

SPACE MIXERS

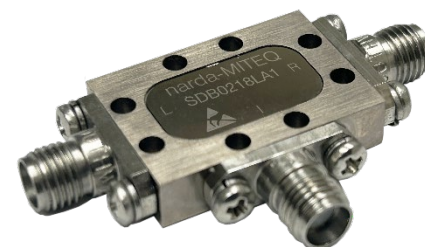
2 to 18 GHz Double-Balanced Flight-Ready Mixer Model SDB0218LA1

ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF Frequency Range	-	GHz	2	-	18
RF VSWR (RF = -10 dBm, LO = +10 dBm)	2 to 18 GHz	Ratio	-	1.5:1	-
LO Frequency Range	-	GHz	2	-	18
LO Power Range	-	dBm	+7	+10	+13
LO VSWR (LO = +10 dBm)	2 to 18 GHz	Ratio	-	1.5:1	-
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion Loss (IF = 100 MHz, LO = +10 dBm)	2 to 18 GHz	dB	-	6.5	8.5
Single-Sideband Noise Figure	2 to 18 GHz	dB	-	-	9
LO-to-RF Isolation	2 to 18 GHz	dB	22	30	-
LO-to-IF Isolation	2 to 18 GHz	dB	-	20	-
RF-to-IF Isolation	2 to 18 GHz	dB	-	30	-
Input Power at 1 dB Compression	LO = +10dBm	dBm	-	+5	-
Input two-tone third-order intercept point	LO = +10dBm	dBm	-	+13	-
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
IF Frequency Range	3 dB Bandwidth	GHz	DC	-	0.75
IF VSWR (IF = -10 dBm, LO = +10 dBm)	-	Ratio	-	2:1	-

**Screening Options

- EM = Engineering Model (No Screening)
- H = MIL-PRF-38534, Table C-IX, Class H
- K = MIL-PRF-38534, Table C-IX, Class K
- N2 = NASA EEE-INST-002, M2, Table 2, Level 2, Non-QML
- N1 = NASA EEE-INST-002, M2, Table 2, Level 1, Non-QML



The Narda-MITEQ double-balanced SDB0218LA1 mixer is constructed of a balanced diode quad fed by microstrip RF and LO baluns and a DC-coupled IF structure. The construction, coupled with the hermetic packaging, provides inherent reliability and performance over an extremely broad frequency range.

KEY FEATURES

- > RF/LO Coverage.....2 to 18 GHz
- > IF OperationDC to 0.75 GHz
- > High LO-to-RF Isolation
- > Low RF/LO VSWR
- > Low Conversion Loss
- > Removeable SMA connectors
- > Hermetic Package
- > Various Screening Options

**Screening options do not include Element Evaluation, Group B nor Group C Testing. Consult factory to add these requirements. Engineering Models are built using same materials and processes but are not screened. Not recommended for flight.

Included Standard Screening (Meets Requirements of NASA EEE-INST-002 Level 3)

PARAMETERS	MIL-STD-883 Method
Hermetic Seal	-
Temperature Cycling	1010, Condition C, 10 Cycles
Mechanical Shock	2002, Condition B (Y1 only)
PIND	2020, Condition B
Fine and Gross Leak Test	1014
Burn-in	1015, 160 hours at 125 °C minimum

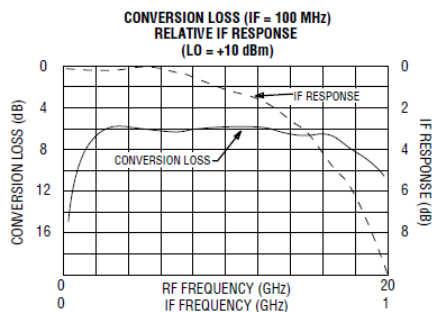
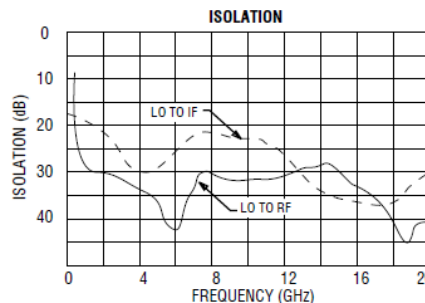
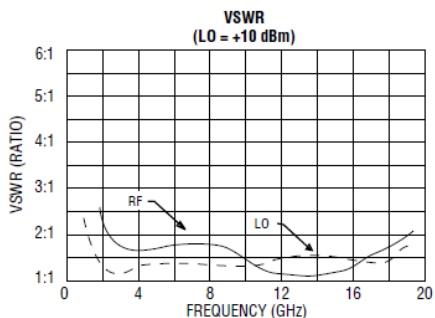
This material consists of Narda-MITEQ general capabilities information and does not contain controlled technical data as defined within the International Traffic in Arms (ITAR) Part 120.10 or Export Administration Regulations (EAR) Part 734.7-11.

