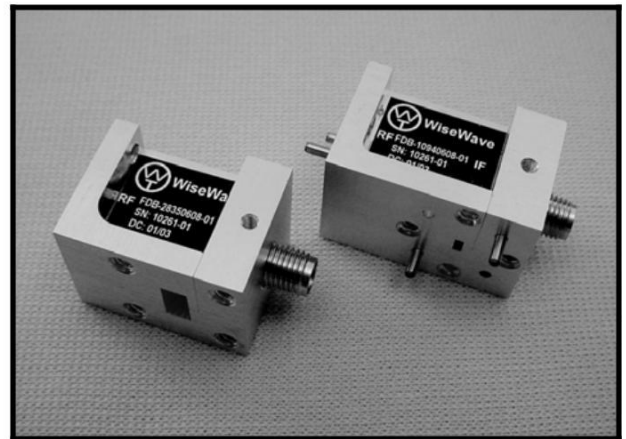


## FEATURES

- ❖ Low conversion loss
- ❖ Low LO drive power
- ❖ Full waveguide band operation
- ❖ Compact and rugged package

## APPLICATIONS

- ❖ Test equipment
- ❖ Communication systems
- ❖ Radar receivers



FDB Series

## DESCRIPTION

FDB series balanced mixers are offered in seven waveguide bands to cover frequency spectra from 18 to 110 GHz. These mixers employ high performance GaAs Schottky beamlead diodes and balanced configuration to produce superior performance with a moderate LO pumping level. The mixers are designed for full RF waveguide band operation with extremely wide IF bandwidth. Better performance can be obtained by operating the mixers in narrower bandwidth. These mixers are ideal candidates for test equipment, communication systems and Radar receivers where frequency down conversion is required.

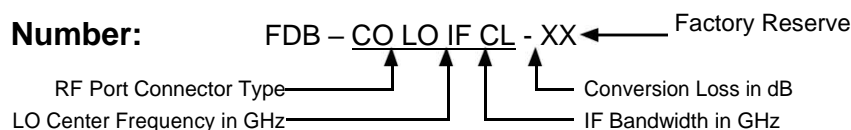
## FULL BAND MODEL SPECIFICATIONS

| Waveguide Band                | K          | Ka         | Q         | U         | V         | E         | W         |
|-------------------------------|------------|------------|-----------|-----------|-----------|-----------|-----------|
| Waveguide Size                | WR-42      | WR-28      | WR-22     | WR-19     | WR-15     | WR-12     | WR-10     |
| Model Number                  | FDB-42-01  | FDB-28-01  | FDB-22-01 | FDB-19-01 | FDB-15-01 | FDB-12-01 | FDB-10-01 |
| 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 |
| IF Frequency Range (GHz)      | DC to 8    | DC to 14   | DC to 17  | DC to 18  | DC to 18  | DC to 18  | DC to 18  |
| LO Pumping Level (dBm)        | 10 to 13   | 10 to 13   | 10 to 13  | 10 to 13  | 10 to 13  | 10 to 13  | 10 to 13  |
| Conversion Loss (dB, Typical) | 6.0        | 6.5        | 7.0       | 7.5       | 8.0       | 8.5       | 9.0       |
| Port Isolation (dB, Typical)  | 20         | 20         | 20        | 20        | 20        | 20        | 20        |
| Input Signal Level (max)      | +17.0 dBm  |            |           |           |           |           |           |
| Outline                       | WT-F-3     | WT-F-3     | WT-F-3    | WT-F-3    | WT-F-3    | WT-F-3    | WT-F-3    |
| Temperature Range             | 0 to +50°C |            |           |           |           |           |           |

## NARROW BAND MODELS

The lower cost model with narrow operating bandwidth. Customer may submit the specifications along with the model number per following instruction.

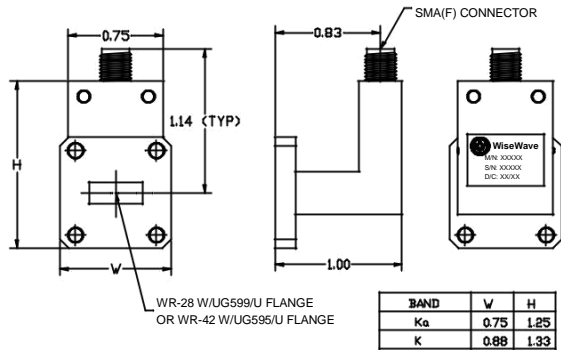
### Specify Model Number:



Example: To order a V band balanced mixer with 60 GHz LO frequency, 2 GHz IF bandwidth and 7 dB conversion loss, specify FDB-15600207-XX.

