COAXIAL

X3 Frequency Multiplier ZXF90-3-453-V+

50Ω Output 20 to 45 GHz SMA-Female to 1.85 mm-Male

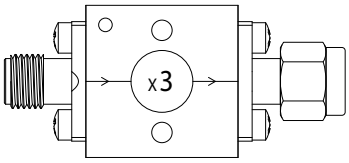
KEY FEATURES

- Wideband Output, 20 to 45 GHz
- Wide Input Power Range, +12 to +18 dBm
- Low Conversion Loss, 20 dB Typ.
- Good Fundamental and Harmonic Suppression
  - F1: 47 dBc Typ.
  - F2: 40 dBc Typ.
  - F4: 39 dBc Typ.



Generic photo used for illustration purposes only

FUNCTIONAL DIAGRAM



APPLICATIONS

- 5G MIMO and Back Haul Radio Systems
- Satellite Communications
- Test and Measurement Equipment
- Radar, EW, and ECM Defense Systems

PRODUCT OVERVIEW

Mini-Circuits' ZXF90-3-453-V+ is a wideband frequency tripler utilizing MCLs' own GaAs HBT multiplier, CY3-453-DG+, converting input frequencies from 6.66 to 15 GHz into output frequencies from 20 to 45 GHz. Its wide output range makes this model suitable for broadband systems, as well as a wide variety of narrow-band applications. This multiplier is housed in a rugged, small form factor (0.7" x 0.7" x 0.37") connectorized housing, saving space in crowded layouts.

ELECTRICAL SPECIFICATIONS[1] AT +25°C AND Z_0 = 50Ω, UNLESS NOTED OTHERWISE

Parameter		Input Frequency (GHz)	Output Frequency (GHz)	Min.	Typ.	Max.	Unit
Multiplication Factor		-	-		3		
Frequency Range, Input (F1)		-	-	6.66	-	15	GHz
Frequency Range, Output (F3)		-	-	20	-	45	GHz
Input Power		-	-	+12	-	+20	dBm
Conversion Loss (X3)		6.66 - 8	10 -12	-	20.0	22.0	dB
		8 - 13	12 - 18	-	19.5	21.5	
		13 - 15	20 - 24	-	20.5	23.5	
Harmonic Suppression[2]	F1	6.66 - 8	6.66 - 8	-	55.0	-	dBc
		8 - 13	8 - 13	-	47.0	-	
		13 - 15	13 - 15	-	38.0	-	
	F2	6.66 - 8	13.32 - 16	-	65.0	-	
		8 - 13	16 - 26	-	40.0	-	
		13 - 15	26 - 30	-	37.5	-	
	F4	6.66 - 8	26.64 - 32	-	32.0	-	
		8 - 13	32 - 52	-	45.0	-	
		13 - 15	52 - 60	-	39.0	-	

1. Measured with input power at +16 dBm.
2. Harmonics of input frequency below the power level of F3.

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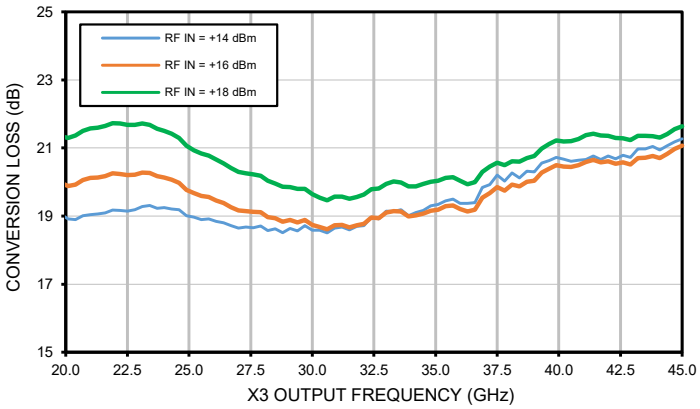
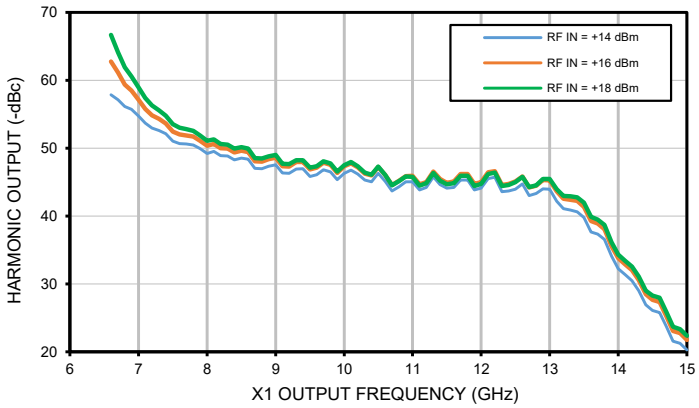
TYPICAL PERFORMANCE CURVES

