Microwave Precision

Fixed Attenuator

KAT-SERIES

50Ω Up to 2W DC to 43.5 GHz

The Big Deal

- Super bandwidth, Up to 43.5 GHz
- Exceptional Power Handling, Up to 2W
- Small Size, 2 mm x 2 mm

CASE STYLE: MC1630-1

Product Overview

KAT models are a series of absorptive fixed attenuators fabricated using highly reliable and repeatable GaAs MMIC IPD* process. The models operate from DC up to 43.5 GHz. They have outstanding attenuation accuracy and flatness while maintaining excellent VSWR throughout the entire band. The models can also handle input power up to around 2W, depending on each value, which makes this model series an ideal choice for a wide range of applications.

Key Features

Feature	Advantages
Wideband operation, From DC to 43.5 GHz	Supports a wide array of applications including 5G, wireless infrastructure, microwave communications, satellite, defense and aerospace, medical broadband and optic applications.
Small Size and simple to use (2 mm x 2 mm)	As a single chip solution, the KAT series occupies less board space than a lumped element approach, minimizes component count and ensures repeatable performance over wide frequency range.
Wide range of nominal attenuation values (0,1,2,3,4,5,6,7,8,9,10,12,15,20 & 30)	Small increment offering enables circuit designer to change attenuation values without motherboard redesign making the KAT series ideal for select at test application.
MCLP™ Package	Low Inductance, repeatable transitions, excellent thermal path make the KAT series an ideal solution as an alternative to “do it yourself” lumped element-based approach.

* IPD - Integraded Passive Device.

Microwave Precision

Fixed Attenuator

KAT-20+

50Ω 0.8W 20dB DC to 43.5 GHz

Product Features

- Small package, 2x2 MCLP™
- Super Wide bandwidth, DC-43.5 GHz
- Excellent VSWR, 1.1:1 typ.
- High Power Handling, 0.8W

Generic photo used for illustration purposes only

CASE STYLE: MC1630-1

+RoHS Compliant

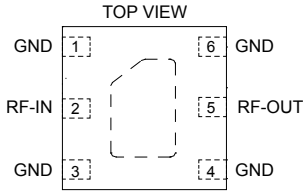
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Typical Applications

- 5G
- Test and Measurement
- Radar
- Communication
- Defense

General Description

KAT-20+ is an absorptive fixed attenuator fabricated using highly reliable and repeatable GaAs MMIC IPD process. The model operates from DC to 43.5GHz. It achieves outstanding attenuation accuracy and flatness while maintains excellent VSWR throughout the entire band. The model can also handle input power up to 0.8W, which makes this model an ideal choice for a wide range of applications.



Pad Description

Function	Pad Number	Description
RF-IN	2	RF input pad
RF-OUT	5	RF output pad
GND	1,3,4,6 & Paddle	Ground

Electrical Specifications[1] at 25°C, 50Ω , unless noted

Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC	—	43.5	GHz
Attenuation	0.01 - 5	19.6	20.0	20.8	dB
	5 - 10	19.7	20.0	21.2	
	10 - 20	19.7	20.0	21.9	
	20 - 30	19.8	19.9	23.1	
	30 - 40	—	19.9	—	
	40 - 43.5	—	19.4	—	
VSWR	0.01 - 5	—	1.07	1.4	:1
	5 - 10	—	1.09	1.4	
	10 - 20	—	1.10	1.9	
	20 - 30	—	1.30	—	
	30 - 40	—	1.55	—	
	40 - 43.5	—	1.32	—	

1. Tested on Mini-Circuits test board TB-934-20C+. See Characterization/Application Circuit in Fig. 1

Absolute Maximum Ratings[2]

Operating Case Temperature[3]	-40°C to 85°C
Storage Temperature	-65°C to 150°C
RF Input Power	0.8W[3]

2. Permanent damage may occur if any of these limits are exceeded.
3. Power rating derated to 0.6W at 85°C

Characterization Test Circuit

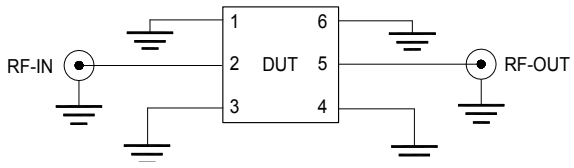


Fig 1. Block diagram of Test Circuit used for characterization, Test board TB-934-20C+
Conditions: Attenuation, VSWR: Pin=0 dBm

Typical Performance Data at 25°C

Frequency (GHz)	Attenuation (dB)	VSWR (:1)
0.01	20.02	1.13
0.5	20.03	1.12
1.0	20.06	1.13
3.0	20.04	1.19
5.0	20.03	1.24
7.0	20.07	1.25
10.0	19.95	1.14
13.0	19.97	1.14
15.0	19.99	1.16
20.0	20.02	1.11
25.0	20.04	1.30
30.0	20.04	1.25
35.0	20.12	1.61
38.0	19.81	1.41
43.5	20.08	1.37