4 TO 40 GHz OUTPUT LOW-NOISE FREQUENCY DOUBLER

MODEL: TD0040LA2

FEATURES

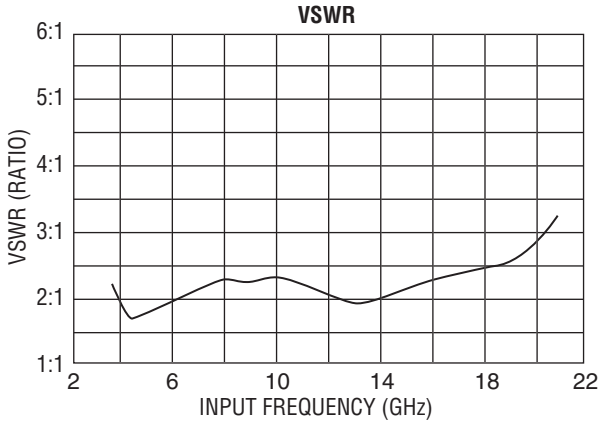
- **RF input..... 2 to 20 GHz**
- **RF output ..... 4 to 40 GHz**
- **Conversion loss ..... 13 dB typical**
- **Isolation F_{in}/F_{out} ..... 30 dB typical**
- **Output phase noise equivalent to passive Schottky diode mixer**

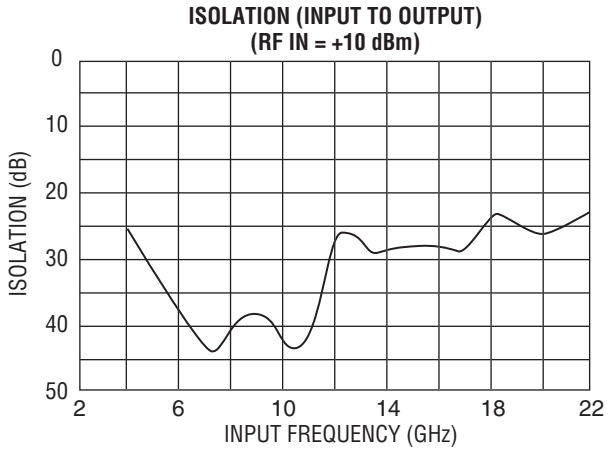
This triple-balanced passive frequency multiplier is useful as a signal source in millimeter receivers or transmitters. A minimum input power of +10 dBm is required to achieve -3 dBm output using low-level diodes. Higher level diodes will yield +5 dBm output with +20 dBm input. An active version is also available with a +10 dBm output utilizing MITEQ's low-noise amplifiers.

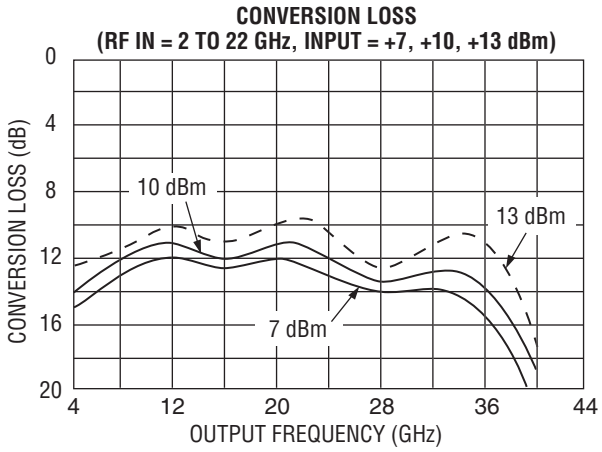
ELECTRICAL SPECIFICATIONS

INPUT PARAMETERS	CONDITION	UNITS	MIN.	TYP.	MAX.
RF frequency range		GHz	2		20
RF VSWR		Ratio		3:1	
RF power range		dBm	+7	+10	+13
TRANSFER CHARACTERISTICS	**CONDITION**	**UNITS**	**MIN.**	**TYP.**	**MAX.**
Conversion loss (RF = +10 dBm)	4 to 40 GHz 12 to 32 GHz 18 to 26 GHz	dB dB dB		15 13 11	18 15 13
Isolation RF in to RF out	4 to 40 GHz 12 to 32 GHz 18 to 26 GHz	dB dB dB	20 25 27	25 30 33	
OUTPUT PARAMETERS	**CONDITION**	**UNITS**	**MIN.**	**TYP.**	**MAX.**
IF frequency range		GHz	4		40
Power diode L H	Input = +10 Input = +20	dBm dBm		-3 5	
Active option	Input = +10	dBm		12	

TD0040LA2 TYPICAL TEST DATA







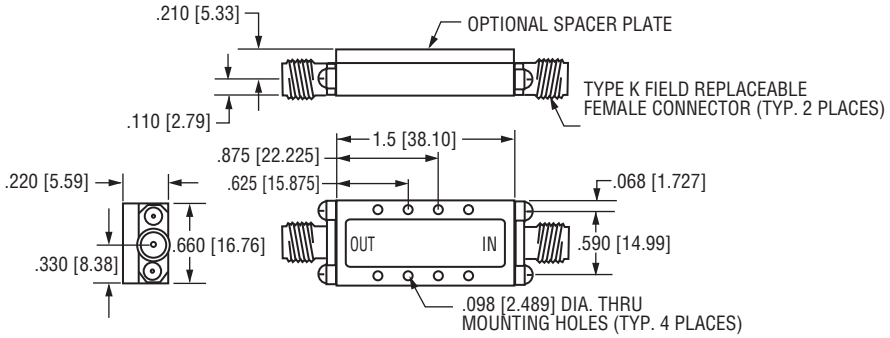
MAXIMUM RATINGS

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

GENERAL NOTES

1. Input or output LNAs available.
2. Existing package is hermetically sealed.
3. Burn out = +23 dBm input.

OUTLINE DRAWING



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