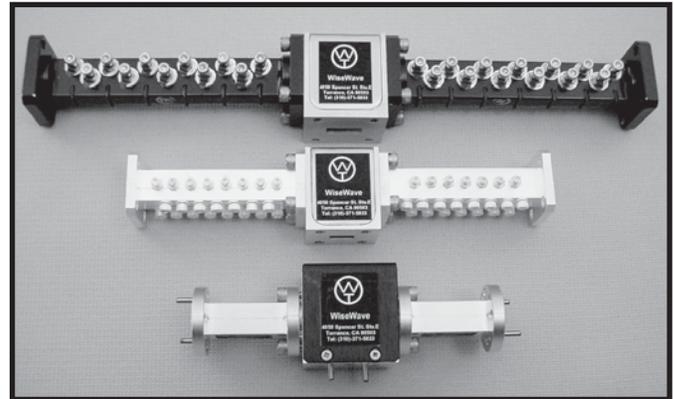


FEATURES

- ❖ High Isolation
- ❖ Low insertion loss
- ❖ Rugged mechanical construction

APPLICATIONS

- ❖ Outdoor Units
- ❖ Transceivers
- ❖ Subsystems



PDC Series

DESCRIPTION

PDC series waveguide diplexers are available in major communication frequency bands. Existing products offer narrow frequency band to cover common North American point-to-point digital radio frequency bands and unlicensed communication bands from 18 to 65 GHz. These diplexers consist of two bandpass filters (BPF) and a circulator. The critical element, BPF, can be constructed with either E plane configuration by using proprietary simulation tool and fabricated by conventional low cost printed circuit techniques or more conventional cavity structure. The diplexers with E-plane configuration require no tuning, which allows low cost, high volume production, while cavity structure offer design flexibility, quick prototyping and higher performance. Typical insertion loss is from 1.0 to 2.0 dB, depending on the channel bandwidth and isolation. The frequency stability is around -0.4 MHz/°C with low cost aluminum housing. Some of products' performance is illustrated as follows. Other frequency bands and performance are available upon request.

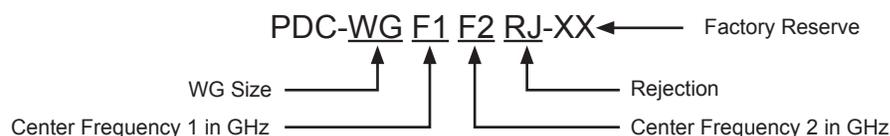
7

SPECIFICATIONS

| Item | Model Number | Waveguide Size | Center Freq. (GHz) | Bandwidth (MHz) | Insertion Loss (dB) | Channel Isolation (dB) | VSWR (Typ) |
|------|-----------------|----------------|--------------------|-----------------|---------------------|------------------------|------------|
| 1 | PDC-42181940-01 | WR-42 | 17.90/18.90 | 400 | 1.5 | 40 | 1.25 |
| 2 | PDC-42181940-11 | WR-42 | 18.20/19.20 | 400 | 1.5 | 40 | 1.25 |
| 3 | PDC-42181940-21 | WR-42 | 18.50/19.50 | 600 | 1.2 | 40 | 1.25 |
| 4 | PDC-34283140-01 | WR-34 | 27.75/31.15 | 700 | 1.2 | 40 | 1.25 |
| 5 | PDC-28373840-01 | WR-28 | 37.00/38.00 | 350 | 1.8 | 40 | 1.25 |
| 6 | PDC-28383940-01 | WR-28 | 37.50/38.50 | 350 | 1.8 | 40 | 1.25 |
| 7 | PDC-28394040-01 | WR-28 | 38.50/39.50 | 350 | 1.8 | 40 | 1.25 |
| 8 | PDC-15586240-01 | WR-15 | 58.00/62.00 | 500 | 2.0 | 40 | 1.25 |

HOW TO ORDER

Specify Model Number



Example: To order a WR-22 diplexer with 40GHz for receiver channel and 42 GHz for transmitter channel and rejection 40 dB, specify PDC-22404240-XX.

