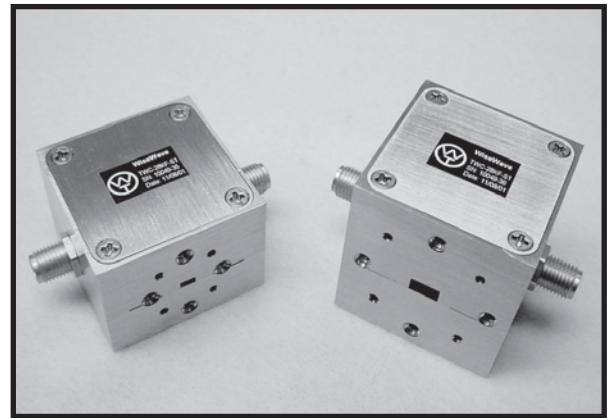


FEATURES

- ❖ Low conversion loss
- ❖ Low LO drive power
- ❖ I/Q IF outputs
- ❖ LO/RF in-line configuration
- ❖ Compact size

APPLICATIONS

- ❖ Distance detection
- ❖ Plasma analysis system
- ❖ Communication system



FPB Series

DESCRIPTION

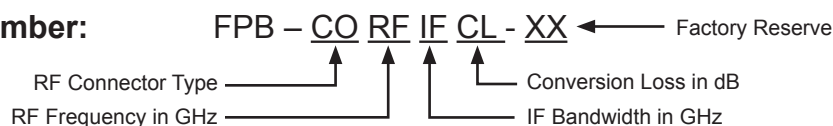
FPB series I/Q mixers are offered in seven waveguide bands to cover frequency spectrums from 18 to 110 GHz with 5 % minimum bandwidth. These mixers employ high performance GaAs Schottky beamlead diodes and balanced configuration to produce superior performance with moderate LO pumping level. The mixers are constructed with fully integrated 2 balanced mixers, 2 3-dB power splitters and phase shifters. These mixers offer high port to port isolation for most application without the requirement of additional filtering. These mixers are ideal candidates for critical distance measurement and specific modulation scheme in certain communication systems where phase information is required.

SPECIFICATIONS

| Waveguide Band | K | Ka | Q | U | V | E | W |
|-------------------------------|-----------------|-----------------|-----------|-----------|-----------|-----------|-----------|
| RF & LO Bandwidth (Min.) | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| Waveguide Size | WR-42 | WR-28 | WR-22 | WR-19 | WR-15 | WR-12 | WR-10 |
| RF & LO Frequency Range (GHz) | 18 to 26.5 | 26.5 to 40 | 33 to 50 | 40 to 60 | 50 to 75 | 60 to 90 | 75 to 110 |
| RF & LO Bandwidth | 5% | 5% | 5% | 5% | 5% | 5% | 5% |
| IF Frequency Range (GHz) | DC to 1.0 | DC to 1.0 | DC to 1.0 | DC to 1.0 | DC to 1.0 | DC to 1.0 | DC to 1.0 |
| LO Pumping Level (dBm) | 15 | 15 | 16 | 16 | 16 | 16 | 16 |
| Conversion Loss (dB, Typical) | 9.5 | 10.0 | 11.0 | 11.0 | 11.0 | 12.0 | 12.0 |
| IF I/Q Phase Error (Degree) | ± 10 | ± 10 | ± 10 | ± 10 | ± 10 | ± 10 | ± 10 |
| Outline Drawing | Consult Factory | Consult Factory | WT-F-4 | WT-F-4 | WT-F-4 | WT-F-4 | WT-F-4 |
| Port Isolation (dB, Typical) | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Maximum Input Signal Level | + 23 dBm | | | | | | |
| Temperature Range | 0 to +50°C | | | | | | |

HOW TO ORDER

Specify Model Number:



Example: To order a V band, 60 GHz I/Q mixer with 1 GHz IF frequency and 11.0 dB conversion loss, specify FPB-15600111-XX.

