

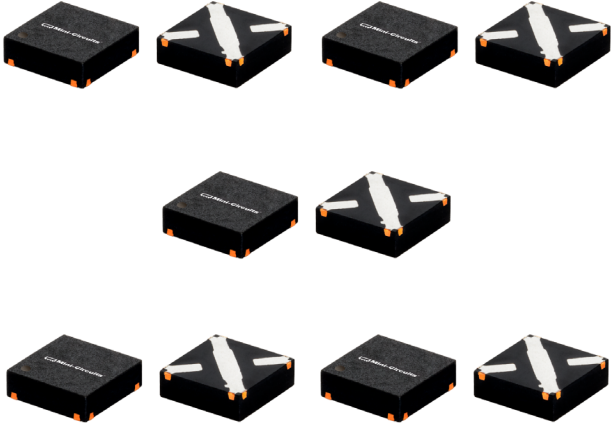


Mini-Circuits

DESIGNER'S KIT K2-LEE+

## Wideband Amplifiers

50Ω DC to 8 GHz



## FEATURES

- Wideband, 50Ω
- Up to +17.3 dBm typ. output power
- Flat output power
- Usability to 10 GHz (Models LEE-19+, -29+, -39+)
- High IP3 up to +33 dBm typ.
- MCLP™ (Mini-Circuits Leadless Package) (L) 3.0 x (W) 3.0 x (H) 0.89mm plastic case
- Exposed metal bottom
- Package excellent for heat dissipation
- Low thermal resistance for high reliability

 MINI-CIRCUITS DESIGNER'S KITS  
**SPEED UP**  
 THE SOLUTION

 Evaluation boards available.  
 See individual model data sheets.


## K2-LEE+ ELECTRICAL SPECIFICATIONS

(kit includes 5 models, 10 of each, 50 total)

| Model   | Freq. <sup>1</sup><br>(GHz)    | Gain (dB)<br>Typical |      |      |      |      |      |      |                | Maximum<br>Power (dBm)          |                                      |                    | Dynamic<br>Range     |                   | VSWR<br>(:1) Typ.             |                    |                                |         | Max.<br>Rat-<br>ing <sup>2</sup><br><br>I<br>(mA) | DC <sup>3</sup><br>Operating Power<br>@ pin 3 |     |     |     | Therm.<br>Resist.<br><br>θjc<br>Typ.<br>°C/W | Evaluation<br>Board |
|---------|--------------------------------|----------------------|------|------|------|------|------|------|----------------|---------------------------------|--------------------------------------|--------------------|----------------------|-------------------|-------------------------------|--------------------|--------------------------------|---------|---------------------------------------------------|-----------------------------------------------|-----|-----|-----|----------------------------------------------|---------------------|
|         |                                | Over frequency, GHz  |      |      |      |      |      |      |                | Output<br>(1dB Compr.)<br>2 GHz | Input <sup>2</sup><br>f <sub>u</sub> | NF<br>(dB)<br>Typ. | IP3<br>(dBm)<br>Typ. | In<br>DC-3<br>GHz | In<br>3-f <sub>u</sub><br>GHz | Out<br>DC-3<br>GHz | Out<br>3-f <sub>u</sub><br>GHz | Current |                                                   | Device Volt.                                  |     |     |     |                                              |                     |
|         | f <sub>L</sub> -f <sub>U</sub> | 0.1                  | 1    | 2    | 4    | 5    | 8    | 10   | Min @<br>2 GHz |                                 |                                      |                    |                      |                   |                               |                    |                                | Typ.    | Min.                                              | Max                                           |     |     |     |                                              |                     |
|         |                                |                      |      |      |      |      |      |      |                |                                 |                                      |                    |                      |                   |                               |                    |                                |         |                                                   |                                               |     |     |     |                                              |                     |
| LEE-19+ | DC-8                           | 12.1                 | 12.0 | 12.1 | 12.0 | 11.6 | 10.6 | 9.0  | 9.6            | 10.2                            | 11.3                                 | 15                 | 6.5                  | 24.5              | 1.5                           | 1.2                | 1.4                            | 1.8     | 55                                                | 40                                            | 3.6 | 3.2 | 4.0 | 322                                          | TB-413-19           |
| LEE-29+ | DC-8                           | 15.5                 | 15.4 | 15.4 | 14.9 | 14.1 | 12.5 | 10.6 | 13.3           | 10.9                            | 11.3                                 | 15                 | 5.5                  | 25.5              | 1.4                           | 1.3                | 1.3                            | 1.6     | 55                                                | 40                                            | 3.6 | 3.2 | 4.0 | 334                                          | TB-413-29           |
| LEE-39+ | DC-8                           | 21.9                 | 21.4 | 20.8 | 18.3 | 16.6 | 13.5 | _    | 18.5           | 10.4                            | 11.3                                 | 13                 | 2.4                  | 23.4              | 1.3                           | 1.4                | 1.3                            | 1.6     | 55                                                | 35                                            | 3.5 | 3.1 | 3.9 | 321                                          | TB-413-39           |
| LEE-49+ | DC-5                           | 14.0                 | 13.9 | 14.3 | 14.0 | 13.1 | 7.8  | _    | 12.0           | 16.4                            | 10.8                                 | 15                 | 5.5                  | 33.0              | 1.6                           | 1.2                | 1.4                            | 1.4     | 85                                                | 65                                            | 4.9 | 4.5 | 5.3 | 229                                          | TB-413-49           |
| LEE-59+ | DC-5                           | 20.6                 | 20.3 | 19.7 | 15.8 | 13.8 | 7.6  | _    | 17.8           | 17.3                            | 11.7                                 | 13                 | 4.5                  | 33.0              | 1.5                           | 1.5                | 1.5                            | 1.6     | 85                                                | 65                                            | 4.8 | 4.3 | 5.2 | 244                                          | TB-413-59           |

Protected under U.S. Patent 6,943,629

1. Low frequency cutoff determined by external coupling capacitors. f<sub>u</sub> is the upper frequency limit for each model.

2. Permanent damage may occur if any of these limits are exceeded. These ratings are not intended for continuous normal operation.

3. Supply voltage must be connected to pin 3 through a bias resistor in order to prevent damage. Reliability predictions are applicable at specified current and normal operating conditions.

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