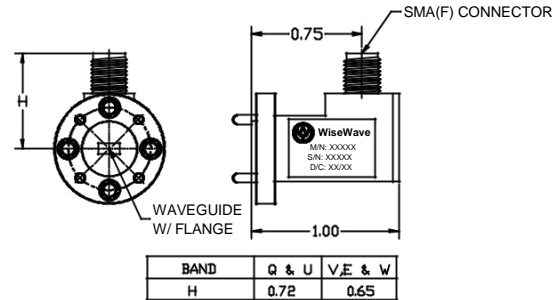
# Frequency Converter Outline Drawings #1

WT-F-1



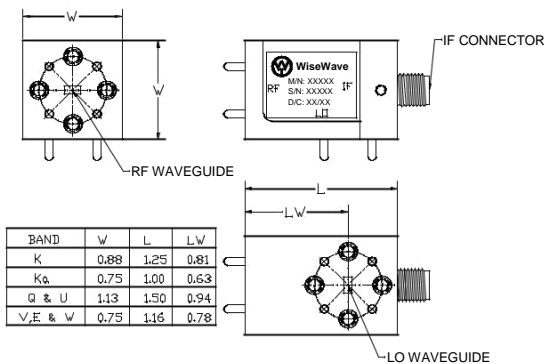
Dimensions are in inches

WT-F-2



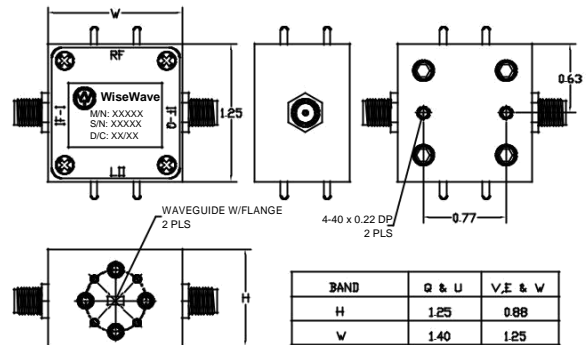
Dimensions are in inches

WT-F-3



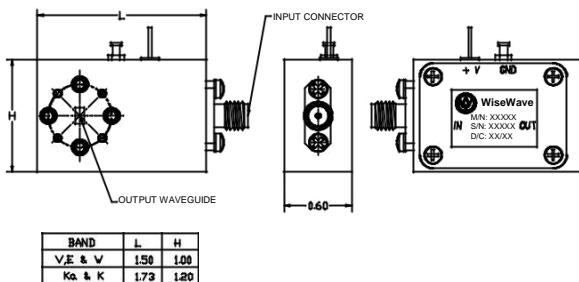
Dimensions are in inches

WT-F-4



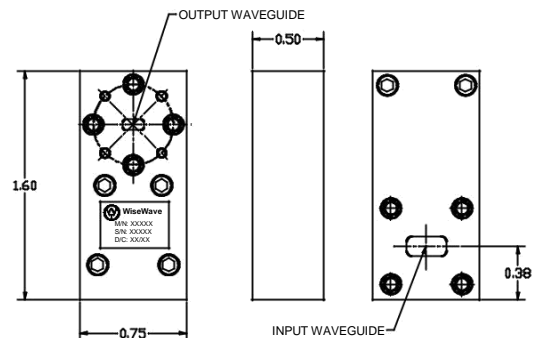
Dimensions are in inches

WT-F-5



Dimensions are in inches

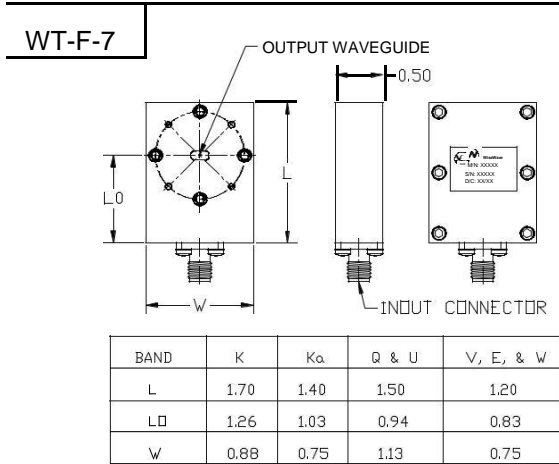
WT-F-6



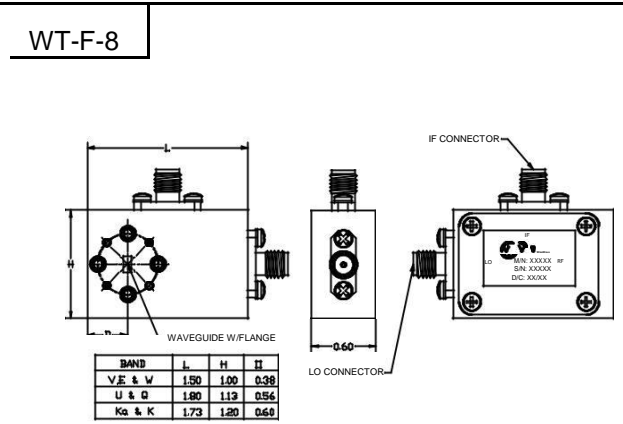
Dimensions are in inches

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.

