PRECISION

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

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

APPLICATIONS

- VNA Calibration

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

REV OR
ECO-011424
SOL-63-NF+
MCL NY
220113

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 RATINGS[2]

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

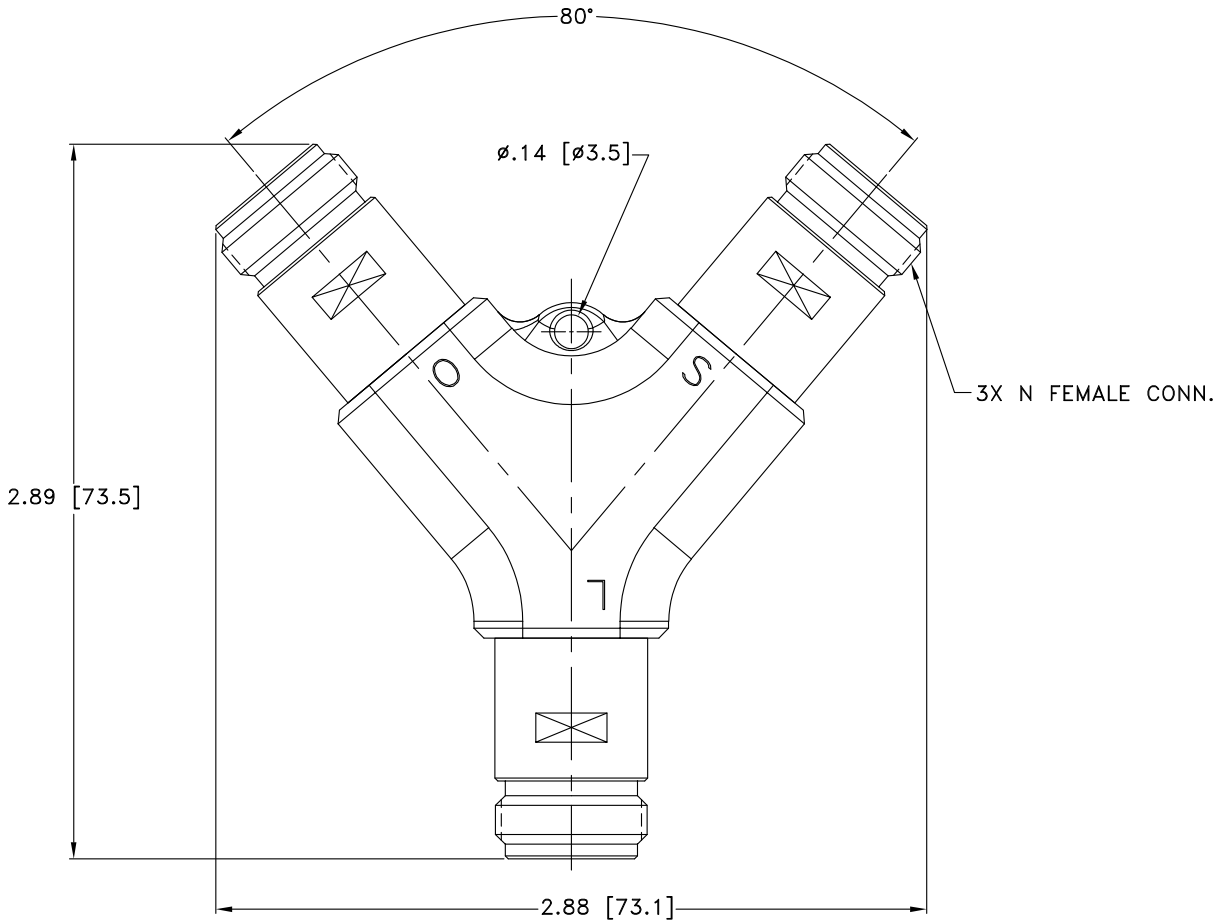
2. Permanent damage may occur if any of these limits are exceeded.
3.Operating temperature specified for optimal performance

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	GΩ/s	0.029 dB/√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	GΩ/s	0.009 dB/√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	GΩ/s	0 dB/√GHz
		Z0	50	Ω	50 Ω

