

Level 15 (LO Power +15 dBm) 10000 to 40000 MHz

## The Big Deal

- Low conversion loss, 8.8 dB
- Excellent IF bandwidth, DC to 15 GHz
- High L-R isolation, 35 dB



CASE STYLE: UK2938

## Product Overview

Mini-Circuits' ZMDB-44H-K+ coaxial frequency mixer provides an RF and LO frequency range from 10 to 40 GHz and an IF frequency range from DC to 15 GHz, ideal for applications including defense radar and communication, VSAT, line of sight links, 5G, ISM and more. This model handles input power up to +21 dBm and provides low conversion loss with high L-R isolation. The mixer comes housed in a rugged, 2.92mm connectorized housing (0.56 x 0.56 x 0.34") suitable for assembled systems and lab use.

## Key Features

Feature	Advantages
Wide bandwidth, 10 to 40 GHz	Useful in wideband systems and several narrowband systems, reducing inventory.
Wide IF bandwidth, DC to 15 GHz	Usable in first and second down converter applications. IF down to DC enables use in phase detector applications.
Low conversion loss, 8.8 dB	Enables lower NF front ends, improving system sensitivity.
High isolation, • L-R, 35 dB • L-I, 30 dB	Preserves signal integrity from input to output and reduces undesired signal responses that can interfere with system performance.
High IP3, +20 dBm	Minimizes third order intermodulation distortion and enables high-dynamic range.
2.92mm-F connectorized housing, (0.56 x 0.56 x 0.34")	Ideal for assembled systems and lab use. High-frequency connector mates with 2.92mm and SMA connectors.

### Notes

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# Frequency Mixer

## ZMDB-44H-K+

Level 15 (LO Power +15 dBm) 10000 to 40000 MHz

### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	125mW
Permanent damage may occur if any of these limits are exceeded.	

### Coaxial Connections

LO	2
RF	1
IF	3

### Features

- wide bandwidth, 10000 to 40000 MHz
- low conversion loss, 8.8 dB typ.
- high L-R isolation, 35 dB typ.
- excellent IF BW, DC to 15000 MHz
- rugged construction
- small size
- useable as up and down converter

### Applications

- defense radar and communications
- VSAT
- line of sight links
- 5G
- ISM



Generic photo used for illustration purposes only

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Connectors	Model
2.92mm-Female	ZMDB-44H-K+

**+RoHS Compliant**

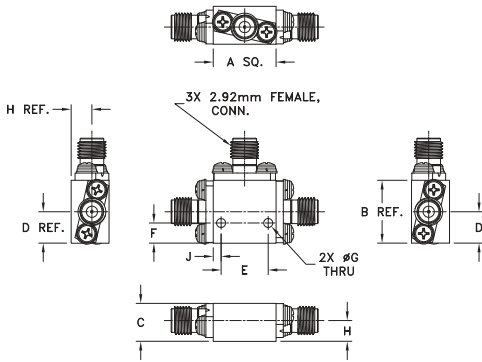
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Electrical Specifications at 25°C

Parameter	Min.	Typ.	Max.	Unit
Frequency Range, RF	10000	—	40000	MHz
Frequency Range, LO	10000	—	40000	MHz
Frequency Range, IF	DC	—	15000	MHz
Conversion Loss*	—	8.8	15	dB
LO to RF Isolation	18	35	—	dB
LO to IF Isolation	18	30	—	dB
IP3	—	20	—	dBm
RF Input at 1 dB Compression	—	+10	—	dBm

\* Conversion loss at 30 MHz IF. Increases with IF frequency.

### Outline Drawing



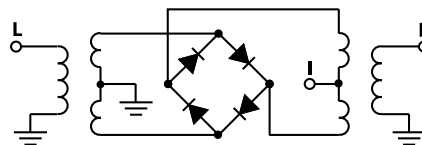
### Outline Dimensions (inch/mm)

A	B	C	D	E	
.56	.56	.34	.28	.420	
14.22	14.22	8.64	7.11	10.67	
F	G	H	J	wt	
.18	.081	.19	.07	grams	
4.57	2.06	4.83	1.78	23	

### Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +15dBm	LO +15dBm	LO +15dBm	LO +15dBm	LO +15dBm
10000.10	10030.10	12.97	38.56	27.23	7.72	7.20
11000.10	11030.10	8.88	37.96	30.87	4.03	2.39
12000.10	12030.10	7.86	35.88	33.94	2.44	3.43
14000.10	14030.10	6.89	38.07	36.63	2.84	2.24
16000.10	16030.10	7.54	38.06	32.71	2.21	2.01
18000.10	18030.10	7.17	39.28	34.60	2.77	3.03
20000.10	20030.10	6.97	51.91	38.91	2.29	3.43
22000.10	22030.10	7.74	44.84	41.10	1.36	3.66
24000.10	24030.10	9.29	42.55	39.78	1.49	3.05
26000.10	26030.10	9.23	38.38	36.48	1.54	2.42
28000.10	28030.10	9.18	32.31	36.37	2.37	1.54
30000.10	30030.10	9.95	29.71	28.56	3.61	1.54
32000.10	32030.10	8.96	25.61	25.33	2.35	1.73
34000.10	34030.10	8.95	29.08	33.02	2.28	1.84
36000.10	36030.10	8.44	27.59	27.93	1.40	2.39
38000.10	38030.10	9.97	29.36	25.64	2.14	1.87
40000.10	40030.10	10.92	45.76	28.06	1.19	1.43

