PRECISION

N-type Calibration Standard SOL-63-NM+

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-Male 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-NM+
Case Style	VR3263
Connector	N-Male

APPLICATIONS

- VNA Calibration

PRODUCT OVERVIEW

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

SOL-63-NM+ 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 Male 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-NM+
MCL NY
220113

N-type Calibration Standard SOL-63-NM+

ELECTRICAL SPECIFICATIONS

Standard	Parameter	Min	Typ	Max	Units
	Frequency Range	DC		6	GHz
	Impedance		50		Ω
SHORT	Phase Error[1]		1.5	3.0	°
OPEN	Phase Error[1]		1.5	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-NM+	SHORT -M-	Offset Delay	59.44	ps	17.83 mm
		Offset Loss	1	GΩ/s	0.003 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 -M-	Offset Delay	59.44	ps	17.83 mm
		Offset Loss	1	GΩ/s	0.003 dB/√GHz
		Z0	50	Ω	50 Ω
		C0	-4.000	(1E-15) F	-4 fF
		C1	200.000	(1E-27) F/Hz	0.2 fF/GHz
		C2	0.000	(1E-36) F/Hz^2	0 fF/GHz^2
		C3	1.100	(1E-45) F/Hz^3	0.0011 fF/GHz^3
	LOAD	Offset Delay	0	ps	0 mm
		Offset Loss	0	GΩ/s	0 dB/√GHz
		Z0	50	Ω	50 Ω

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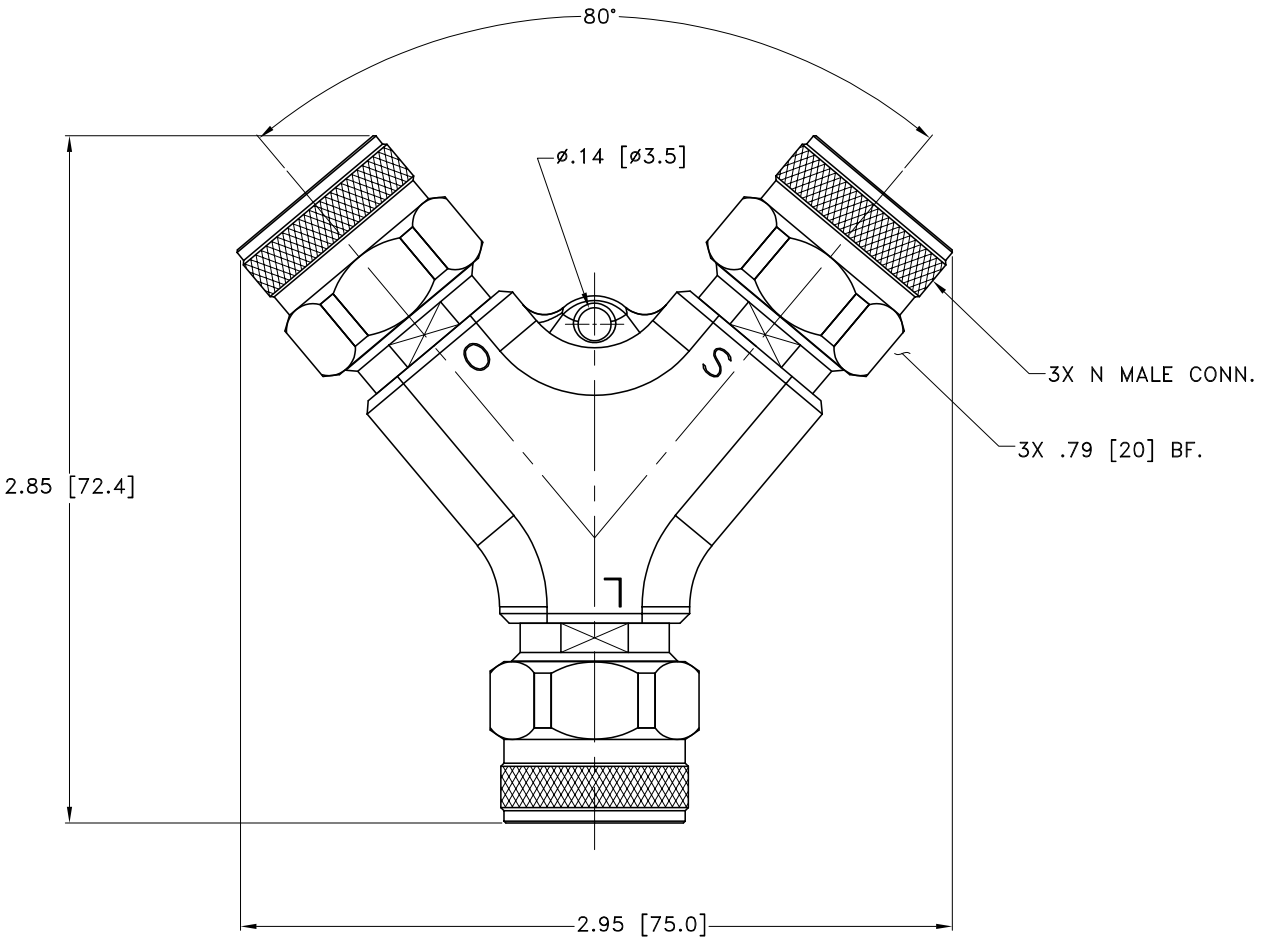
OUTLINE DRAWING



