MMIC SURFACE MOUNT

Power Splitter/Combiner EP2KA+

2 Way-0° 50Ω 10 to 43.5 GHz

THE BIG DEAL

- Ultra-Wide bandwidth, 10 to 43.5 GHz
- Excellent amplitude unbalance, 0.18 dB typ.
- Small size, 3.5 x 2.5 mm
- DC passing

Generic photo used for illustration purposes only

CASE STYLE: JV259-1

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Military
- 5G
- Instrumentation

PRODUCT OVERVIEW

Mini-Circuits EP2KA+ is a MMIC splitter/combiner designed for wide band operation from 10 to 43.5 GHz. This model provides excellent amplitude unbalance in a tiny device package (3.5 x 2.5mm). Manufactured using GaAs IPD technology, it provides a high level of ESD protection and excellent reliability.

KEY FEATURES

Feature	Advantages
Wideband, 10 to 43.5 GHz	One power splitter can be used in many applications, saving component count. Also ideal for wideband applications such as military and instrumentation.
Excellent Amplitude Unbalance (0.18 dB) and Good Phase Unbalance (3-6 deg.)	Excellent Amplitude and phase unbalance helps to accurately divide the input signals which is essential in test and measurement circuits.
Small size 3.5mm x 2.5mm QFN style package	Tiny footprint saves space in dense layouts while providing low inductance, repeatable transitions, and excellent thermal contact to the PCB.

REV. A
ECO-012024
EP2KA+
CM/JM/PS
230113

Power Splitter/Combiner EP2KA+

ELECTRICAL SPECIFICATIONS[1] AT 25°C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		10		43.5	GHz
Insertion Loss above 3.0 dB	10 - 20	—	0.8	1.7	dB
	20 - 25	—	0.5	1.0	
	25 - 30	—	0.9	2.1	
	30 - 40	—	1.5	2.8	
	40 - 43.5	—	2.2	—	
Isolation	10 - 20	—	17	—	dB
	20 - 25	19	26	—	
	25 - 30	17	22	—	
	30 - 40	17	26	—	
	40 - 43.5	—	29	—	
Phase Unbalance	10 - 20	—	3.7	7.0	Degree
	20 - 25	—	4.7	8.0	
	25 - 30	—	6.1	9.0	
	30 - 40	—	9.3	—	
	40 - 43.5	—	9.6	—	
Amplitude Unbalance	10 - 20	—	0.13	0.3	dB
	20 - 25	—	0.18	0.4	
	25 - 30	—	0.22	0.5	
	30 - 40	—	0.36	0.7	
	40 - 43.5	—	0.57	—	
VSWR (Port S)	10 - 20	—	1.6	—	:1
	20 - 25	—	1.1	—	
	25 - 30	—	1.4	—	
	30 - 40	—	1.4	—	
	40 - 43.5	—	1.5	—	
VSWR (Port 1-2)	10 - 20	—	1.3	—	:1
	20 - 25	—	1.2	—	
	25 - 30	—	1.3	—	
	30 - 40	—	1.4	—	
	40 - 43.5	—	1.4	—	

1. Tested on Mini-Circuits Test Board TB-EP2KA+

MAXIMUM RATINGS

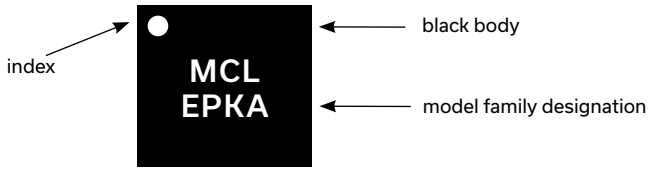
Parameter	Ratings
Operating temperature	-40°C to 85°C
Storage temperature	-65°C to 150°C
Power Input (as a splitter)	1.25W
Internal Dissipation (as a combiner)	0.63W
DC Current	300 mA

Permanent damage may occur if any of these limits are exceeded.

PAD CONNECTIONS

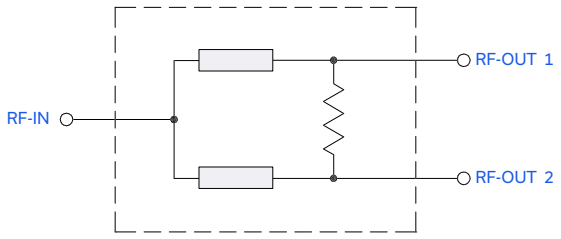
Function	Pad Number
SUM PORT	10
PORT 1	3
PORT 2	7
NC	2,5,8
GND	1,4,6,9 & Paddle

PRODUCT MARKING



Marking may contain other features or characters for internal lot control

SIMPLIFIED ELECTRICAL SCHEMATIC



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ADDITIONAL DETAILED TECHNICAL INFORMATION IS AVAILABLE ON OUR DASH BOARD. TO ACCESS CLICK HERE

Performance Data	Data Table Swept Graphs S-Parameter (S3P Files) Data Set (.zip file)
Case Style	JV2579-1 Plastic package, exposed paddle; lead finish: Matte Tin
Tape & Reel **Standard quantities available on reel**	F74 7" reels with 20, 50, 100, 200, 500, 1000 & 2000 devices
Suggested Layout for PCB Design	PL-598
Evaluation Board	TB-EP2KA+
Environmental Ratings	ENV08T1

ESD RATING

Human Body Model (HBM): Class 2 (Pass 2000V) in accordance with ANSI/ESD STM 5.1 - 2001

MSL RATING

Moisture Sensitivity: MSL1 in accordance with IPC/JEDEC J-STD-020D

NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp