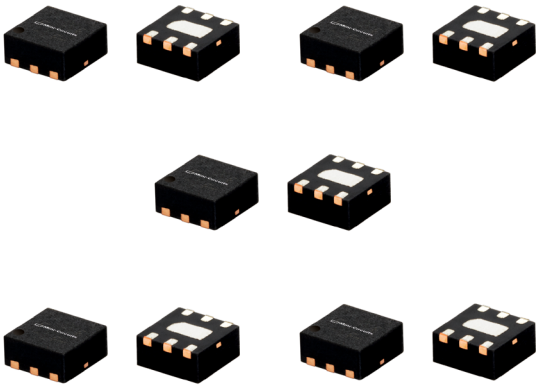
DESIGNER'S KIT K1-KAT+

# Fixed Attenuators

50Ω DC to 43.5GHz



## FEATURES

- 2x2mm QFN Package
- Power Handling up to 2W
- Outstanding Accuracy and Flatness

MINI-CIRCUITS DESIGNER'S KITS SPEED UP THE SOLUTION

RoHS COMPLIANT

## K1-KAT+ ELECTRICAL SPECIFICATIONS

(5 models, 10 of each, 50pcs. total )

| Model | Frequency (GHz) $f_L$-$f_U$ | Attenuation (dB) typ. | | | | VSWR (:1) typ. | | | | Input Power[1] (W) Max. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 10 GHz | 20 GHz | 30 GHz | 43.5 GHz | 10 GHz | 20 GHz | 30 GHz | 43.5 GHz | |
| KAT-3+ | DC - 43.5 | 2.9 | 3 | 3.2 | 2.8 | 1.15 | 1.2 | 1.35 | 1.62 | 2 |
| KAT-6+ | DC - 43.5 | 6 | 6 | 6.1 | 5.9 | 1.08 | 1.11 | 1.26 | 1.44 | 1.6 |
| KAT-10+ | DC - 43.5 | 9.9 | 9.9 | 10 | 9.9 | 1.09 | 1.11 | 1.3 | 1.5 | 1.7 |
| KAT-15+ | DC - 43.5 | 15 | 15 | 15.1 | 14.6 | 1.11 | 1.13 | 1.33 | 1.57 | 1.4 |
| KAT-20+ | DC - 43.5 | 20 | 20 | 19.9 | 19.4 | 1.09 | 1.1 | 1.3 | 1.32 | 0.8 |

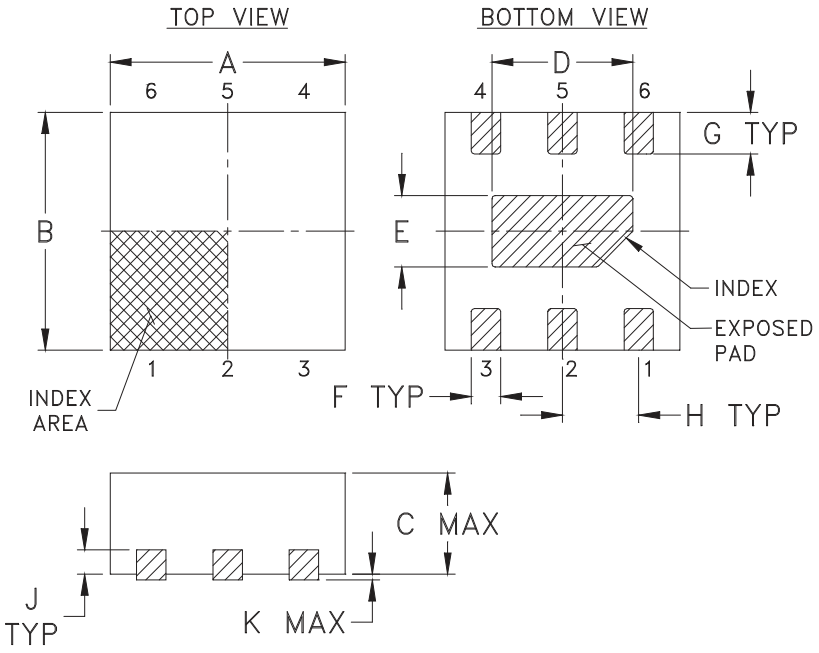
[1]. RF Power at 25°C case temperature. Check Individual Model Data Sheet for derated power at 85°C

