis readings at one trace point describe the same plotted position.




**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.