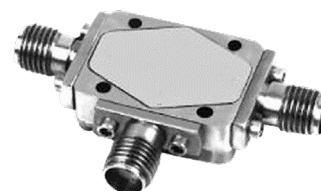


MIXER PRODUCTS

2 to 18 GHz Double-Balanced High Dynamic Range Mixer Model TB0218HDW2

ELECTRICAL SPECIFICATIONS					
INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range	–	GHz	2	–	18
RF VSWR (RF = –10 dBm, LO = +12 dBm)	2 to 18 GHz	Ratio	–	2.5:1	–
LO frequency range	–	GHz	2	–	18
LO power range	–	dBm	+10	+12	+25
LO VSWR (LO = +10 dBm)	2 to 18 GHz	Ratio	–	2.5:1	–
TRANSFER CHARACTERISTICS	CONDITION	UNITS	MIN.	TYP.	MAX.
Conversion loss (IF = 1000 MHz, LO = +12 dBm)	2 to 18 GHz	dB	–	8	10
Conversion loss (IF = 1000 MHz, LO = +12 dBm)	4 to 16 GHz	dB	–	6	8
Single-sideband noise figure	2 to 18 GHz	dB	–	–	11
LO-to-RF isolation	2 to 18 GHz	dB	15	25	–
LO-to-IF isolation	2 to 18 GHz	dB	–	10	–
RF-to-IF isolation	2 to 18 GHz	dB	–	20	–
Input power at 1 dB compression	LO=+12dBm	dBm	–	+8	–
Input power at 1 dB compression	LO=+25dBm	dBm	–	+18	–
Input two-tone third-order intercept point	LO=+12dBm	dBm	–	+20	–
Input two-tone third order intercept point	LO=+25dBm	dBm	–	+30	–
OUTPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
IF frequency range	3 dB Bandwidth	GHz	0.5	–	10
IF VSWR (IF = –10 dBm, LO = +12 dBm)	–	Ratio	–	2:1	–

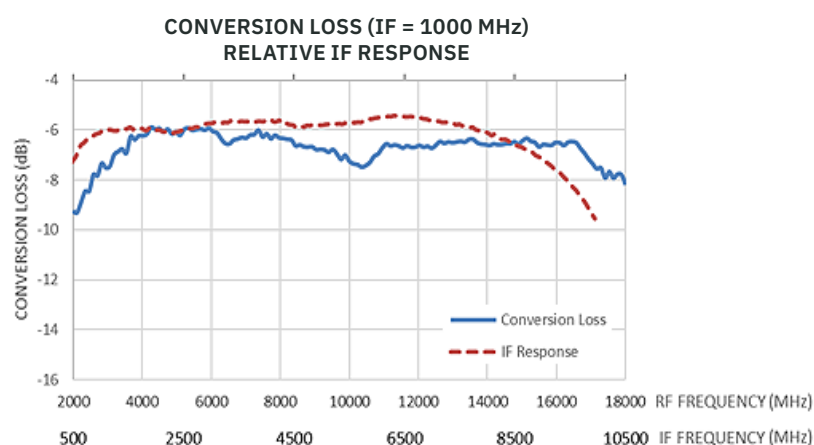
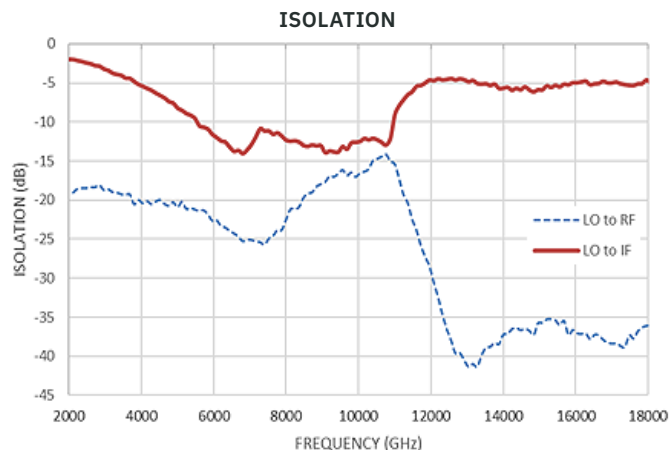
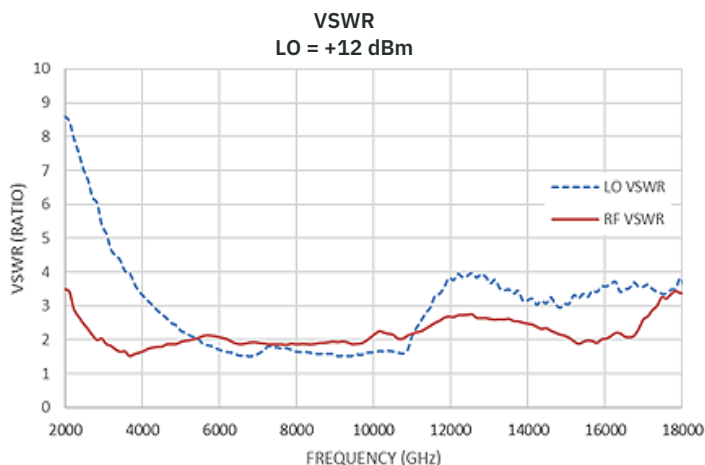