REV. A
K1-KAT+
MCL NY
210402

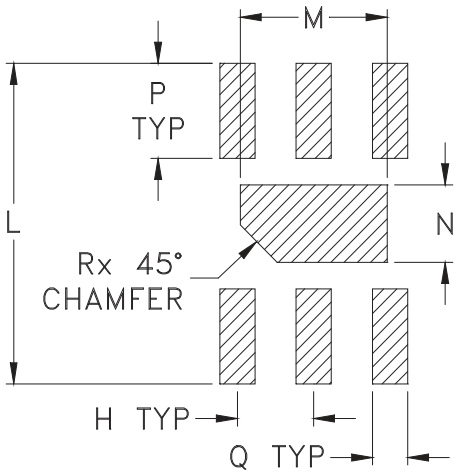
# Case Style MC

**MC1630**

## Outline Dimensions




### PCB Land Pattern




Suggested Layout,
Tolerance to be within ±.002

| CASE #. | A | B | C | D | E | F | G | H | J | K | L | M | N | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MC1630 | .079 (2.00) | .079 (2.00) | .031 (.80) | .047 (1.20) | .024 (.60) | .010 (.25) | .014 (.35) | .026 (.65) | .008 (.20) | .002 (.05) | .106 (2.70) | .049 (1.25) | .026 (.65) | .031 (.80) |

| CASE #. | Q | R | WT, GRAM |
|---|---|---|---|
| MC1630 | .012 (.30) | .012 (.30) | .006 |

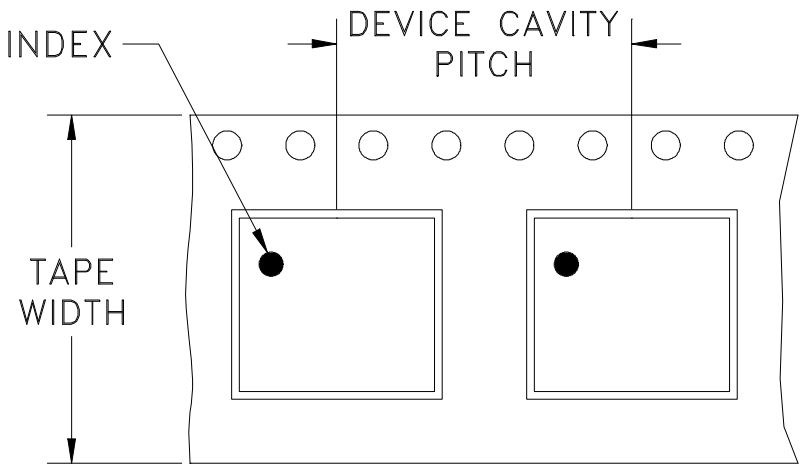
**Dimensions are in inches (mm). Tolerances: 2 Pl. ± .01; 3 Pl. ± .005**

**Notes:**

1. Case material: Plastic.
2. Termination finish:
   For RoHS Case Styles: Matte Tin plate. All models, (+) suffix.
3. Lead #1 identifier shall be located in the cross-hatched area shown.
   Identifier may be either a molded or marked feature.

# Tape & Reel Packaging TR-F108

DEVICE ORIENTATION IN T&R




DIRECTION OF FEED

| Tape Width, mm | Device Cavity Pitch, mm | Reel Size, inches | Devices per Reel | |
|---|---|---|---|---|
| 12 | 4 | 7 | Small quantity standards | 20 |
| | | | | 50 |
| | | | | 100 |
| | | | | 200 |
| | | | | 500 |
| | | | | 1000 |
| | | 7 | Standard | 2000 |
| | | | | 3000 |

Note: Please Consult individual data sheet to determine device per reel availability

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf

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**Environmental Specifications** **ENV08T1**

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification | Test/Inspection Condition | Reference/Spec |
|---|---|---|
| Operating Temperature | -40° to 85° C or -45° to 85° C or -55° to 105° C or -40° to 105° C or -40° to 95° C<br>Ambient Environment | Individual Model Data Sheet |
| Storage Temperature | -55° to 100° C or -65° to 150°<br>Ambient Environment | Individual Model Data Sheet |
| HTOL | 1000 hours at 125°C | MIL-STD-883, Method 1005, Condition B |
| Thermal Shock | -55° to 100°C, 100 cycles | MIL-STD-202, Method 107, Condition A-3, except +100°C |
| Mechanical Shock | 1.5Kg, 0.5 ms, 5 shock pulses, Y1 direction only | MIL-STD-883, Method 2002, Condition B, except Y1 direction only |
| Vibration (Variable Frequency) | 50g peak | MIL-STD-883, Method 2007, Condition B |
| Autoclave | 15 psig, 100% RH, 121°C, 96 hours | JESD22-A102, Condition C |
| HAST | 130°C, 85% RH, 96 hours | JESD22-A110 |
| Solderability | 10X Magnification | J-STD-002, Para 4.2.5, Test S, 95% Coverage |
| Solder Reflow Heat | Sn-Pb Eutetic Process: 240°C peak<br>Pb-Free Process: 260°C peak | J-STD-020, Table 4-1, 4-2 and 5-2; Figure 5-1 |
| Moisture Sensitivity: Level 1 | Bake at 125°C for 24 hours<br>Soak at 85°C/85% RH for 168 hours, Reflow 3 cycles at 260°C peak | J-STD-020 |

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| Specification | Test/Inspection Condition | Reference/Spec |
|---|---|---|
| Marking Resistance to Solvents | Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C;<br>distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C | MIL-STD-202, Method 215 |