N-type Calibration Standard SOL-63-NF+

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

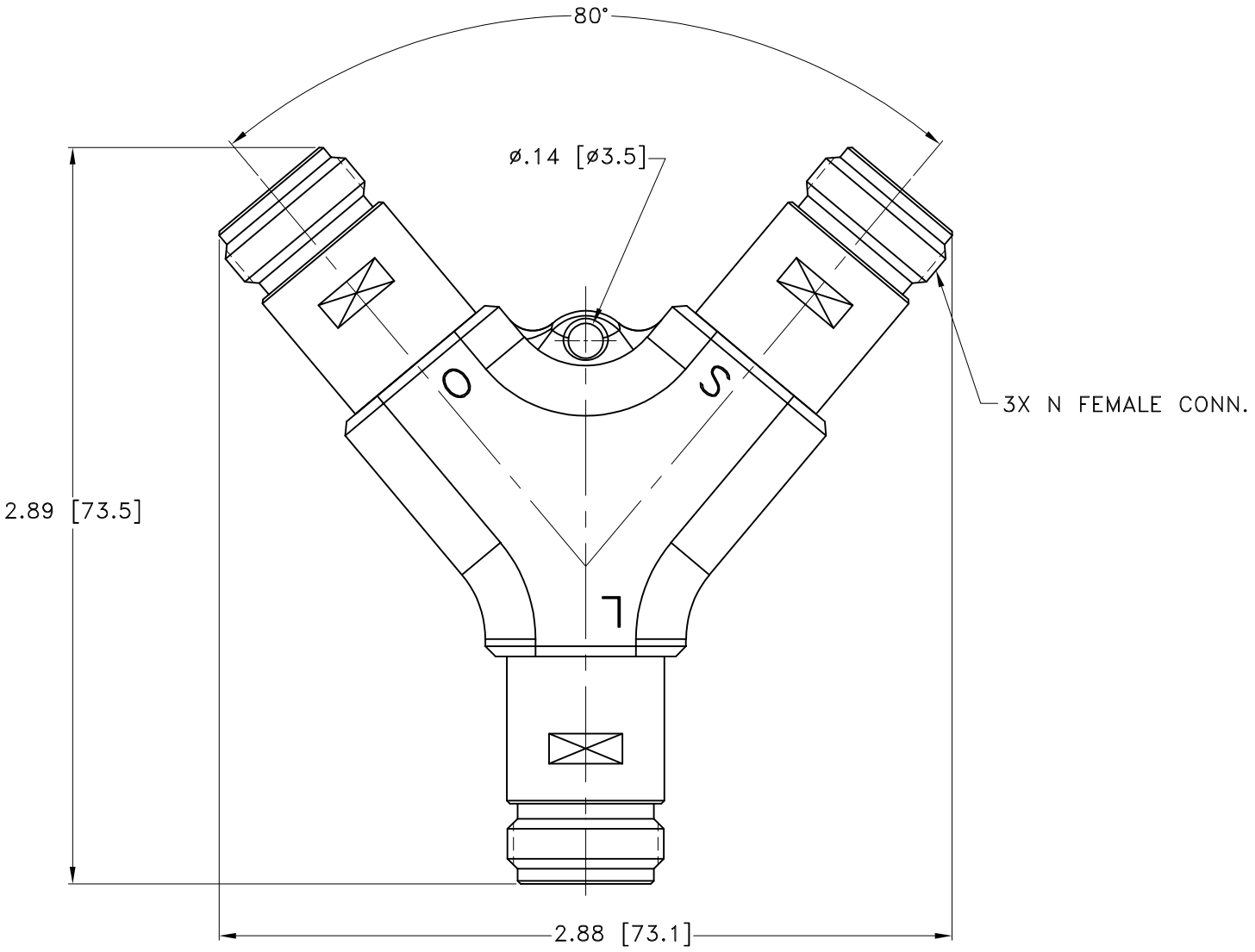
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

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

Case Style VR

Outline Dimensions VR3262



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The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com
RF/IF MICROWAVE COMPONENTS

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Environmental Specifications ENV133

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	20° to 26° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-20° to 75° C Ambient Environment	Individual Model Data Sheet

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