Narda-MITEQ is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

SPACE MIXERS

2 to 18 GHz Double-Balanced Flight-Ready Mixer
Model SDB0218LA1

SDB0218LA1 TYPICAL TEST DATA



SINGLE-TONE (m) RF x (n) LO RELATIVE SPUR LEVEL (dBc)
TO REF (RF = -10 dBm, LO = +10 dBm)

	5	> 85	> 85	> 85	> 85	> 85
RF HARMONIC (m)	4	75	75	80	85	80
	3	45	60	55	65	55
	2	43	49	50	50	60
	1	REF	30	11	33	20
		1	2	3	4	5
		LO HARMONIC (n)				

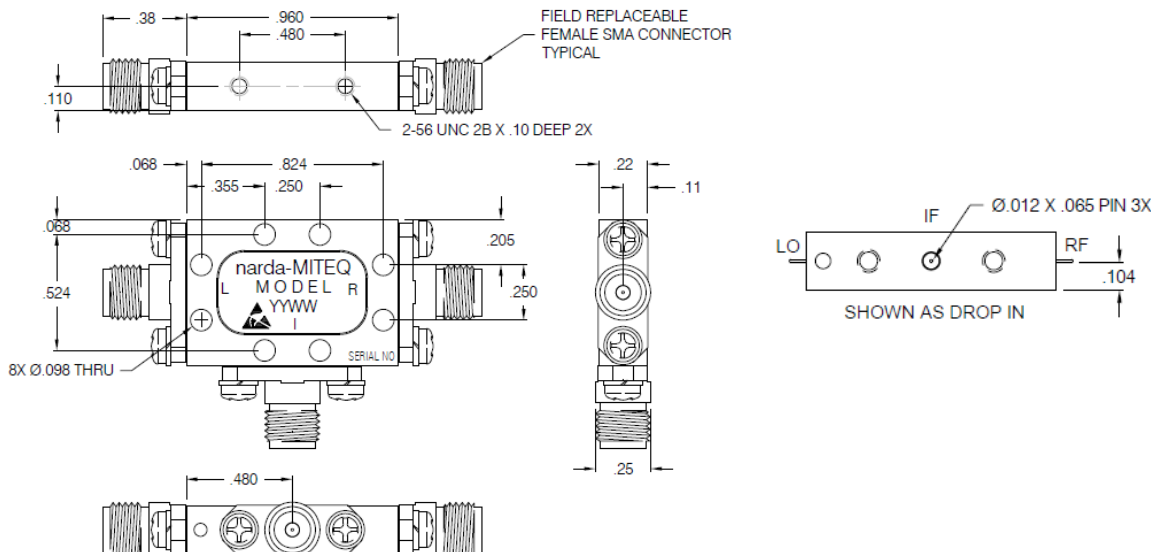
MAXIMUM RATINGS

RF Input Power (total input all ports): +20 dBm
 Specification Temperature: +25°C
 Operating Temperature: -54 to +85°C
 Estimated Mass: 18 grams

Storage Temperature: -65 to +125°C

NOTE: Test data supplied at 25°C; conversion loss and LO-to-RF isolation.

OUTLINE DRAWING



NOTE: All dimensions shown in brackets [] are in millimeters.
 Type SMA Field Replaceable Male
 Connector Options are available

This material consists of Narda-MITEQ general capabilities information and does not contain controlled technical data as defined within the International Traffic in Arms (ITAR) Part 120.10 or Export Administration Regulations (EAR) Part 734.7-11.

Narda-MITEQ is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.