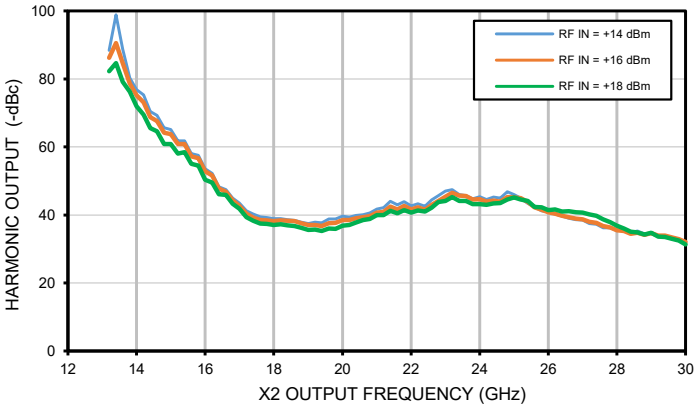
CONVERSION LOSS X3 OUTPUT



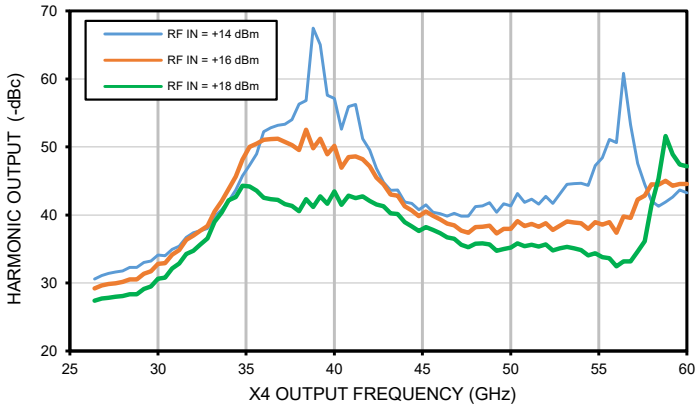
HARMONIC X1 OUTPUT



HARMONIC X2 OUTPUT



HARMONIC X4 OUTPUT



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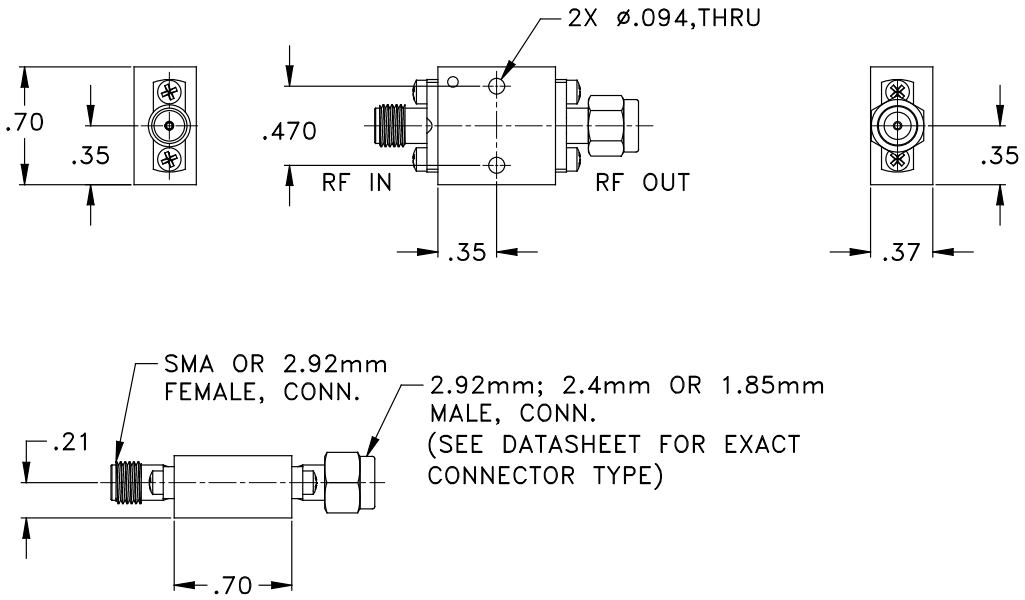
ABSOLUTE MAXIMUM RATINGS[3]

Parameter	Ratings
Operating Temperature	-40°C to +85°C Baseplate
Storage Temperature	-40°C to +85°C
RF Input Power	+23 dBm

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

CASE STYLE DRAWING



Weight: 14.0 grams
Dimensions are in inches [mm]. Tolerances: 2 Pl. + .03; 3 Pl. + .015 Inches

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ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

Performance Data & Graphs	Data Graphs
RoHS Status	Compliant
Environmental Ratings	ENV131
Export Information	EAR99

ORDERING INFORMATION

Model No. Links	ZXF90-3-453-V+
Product Marking	ZXF90-3-453-V+
Case Style	UK3641
Connector	SMA-Female to 1.85 mm-Male

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/terms/viewterm.html