

# Waveguide Mixers

## WM782 series

### Features

#### WM782 SERIES

- 26 to 325 GHz Frequency Range
- Frequency Response Is  $\pm 3$  dB\*2
- Lowest Conversion Loss Waveguide Mixers Available
- Zero DC Bias
- Individually Calibrated with Quick Reference Conversion Loss Calibration Chart
- Anti-parallel Diodes Reduce Vulnerability to ESD
- Uniform Size and Shape
- Precision Gold-plated Brass Core
- Tough Protective Outer Shell of LEXAN Plastic

### Applications

- Spectrum Analysis for Millimeter Wave Frequencies
- Swept Frequency Response Measurements
- Power Level Measurements for Millimeter Wave Frequencies
- Harmonic Generator/Frequency up/down Conversion

For your local Tektronix representative see the list in the back of this catalog or outside the U.S. call: 1-503-627-1933, inside the U.S. call: 1-800-426-2200.



See Tektronix on the World Wide Web:  
<http://www.tek.com>



Tektronix Measurement products are manufactured in ISO registered facilities.

### WM782 Series Waveguide Mixers

The Tektronix WM782 Series are high-performance, broadband, zero DC bias, anti-parallel dual-diode type mixers designed specifically

for use with the Tektronix 2784. 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.

### Characteristics

Tektronix Model No.	Band Desig.	Freq. Range (GHz)	Sensitivity*1 (dBm)	Freq. Response*2 (dB)	Conv. Loss (dB)	1 dB Compression	Low-pass Cut-off Freq.*4
WM782A	A	26 to 40	-115	-	20	0 dBm	16 GHz
WM782Q	Q	33 to 50	-115	$\pm 3$	20	0 dBm	20 GHz
WM782U	U	40 to 60	-115	$\pm 3$	20	0 dBm	20 GHz
WM782V	V	50 to 75	-110	$\pm 3$	25	0 dBm	28 GHz
WM782E	E	60 to 90	-105	$\pm 3$ *3	35	0 dBm	28 GHz
WM782W	W	75 to 110	-105	$\pm 3$ *3	35	0 dBm	28 GHz
WM782F	F	90 to 140	-95	$\pm 3$ *3	40	0 dBm	32 GHz
WM782D	D	110 to 170	-90	$\pm 3$ *3	45	0 dBm	40 GHz
WM782G	G	140 to 220	-85	$\pm 3$ *3	60	0 dBm	40 GHz
WM782J	J	220 to 325	-75	$\pm 3$ *3	70	0 dBm	40 GHz

\*1 Equivalent average noise level using 2784 Spectrum Analyzer in 1 kHz resolution bandwidth.

\*2 Maximum amplitude variation across each waveguide mixer band using a 2784 Spectrum Analyzer.

\*3 Over any 5 GHz bandwidth for millimeter wave mixers above 60 GHz.

\*4 Low-pass filters in LO/IF path.

Tektronix Product	Waveguide (EIA)	(JAN)	Dimensions Flange LxWxH	Weight (g)
WM782A 26 to 40 GHz	WR-28	UG-599/U	9.525x2.54x4.32 in. 3.75x1.00x1.70 cm	113.4 4.0
WM782Q 33 to 50 GHz	WR-22	UG-383/U	8.89x2.54x4.32 in. 3.50x1.00x1.70 cm	113.4 4.0
WM782U 40 to 60 GHz	WR-19	UG-383/U-M	8.89x2.54x4.32 in. 3.50x1.00x1.70 cm	113.4 4.0
WM782V 50 to 75 GHz	WR-15	UG-385/U	8.89x2.54x4.32 in. 3.50x1.00x1.70 cm	113.4 4.0
WM782E 60 to 90 GHz	WR-12	UG-387/U	8.89x2.54x4.32 in. 3.50x1.00x1.70 cm	113.4 4.0
WM782W 75 to 110 GHz	WR-10	UG-387/U-M	8.89x2.54x4.32 in. 3.50x1.00x1.70 cm	113.4 4.0
WM782F *1 90 to 140 GHz	WR-08	UG-387/U-M	8.89x2.54x4.32 in. 3.50x1.00x1.70 cm	113.4 4.0
WM782D *1 110 to 170 GHz	WR-06	UG-387/U-M	8.89x2.54x4.32 in. 3.50x1.00x1.70 cm	113.4 4.0
WM782G *1 140 to 220 GHz	WR-05	UG-387/U-M	8.89x2.54x4.32 in. 3.50x1.00x1.70 cm	113.4 4.0
WM782J 220 to 325 GHz	WR-03	-	-	-

\*1 All mixers have standard UG-xxx/U-type flanges. MIL-F-3022-type flanges available in F, D, & G bands.

### ORDERING INFORMATION

For price information: Outside the U.S. contact your local Tektronix representative, inside the U.S. see the price list in the back of this catalog.

#### WM782 WAVEGUIDE MIXERS AND SETS

**26 to 40 GHz** – Order WM782A.

**33 to 50 GHz** – Order WM782Q.

**40 to 60 GHz** – Order WM782U.

**50 to 75 GHz** – Order WM782V.

**60 to 90 GHz** – Order WM782E.

**75 to 110 GHz** – Order WM782W.

**90 to 140 GHz** – Order WM782F.

**110 to 170 GHz** – Order WM782D.

**140 to 220 GHz** – Order WM782G.

**220 to 325 GHz** – Order WM782J.

**26 to 60 GHz Set** – Includes WM782A and WM782U. Order WM7826.

**26 to 90 GHz Set** – Includes WM7826 plus WM782E. Order WM7827.

**26 to 140 GHz Set** – Includes WM7827 plus WM782F. Order WM7828.

**26 to 220 GHz Set** – Includes WM7828 plus WM782G. Order WM7829.

**33 to 75 GHz Set** – Includes WM782Q and WM782V. Order WM78210.

**33 to 110 GHz Set** – Includes WM78210 plus WM782W. Order WM78211.

**33 to 170 GHz Set** – Includes WM78211 plus WM782D. Order WM78212.

**Cable** – Required for use. Order 012-1346-00.