WT-E-1

| BAND | L | H | A | H0 |
|----------------|------|------|------|------|
| K | 1.20 | 1.04 | 1.00 | 0.44 |
| K _a | 1.00 | 0.88 | 0.85 | 0.38 |
| Q & U | 1.40 | 1.27 | 1.16 | 0.57 |
| V,E & W | 1.00 | 0.88 | 0.80 | 0.38 |

Dimensions are in inches

WT-E-2

| BAND | K | K _a | Q & U | V,E & W |
|------|-------------------------|----------------|-------|---------|
| L | Vary per Specifications | | | |

Dimensions are in inches

WT-E-3

High Pass

| BAND | K | K _a | Q & U | V,E & W |
|------|------|----------------|-------|---------|
| L | 3.00 | 2.60 | 2.20 | 1.80 |

Dimensions are in inches

WT-E-4

Low Pass

| BAND | K | K _a | Q & U | V,E & W |
|------|------|----------------|-------|---------|
| L | 3.00 | 2.50 | 2.00 | 1.60 |

Dimensions are in inches

WT-E-5

| BAND | X | WR-75 | WR-62 | K/WR-34 | K _a , Q & U | V |
|------|------|-------|-------|---------|------------------------|------|
| L | 1.40 | 1.25 | 1.20 | 0.85 | 1.00 | 1.05 |
| L0 | 1.00 | 0.90 | 0.95 | 0.60 | 0.75 | 0.80 |

NOTES:
BOTH MALE AND FEMALE COAXIAL CONNECTORS ARE AVAILABLE FOR ALL BANDS

Dimensions are in inches

WT-E-6

| PTW | BIGGER WAVEGUIDE BAND | | | | | | |
|-----|-----------------------|----------------|------|------|------|------|--|
| | K | K _a | Q | U | V | E | |
| L | 2.00 | 2.00 | 1.50 | 1.50 | 1.00 | 1.00 | |

| PRC | RECTANGULAR WG BAND | | | | | | |
|-----|---------------------|----------------|------|------|------|------|------|
| | K | K _a | Q | U | V | E | W |
| L | 2.00 | 1.50 | 1.30 | 1.30 | 1.10 | 1.10 | 1.10 |

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.

WT-E-7

| BAND | K | K _a | Q | U | V | E | W |
|------|------|----------------|------|------|------|------|------|
| L | 1.20 | 1.00 | 1.30 | 1.30 | 1.00 | 1.00 | 1.00 |
| W | 1.20 | 1.00 | 1.30 | 1.30 | 1.00 | 1.00 | 1.00 |
| H | 1.06 | 0.90 | 1.25 | 1.23 | 0.83 | 0.82 | 0.81 |

Dimensions are in inches

WT-E-8

| Band | X | WR-75 | K _u | K | K _a | Q | U | V | E | W |
|------|------|-------|----------------|------|----------------|------|------|------|------|------|
| L | 5.46 | 4.80 | 4.66 | 4.24 | 3.46 | 3.26 | 2.66 | 2.56 | 2.56 | 2.46 |
| A | 1.73 | 1.65 | 1.58 | 1.52 | 1.23 | 1.23 | 0.98 | 0.98 | 0.98 | 0.98 |
| D | 0.45 | 0.43 | 0.35 | 0.21 | 0.18 | 0.15 | 0.13 | 0.11 | 0.10 | 0.09 |
| H | 3.46 | 3.30 | 3.16 | 3.04 | 2.46 | 2.46 | 1.96 | 1.96 | 1.96 | 1.96 |

Dimensions are in inches

WT-E-9

| BAND | Q | U | V | E | W |
|------|------|------|------|------|------|
| L | 5.50 | 5.50 | 3.50 | 3.50 | 3.50 |
| W | 1.30 | 1.30 | 1.00 | 1.00 | 1.00 |
| H | 1.25 | 1.23 | 0.83 | 0.82 | 0.81 |
| A | 0.80 | 0.80 | 0.60 | 0.60 | 0.60 |

Dimensions are in inches

WT-E-10

| Band | X | WR-75 | K _u | K | K _a | Q | U | V | E | W |
|------|-------|-------|----------------|-------|----------------|------|------|------|------|------|
| L | 19.50 | 16.50 | 13.00 | 11.00 | 10.00 | 8.00 | 6.50 | 6.00 | 5.50 | 5.00 |
| A | 1.90 | 1.85 | 1.75 | 1.50 | 1.40 | 1.20 | 1.20 | 1.00 | 1.00 | 1.00 |
| B | 0.95 | 0.95 | 0.90 | 0.70 | 0.60 | 0.70 | 0.70 | 0.60 | 0.60 | 0.60 |
| D | 0.45 | 0.43 | 0.35 | 0.21 | 0.18 | 0.15 | 0.13 | 0.11 | 0.10 | 0.09 |

Dimensions are in inches

WT-E-11

Dimensions are in inches

WT-E-12

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.