WT-F-1

| BAND | W | H |
|------|------|------|
| Ka | 0.75 | 1.25 |
| K | 0.88 | 1.33 |

Dimensions are in inches

WT-F-2

| BAND | Q & U | V,E & W |
|------|-------|---------|
| H | 0.72 | 0.65 |

Dimensions are in inches

WT-F-3

| BAND | W | L | LW |
|---------|------|------|------|
| K | 0.88 | 1.25 | 0.81 |
| Ka | 0.75 | 1.00 | 0.63 |
| Q & U | 1.13 | 1.50 | 0.94 |
| V,E & W | 0.75 | 1.16 | 0.78 |

Dimensions are in inches

WT-F-4

| BAND | Q & U | V,E & W |
|------|-------|---------|
| H | 1.25 | 0.88 |
| W | 1.40 | 1.25 |

Dimensions are in inches

WT-F-5

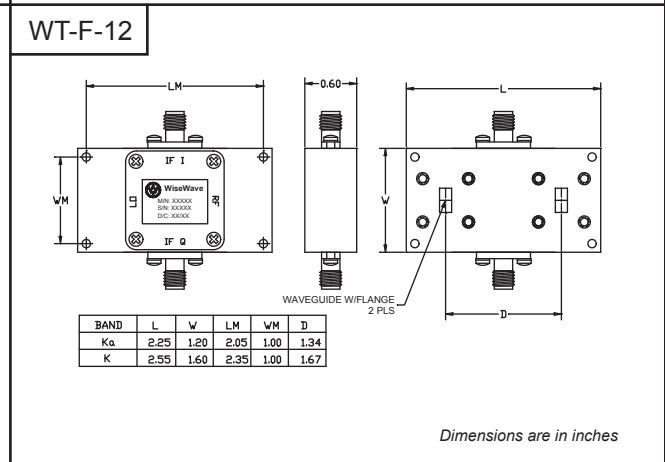
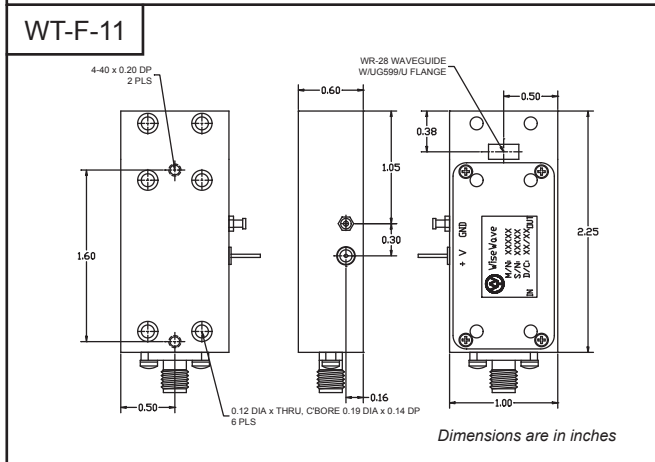
