

WM782 WAVEGUIDE MIXERS

WM782 FEATURES

- **Lowest Conversion Loss**
WGM Available
- **Zero DC Bias**
- **Improved Reliability**
- **Increased Sensitivity**
- **Uniform Size**
- **Quick Reference Conversion Loss Calibration Chart**
- **Individually Calibrated**
- **Rugged LEXAN Plastic Outer Shell**
- **Anti-Parallel Diodes Reduce Vulnerability to ESD**
- **Precision Gold-Plated Brass Mixer Body**
- **Odd Harmonic Conversion Products Eliminated**

WM782 APPLICATIONS

- **Spectrum Analysis for Millimeter Wave Frequencies**
- **Swept Frequency Response Measurements**
- **Power Level Measurements for Millimeter Wave Frequencies**
- **For Independent Users, Ideally Suited for Frequency Down Conversion**
- **Harmonic Generator/Frequency Up Conversion**

ORDERING INFORMATION

WM782 WAVEGUIDE MIXERS AND SETS

26-40 GHz - Order WM782A	\$1,835
33-50 GHz - Order WM782Q	\$2,130
40-60 GHz - Order WM782U	\$2,530
50-75 GHz - Order WM782V	\$2,870
60-90 GHz - Order WM782E	\$3,115
75-110 GHz - Order WM782W	\$3,195
90-140 GHz - Order WM782F	\$3,425
110-170 GHz - Order WM782D	\$4,775
140-220 GHz - Order WM782G	\$4,890
220-325 GHz - Order WM782G Opt. 01 (adds tapered waveguide transition)	+\$1,765

26 to 60 GHz Set - Includes WM782A and WM780U. Order WM7826	\$4,365
26 to 90 GHz Set - Includes WM7826 plus WM782E. Order WM7827	\$7,480
26 to 140 GHz Set - Includes WM7827 plus WM782F. Order WM7828	\$10,905
26 to 220 GHz Set - Includes WM7828 plus WM782G. Order WM7829	\$15,795
33 to 75 GHz Set - Includes WM782Q and WM782V. Order WM78210	\$5,000
33 to 110 GHz Set - Includes WM78210 plus WM782W. Order WM78211	\$8,195
33 to 170 GHz Set - Includes WM78211 plus WM782D. Order WM78212	\$12,970

NEW WM782 SERIES

WAVEGUIDE MIXERS

The Tektronix WM782 Series of Waveguide Mixers are a new high-performance, broadband, zero dc bias, anti-parallel dual-diode type mixers for use with the new Tektronix 2782 Spectrum Analyzer. The mixer series covers the standard waveguide bands from 26 GHz to 325 GHz. Each mixer has its own conversion loss chart on the back for easy reference.

The new WM782 mixers are of uniform size and shape, and consist of a gold-plated solid brass core with a tough protective outer shell of LEXAN plastic.



Typical Electrical Characteristics

Tektronix Model No.	Band Desig.	Freq. Range (GHz)	Sensitivity ^{*1} (dBm)	Freq. Response ^{*2} (dB)	Conv. Loss (dB)	Low-Pass Cut-Off Freq. ^{*3}
WM782A	A	26 to 40	-120	-	20	16 GHz
WM782Q	Q	33 to 50	-115	± 3	20	20 GHz
WM782U	U	40 to 60	-115	± 3	20	20 GHz
WM782V	V	50 to 75	-115	± 3	20	28 GHz
WM782E	E	60 to 90	-115	± 3	20	28 GHz
WM782W	W	75 to 110	-105	± 3	30	28 GHz
WM782F	F	90 to 140	-95	± 3 ^{*3}	35	32 GHz
WM782D	D	110 to 170	-90	± 3 ^{*3}	40	40 GHz
WM782G	G	140 to 220	-85	± 3 ^{*3}	45	40 GHz
WM782G Opt. 01	J	220 to 325	-75	± 3 ^{*3}	50	-
Opt. 01 ^{*4}						

^{*1} Equivalent average noise level using a 2782 Spectrum Analyzer in 1 kHz resolution bandwidth.

^{*2} Maximum amplitude variation across each waveguide mixer band using a 2782 Spectrum Analyzer.

^{*3} Over any 5 GHz bandwidth for millimeter wave mixers above 60 GHz.

^{*4} Tapered waveguide transition allows WM782G to cover this range.

^{*5} Low-pass filters in LO/IF path.

Tektronix Product	Waveguide (EIA)	(JAN)	Dimensions Flange LxWxH (in)	Weight LxWxH (cm) (oz)
WM782A 26 to 40 GHz	WR-28	UG-599/U	9.525x2.54x4.32 3.75x1.00x1.70	113.4 4.0
WM782Q 33 to 50 GHz	WR-22	UG-383/U-M	8.89x2.54x4.32 3.50x1.00x1.70	113.4 4.0
WM782U 40 to 60 GHz	WR-19	UG-383/U-M	8.89x2.54x4.32 3.50x1.00x1.70	113.4 4.0
WM782V 50 to 75 GHz	WR-15	UG-385/U	8.89x2.54x4.32 3.50x1.00x1.70	113.4 4.0
WM782E 60 to 90 GHz	WR-12	UG-387/U	8.89x2.54x4.32 3.50x1.00x1.70	113.4 4.0
WM782W 75 to 110 GHz	WR-10	UG-387/U-M	8.89x2.54x4.32 3.50x1.00x1.70	113.4 4.0
WM782F ^{*1} 90 to 140 GHz	WR-08	UG-387/U-M	8.89x2.54x4.32 3.50x1.00x1.70	113.4 4.0
WM782D ^{*1} 110 to 170 GHz	WR-06	UG-387/U-M	8.89x2.54x4.32 3.50x1.00x1.70	113.4 4.0
WM782G ^{*1} 140 to 220 GHz	WR-05	UG-387/U-M	8.89x2.54x4.32 3.50x1.00x1.70	113.4 4.0
WM782G/ Option 01 220 to 325 GHz	G-J Band tapered transition and flange adapter: WR-05 74-003 WR-03 74-005			

^{*1} All mixers are equipped with Standard UG-xxx/U-type flanges. MIL-F-3022-type flanges are available in F, D, and G bands.