Weight: 178.0 grams

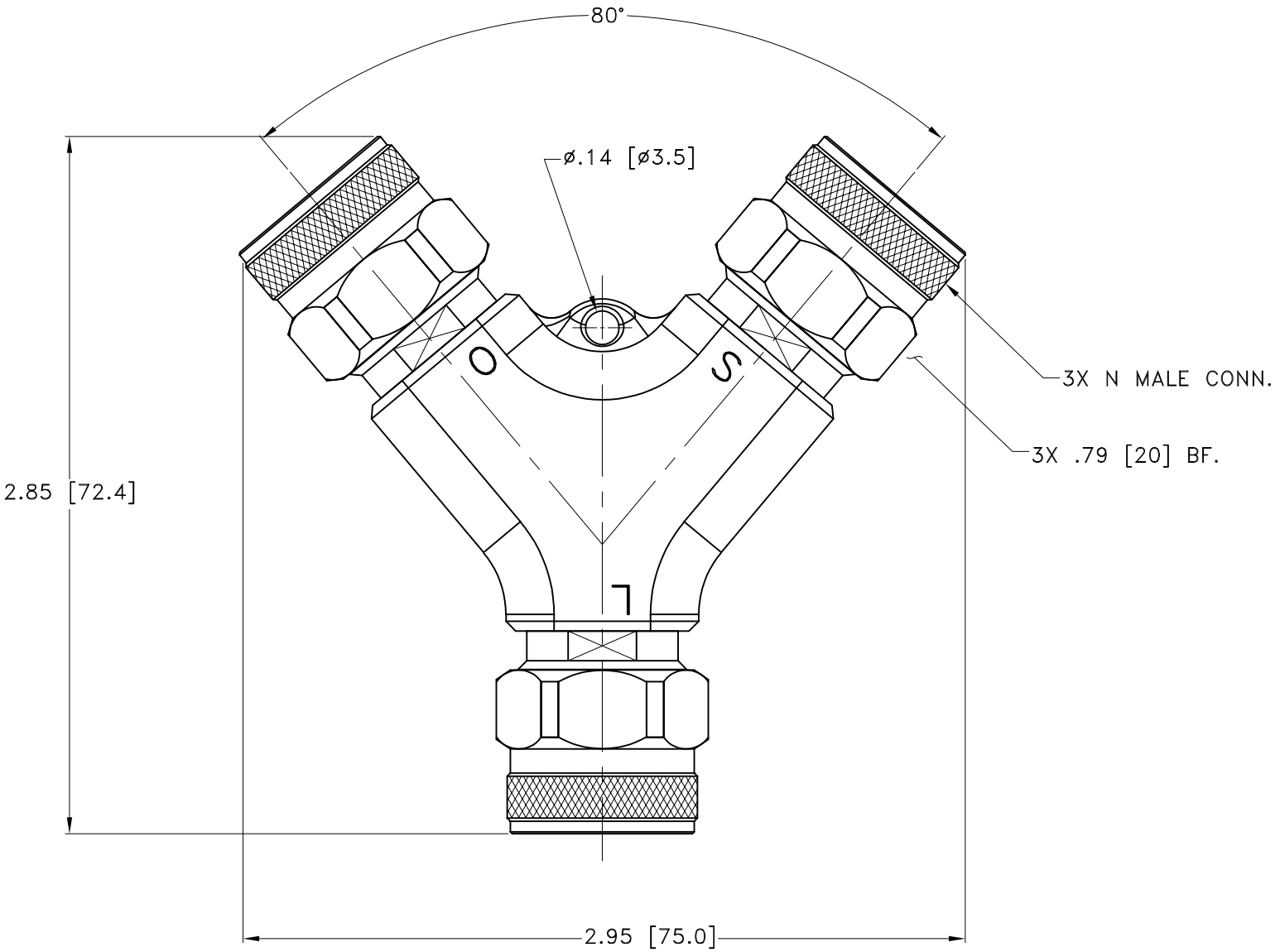
Dimensions are in inches [mm]. Tolerances: 2 Pl.±.03; 3 Pl. ±.015

Notes:

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

Case Style VR

Outline Dimensions VR3263



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Mini-Circuits

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