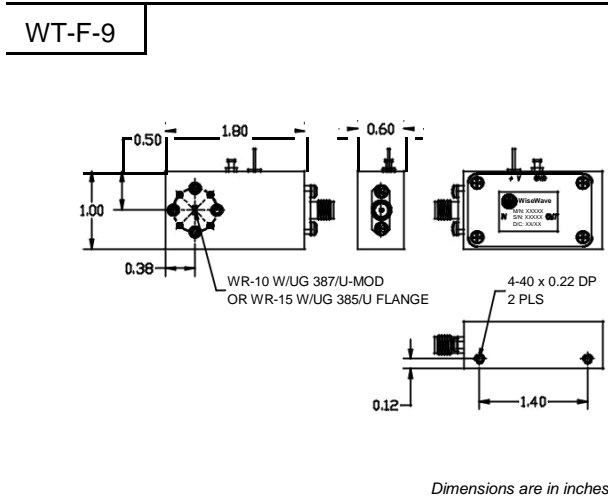
# Frequency Converter Outline Drawings #2



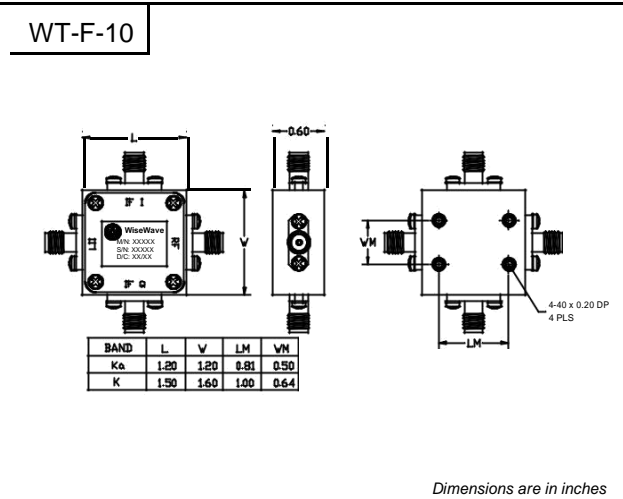
Dimensions are in inches



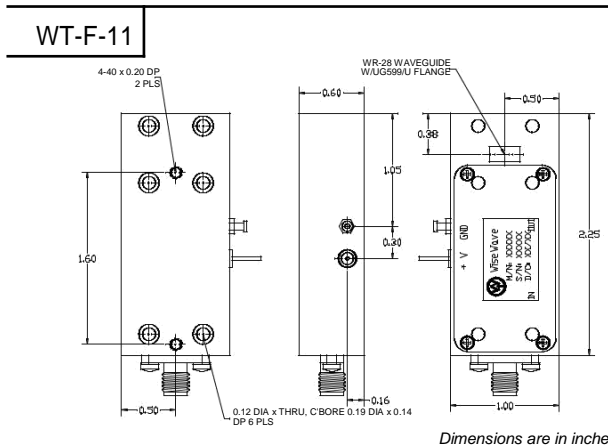
Dimensions are in inches



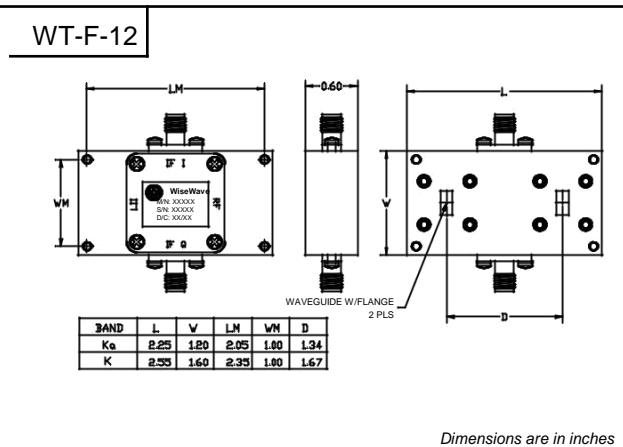
Dimensions are in inches



Dimensions are in inches



Dimensions are in inches



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.