

N-type Calibration Standard SOL-63-NF+

50Ω DC to 6 GHz

THE BIG DEAL

- Precision N-type calibration standard up to 6 GHz
- Works out of the box with Mini-Circuits' eVNA-63+
- N-Female Short / Open / Load standard
- Performs a one-port calibration on a VNA
- Cardboard storage case



Generic photo used for illustration purposes only

+RoHS Compliant

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

APPLICATIONS

- VNA Calibration

Model Number	SOL-63-NF+
Case Style	VR3262
Connector	N-Female

PRODUCT OVERVIEW

Mini-Circuits' SOL-63-NF+ is an N-Female short, open, & load calibration standard intended for VNA measurements of any N-Female DUT (device under test). The standard is supplied in a cardboard storage and display case.

SOL-63-NF+ is offered in Mini-Circuits' calibration kit, KSOLT-63-N+, which is supported by Mini-Circuits' eVNA-63+ vector network analyzer right out of the box, with all calibration definitions pre-loaded within the eVNA Studio software. The standards can also be used as a cost-effective, high-performance alternative to calibration kits from a wide range of VNA suppliers.

KEY FEATURES

Feature	Advantages
Cost effective	Cost effective when comparing against competitors with similar specifications
1 Port Calibration	Single standard is all you need for one-port calibration of N-type Female devices
2 Port Calibration	Combine with a thru to make fully calibrated 2-port or greater measurements with a VNA
Excellent return loss, 42 dB typ at load port	Precision calibration standards with high return loss minimize the measurement errors within a VNA system



PRECISION

N-type Calibration Standard

SOL-63-NF+

ELECTRICAL SPECIFICATIONS

Standard	Parameter	Min	Typ	Max	Units
	Frequency Range	DC		6	GHz
	Impedance		50		Ω
SHORT	Phase Error ¹		1	3.0	°
OPEN	Phase Error ¹		1	3.5	°
LOAD	Return Loss	36	42		dB

1. Phase error is the phase deviation from the calkit model definition

MAXIMUM RATINGS²

Parameter	Ratings
Operating Temperature ³	20°C to 26°C
Storage Temperature	-20°C to 75°C
Supply Voltage	0.5 W

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

3. Operating temperature specified for optimal performance

CALKIT MODEL DEFINITION

P/N	Standard Label	Parameter	Value	Units	Additional Format
SOL-63-NF+	SHORT -F-	Offset Delay	42.7	ps	12.81 mm
		Offset Loss	1	G Ω /s	0.029 dB/ $\sqrt{\text{GHz}}$
		Z0	50	Ω	50 Ω
		L0	0.000	(1E-12) H	0 pH
		L1	0.000	(1E-24) H/Hz	0 pH/GHz
		L2	0.000	(1E-33) H/Hz ²	0 pH/GHz ²
		L3	0.000	(1E-42) H/Hz ³	0 pH/GHz ³
	OPEN -F-	Offset Delay	42.7	ps	12.81 mm
		Offset Loss	1	G Ω /s	0.009 dB/ $\sqrt{\text{GHz}}$
		Z0	50	Ω	50 Ω
		C0	-4.000	(1e-15) F	-4 fF
		C1	600.000	(1e-27) F/Hz	0.6 fF/GHz
		C2	-10.000	(1e-36) F/Hz ²	0.01 fF/GHz ²
		C3	0.450	(1e-45) F/Hz ³	0.00045 fF/GHz ³
	LOAD	Offset Delay	0	ps	0 mm
		Offset Loss	0	G Ω /s	0 dB/ $\sqrt{\text{GHz}}$
		Z0	50	Ω	50 Ω



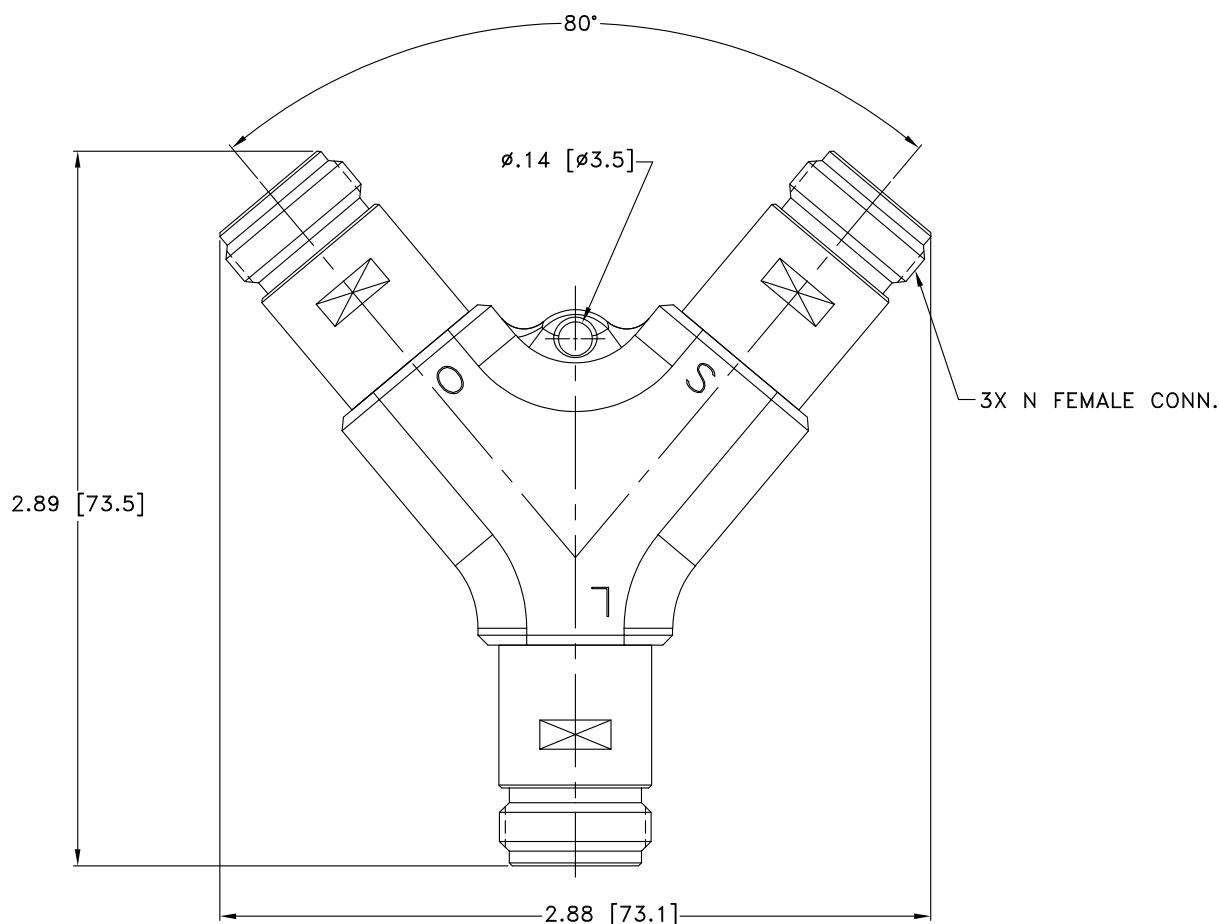


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OUTLINE DRAWING



Weight: 157.0 grams

Dimensions are in inches [mm]. Tolerances: 2 Pl. ±.03; 3 Pl. ±.015

Notes:

1. Case material: Aluminum
2. Case Finish: Blue Anodize

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