The Narda-MITEQ triple-balanced TB0218HDW2 mixer series utilizes a dual-quad circuit to provide performance in overlapping RF and IF frequency ranges. In addition to extremely broadband operation, custom-processed diodes allow for minimal variation in conversion loss, higher third order intercept and 1dB compression points versus input LO power range compared to other triple balanced mixers. The mixer will function over a broad range of LO input power, allowing for increased IP3 performance at higher LO levels.

KEY FEATURES

- > RF/LO Coverage2 to 18 GHz
- > IF operation.....0.5 to 10 GHz
- > High LO-to-RF isolation
- > Low RF/LO VSWR
- > High IP3 Point, +30 dBm @ max. LO power
- > High P1dB Point, +18 dBm @ max. LO power
- > Removeable SMA connectors
- > Hermatic package option available

TB0218HDW2 TYPICAL TEST DATA



**SINGLE-TONE (m) RF x (n) LO RELATIVE SPUR LEVEL (dBc)
TO REF (RF = -10 dBm, LO = +13 dBm)**

RF HARMONIC (m)	5	4	3	2	1
> 85	> 85	> 85	> 85	> 85	> 85
80	> 85	80	> 85	> 85	> 85
58	63	59	70	63	
46	52	46	56	47	
REF	26	12	33	22	
1	2	3	4	5	

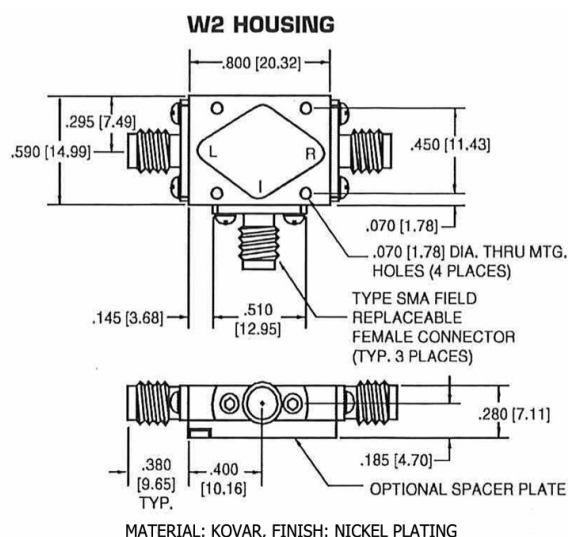
LO HARMONIC (n)

MAXIMUM RATINGS

Specification temperature..... +25°C
Operating temperature..... -54°C to +85°C
Storage temperature..... -65°C to +125°C

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

OUTLINE DRAWING



MATERIAL: KOVAR, FINISH: NICKEL PLATING

NOTE: All dimensions shown in brackets [] are in millimeters.



Mixer Products - 2 to 18 GHz Triple-Balanced High Dynamic Range Mixer, Model TB0218HDW2

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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.

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