

# Fixed Attenuators

### $50\Omega$ $\,$ DC to 20 GHz $\,$



### **FEATURES**

- Hi Rel, Hermetic Ceramic Case
- Ultra Wideband, 50Ω
- 0, 3, 6, 10, 15, 20 dB attenuation
- Input power 2 W max.
- Low profile 1.1mm
- Thermally optimized design



### **K1-RCAT+ ELECTRICAL SPECIFICATIONS**

### (6 models, 10 of each, 6 total)

	Frequency (GHz) f <sub>L</sub> -f <sub>u</sub>	Attenuation (dB) Typ.		Return Loss (dB) Typ.			Input	
Model		1 GHz	10 GHz	20 GHz	1 GHz	10 GHz	20 GHz	Power <sup>1</sup> (W) Max.
RCAT-00+	DC- 20	0.0	0.2	0.5	30	19	12	2.0
RCAT-03+	DC- 20	3.0	3.4	3.9	31	20	14	2.0
RCAT-06+	DC- 20	6.1	6.5	7.5	30	21	15	2.0
RCAT-10+	DC- 20	10.1	10.7	12.3	30	20	15	2.0
RCAT-15+	DC- 20	15.1	16.0	19.0	30	20	15	1.6
RCAT-20+	DC- 20	20.1	21.4	27.0	30	21	14	1.5

1. RF power at 25°C case temperature. Derate linearly to 0.33 W at 125°C.



## Case Style

## **Outline Dimensions**

**PCB Land Pattern** 

LZ

LZ1737



CASE #	Ν	Р	Q	R	WT. GRAM	
LZ1737	.022	.026	.017	-	.015	
	(.550)	(.66)	(.432)	-		

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

#### Notes:

- 1. Case material: Ceramic.
- 2. Base material: 36 mil thk laminate.
- 3. Termination finish: Electroless Nickel-Palladium-Gold Plate.

 Mini-Circuits
 Internet
 http://www.minicircuits.com

 Distribution Centers NORTH AMERICA 800-654-7949
 • 417-335-5935
 • Fax 417-335-5945
 • EUROPE 44-1252-832600
 • Fax 44-1252-837010

 Mini-Circuits ISO 9001 & ISO 14001 Certified

## Tape & Reel Packaging TR-F66

DEVICE ORIENTATION IN T&R

DIRECTION OF FEED

Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel see note		
8	4	7	Small quantity standard	20 50 100 200 500	
		7	Standard	1000, 2000, 3000	

Note: Please consult individual model 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

 Internet
 http://www.minicircuits.com

 Distribution Centers NORTH AMERICA 800-654-7949
 • 417-335-5935
 • Fax 417-335-5945
 • EUROPE 44-1252-832600
 • Fax 44-1252-837010

 Mini-Circuits ISO 9001 & ISO 14001 Certified

## Mini-Circuits

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	-55° to 125° C Ambient Environment	Individual Model Data Sheet		
Storage Temperature	-65° to 150° C Ambient Environment	Individual Model Data Sheet		
Thermal Shock (device level)	-55° to 125°C, 100 cycles	MIL-STD-202, Method 107		
Thermal Shock (board level)	-55° to 150°C, 1000 cycles	MIL-STD-202, Method 107		
HTOL	1000 hours, 25°C, @ rated power	MIL-STD-202, Method 108, cond D.		
Constant Acceleration	Y1 plane only, 30 Kg	MIL-STD-883, Method 2001, Cond. E		
Vibration	10-2000MHz sine, 20g, 3 axis	MIL-STD-202, Method 204, Cond. D		
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A		
PIND	20G's @130 Hz	MIL-STD-750, Method 2052.2		
Resistance to Soldering Heat	3X Reflow, Peak Temperature 260°C	JESD22-B102		
Moisture Sensitivity Level	Hermetic device, MSL-1 by construction	JESD22-A113, MSL1/260		
Hermeticity	Fine Leak, Gross Leak	MIL-STD-202, Method 112, Cond. C&D		
ENV71 Rev: A 03/21/13 M140986 File: ENV	71.pdf	Dens 4		

This document and its contents are the property of Mini-Circuits.

## **Environmental Specifications** ENV71 Mini-Circuits 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** Autoclave 15 psig, 100% RH, 121°C, 96 hours JESD22 - Method A102

ENV71 Rev: A 03/21/13 M140986 File: ENV71.pdf

This document and its contents are the property of Mini-Circuits.