



VDI Subharmonic Mixer Specifications

Product Name	WR15SHM	WR12SHM	WR10SHM	WR8.0SHM	WR6.5SHM	WR5.1SHM	WR4.3SHM	WR3.4SHM	WR2.8SHM
RF Input Frequency (GHz)	50-75	60-90	75-110	90-140	110-170	140-220	170-260	220-330	260-400
LO Input Frequency (GHz)	25-37.5	30-45	37.5-55	45-70	55-85	70-110	85-130	110-165	130-200
IF Output Frequency (GHz)	DC-10	DC-12	DC-15	DC-19	DC-24	DC-31	DC-36	DC-40	DC-40
RF Flange	WR-15 UG-387/U-M	WR-12 UG-387/U-M	WR-10.0 UG-387/U-M	WR-8.0 UG-387/U-M	WR-6.5 UG-387/U-M	WR-5.1 UG-387/U-M	WR-4.3 UG-387/U-M	WR-3.4 UG-387/U-M	WR-2.8 UG-387/U-M
LO Flange	2.9mm(f)	2.4mm(f)	1.85mm(f)**	WR-16.0 UG-387/U-M	WR-13.0 UG-387/U-M	WR-10.2 UG-387/U-M	WR-8.6 UG-387/U-M	WR-6.8 UG-387/U-M	WR-5.6 UG-387/U-M
DSB Conversion Loss (dB, typ.)*	7	7	7	7	7	7.5	8	8.5	9
DSB Noise Temperature (K, typ.)*	400-800	400-800	400-800	400-800	400-800	500-1000	600-1200	700-1400	800-1500
Recommended LO Power (dBm)	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6
RF Input Power (Optimal / Damage)	<-10dBm / 0dBm	<-10dBm / 0dBm	<-10dBm / 0dBm	<-10dBm / 0dBm	<-10dBm / 0dBm	<-10dBm / 0dBm	<-10dBm / 0dBm	<-10dBm / 0dBm	<-10dBm / 0dBm

Product Name	WR2.2SHM	WR1.9SHM	WR1.5SHM	WR1.2SHM					
RF Input Frequency (GHz)	330-500	400-600	500-750	600-900					
LO Input Frequency (GHz)	165-250	200-300	250-375	300-450					
IF Output Frequency (GHz)	DC-40	DC-40	DC-40	DC-40					
RF Flange	WR-2.2 UG-387/U-M	WR-1.9 UG-387/U-M	WR-1.5 UG-387/U-M	WR-1.2 UG-387/U-M					
LO Flange	WR-4.4 UG-387/U-M	WR-3.8 UG-387/U-M	WR-3.0 UG-387/U-M	WR-2.4 UG-387/U-M					
DSB Conversion Loss (dB, typ.)*	9.5	10	11	15					
DSB Noise Temperature (K, typ.)*	1000-2000	1200-2500	2000-5000	7500-15000					
Recommended LO Power (dBm)	4-7	4-7	4-7	4-8					
RF Input Power (Optimal / Damage)	<-10dBm / 0dBm	<-10dBm / 0dBm	<-10dBm / 0dBm	<-10dBm / 0dBm					

*Conversion Loss and Noise Temperature performance is specified at ~1GHz IF. Conversion Loss increases as a function of IF, at a rate of ~1.5dB/10GHz, up to the specified maximum IF.

**WR10SHMs can also be configured with WR-20 UG-383/U waveguide LO port (Part Number: WR10SHM-W).

General Notes:

- VDI provides individualized performance data for each component.
- The required LO power for optimal performance varies across the frequency band.
- Performance specifications assume optimal RF and LO power coupled into the mixer; performance may be reduced near band edges.
- Where available, an input isolator will smooth the required LO power vs. frequency.
- Standard configuration for SHMs includes a 2.9mm(f) IF connector. In the frequency bands WR2.8 and higher frequency, a 2.4mm(f) IF connector can yield slightly higher available IF. Contact VDI for more information.
- Higher IF bandwidth are available upon request. Contact VDI for more information.
- For WR1.5 and WR1.2 SHMs, VDI will only test over ~25% of operational BW. Please specify the desired frequency range. Additional testing can be purchased, contact VDI.

Typical data is available at www.vadiodes.com