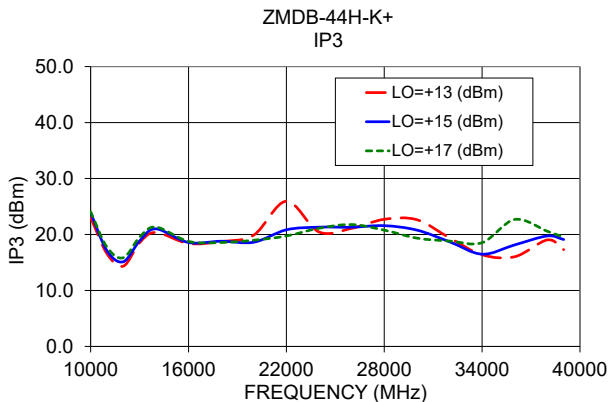
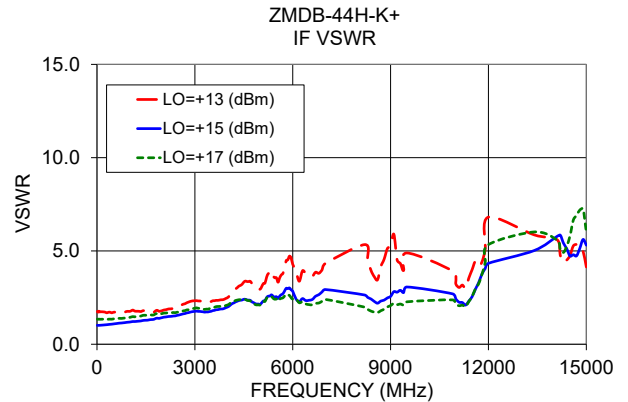
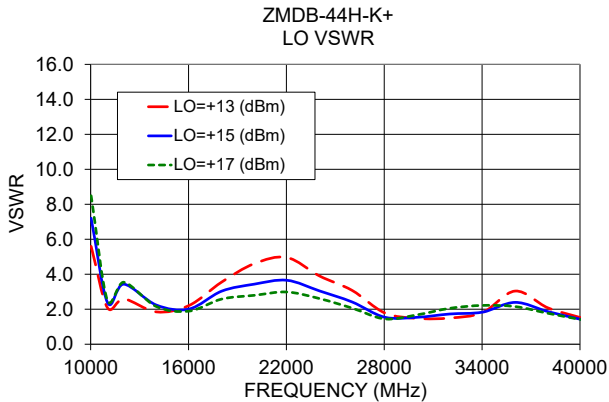
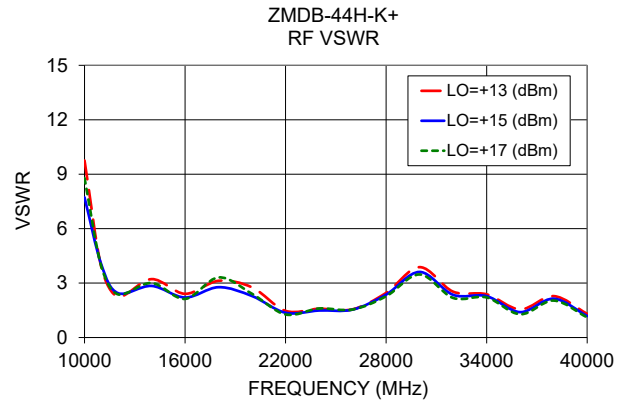
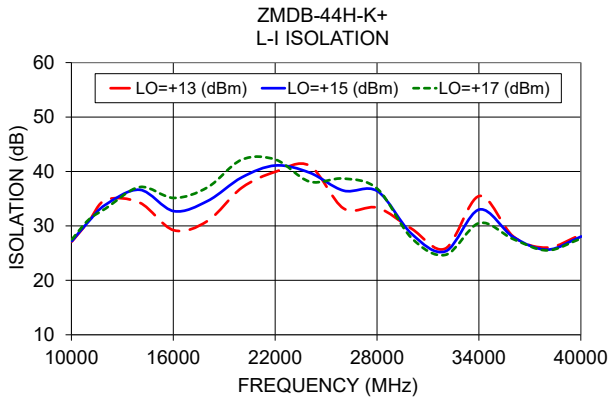
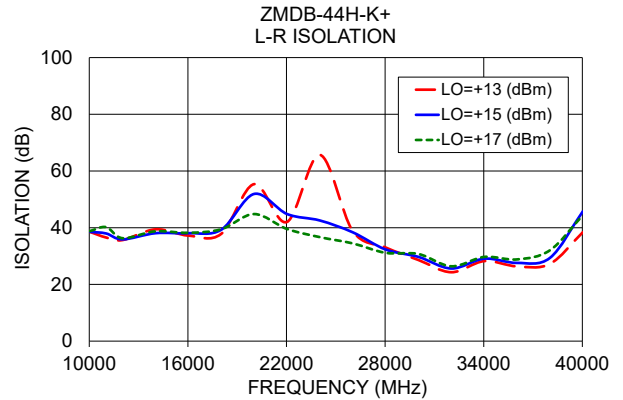
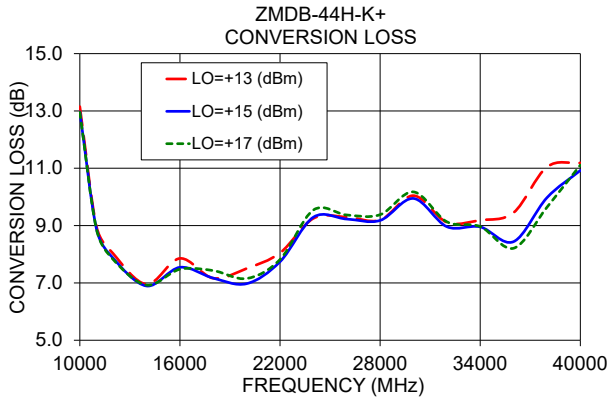
### Electrical Schematic



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