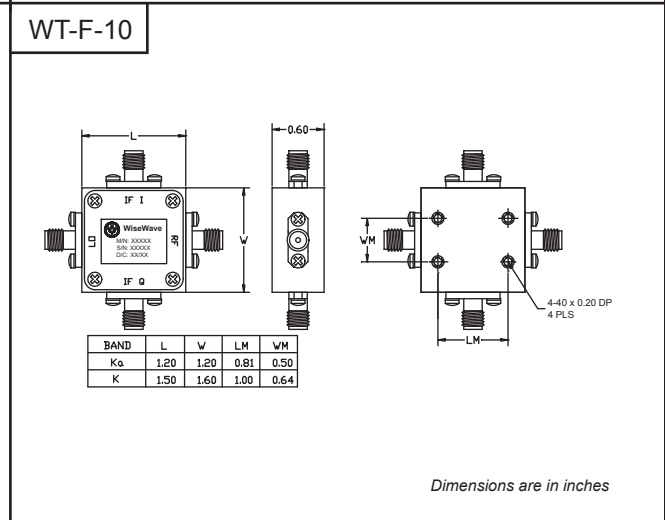
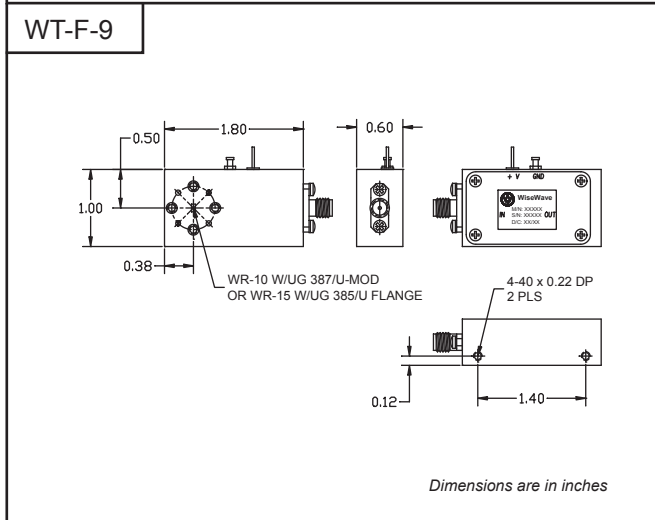
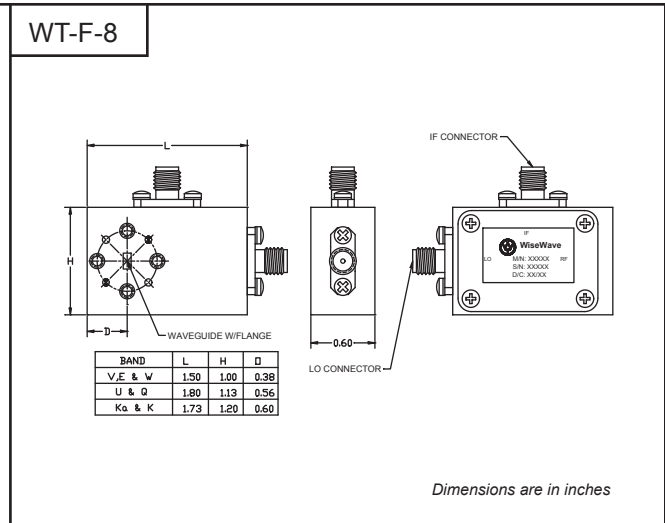
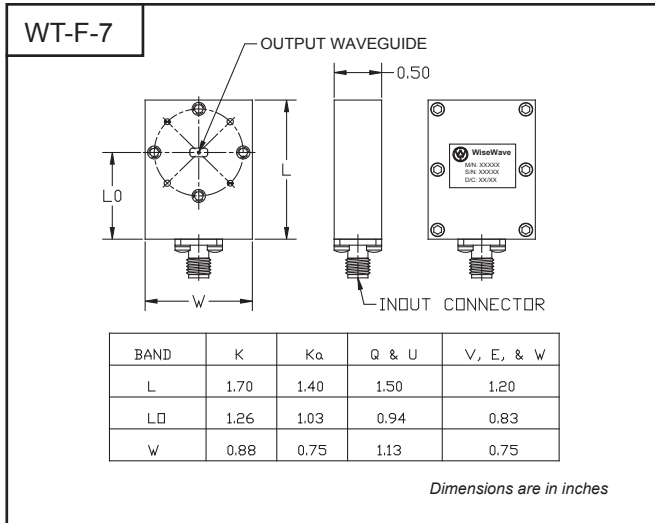
| BAND | L | H |
|---------|------|------|
| V,E & W | 1.50 | 1.00 |
| Ka & K | 1.73 | 1.20 |

Dimensions are in inches

WT-F-6

Dimensions are in inches

The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details. The outline drawings shown are standard versions. Contact factory for your specific package requirements.



The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details. The outline drawings shown are standard versions. Contact factory for your specific package requirements.