

# BAND PASS-BAND REJECT BASE STATION DUPLEXERS

## 136 - 960 MHz

DVN Series

### Product Features

Fiplex DVN Series are efficient duplexers, made of four or six round coaxial cavities, able to be installed in a 19" cabinet. These duplexers are intended to be used in high power applications, or when there is small Tx-Rx separation. Around the pass frequencies, these duplexers display a quasi band pass response, providing an additional selectivity that protects the receiver against interferences and reduces the noise and spurious emission of the transmitter.

TEM coaxial resonant cavities area 4" O.D. ("L" type) , and models ending in "/3" use  $\frac{3}{4}$  wavelength coaxial resonators in order to improve the Q factor of the cavity.

Good thermal stability is obtained by a fine design an by the use of INVAR rods to control the tuning of each resonator. In order to have a long life performance, inner copper lines are silver plated and the outer aluminum conductors are passivated.

Duplexers are supplied with mounting brackets for 19" racks. Standard connectors are N female.



### Specifications

|                                    | DVN1522L                                         | DVN1533L                                         |
|------------------------------------|--------------------------------------------------|--------------------------------------------------|
| Frequency Range                    | 136 - 174 MHz                                    | 136 - 174 MHz                                    |
| Cavity O.D.                        | 4 inches                                         | 4 inches                                         |
| Number fo cavities in each section | 2                                                | 3                                                |
| Tx-Rx Separation, Min              | 0.6 MHz                                          | 0.5 MHz                                          |
| Tx-Rx Separation, Typ              | 2.0 MHz                                          | 2.0 MHz                                          |
| Continuous Power Input, Max        | 150 W                                            | 150 W                                            |
| Insertion Loss Tx - Antenna Max    | 1.5 dB @ 0.6 MHz split<br>1.0 dB @ 2.0 MHz split | 1.5 dB @ 0.5 MHz split<br>1.0 dB @ 5.0 MHz split |
| Insertion Loss Antenna - Rx Max    | 1.5 dB @ 0.6 MHz split<br>1.0 dB @ 2.0 MHz split | 1.5 dB @ 0.5 MHz split<br>1.0 dB @ 5.0 MHz split |
| Tx Noise Rejection at Rx Freq. Max | 75 dB @ 0.6 MHz split<br>85 dB @ 2.0 MHz split   | 85 dB @ 0.5 MHz split<br>95 dB @ 2.0 MHz split   |
| Rx-Tx Isolation at Tx Freq. Max    | 75 dB @ 0.5 MHz split<br>85 dB @ 2.0 MHz split   | 80 dB @ 0.5 MHz split<br>95 dB @ 2.0 MHz split   |
| RL                                 | 22 dB                                            | 22 dB                                            |
| Connectors, Standard Type          | N(f)                                             | N(f)                                             |
| Temperature range                  | -22° to 140° F • -30° to +60° C                  | -22° to 140° F • -30° to +60° C                  |
| Dimension                          | 34.3 x 19 x 5 inches • 870 x 482.6 x 127 mm      | 34.3 x 19 x 10 inches • 870 x 482.6 x 254 mm     |
| Weight                             | 17.2 lbs • 7.8 kg                                | 30 lbs • 13.6 kg                                 |

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# BAND PASS-BAND REJECT BASE STATION DUPLEXERS

## 136 - 960 MHz

**DVN Series**

| Specifications                     | DVN2522L                                         | DVN 2533L                                        |
|------------------------------------|--------------------------------------------------|--------------------------------------------------|
| Frequency Range                    | 200 – 300 MHz                                    | 200 – 300 MHz                                    |
| Cavity O.D.                        | 4 inches                                         | 4 inches                                         |
| Number fo cavities in each section | 2                                                | 3                                                |
| Tx–Rx Separation, Min              | 1.0 MHz                                          | 0.8 MHz                                          |
| Tx–Rx Separation, Typ              | 5.0 MHz                                          | 3.0 MHz                                          |
| Continuous Power Input, Max        | 150 W                                            | 150 W                                            |
| Insertion Loss Tx - Antenna Max    | 1.5 dB @ 1.0 MHz split<br>0.9 dB @ 5.0 MHz split | 1.5 dB @ 0.8 MHz split<br>1.1 dB @ 3.0 MHz split |
| Insertion Loss Antenna - Rx Max    | 1.5 dB @ 1.0 MHz split<br>0.9 dB @ 5.0 MHz split | 1.5 dB @ 0.8 MHz split<br>1.1 dB @ 3.0 MHz split |
| Tx Noise Rejection at Rx Freq. Max | 75 dB @ 1.0 MHz split<br>90 dB @ 5.0 MHz split   | 90 dB @ 0.8 MHz split<br>95 dB @ 3.0 MHz split   |
| Rx-Tx Isolation at Tx Freq. Max    | 75 dB @ 1.0 MHz split<br>75 dB @ 1.0 MHz split   | 90 dB @ 0.8 MHz split<br>95 dB @ 3.0 MHz split   |
| RL                                 | 22 dB                                            | 22 dB                                            |
| Connectors, Standard Type          | N(f)                                             | N(f)                                             |
| Temperature range                  | -22° to 140° F • -30° to +60° C                  | -22° to 140° F • -30° to +60° C                  |
| Dimension                          | 27 x 19 x 5 inches • 686 x 482.6 x 127 mm        | 27 x 19 x 10 inches • 686 x 482.6 x 254 mm       |
| Weight                             | 15.5 lbs • 7 kg                                  | 26.5 lbs • 12 kg                                 |

| Specifications                     | DVN 3522L                                        | DVN3533L                                         | DVN4522L                                         |
|------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|
| Frequency Range                    | 300 – 400 MHz                                    | 300-400 MHz                                      | 400 – 520 MHz                                    |
| Cavity O.D.                        | 4 inches                                         | 4 inches                                         | 4 inches                                         |
| Number fo cavities in each section | 2                                                | 3                                                | 2                                                |
| Tx–Rx Separation, Min              | 3.0 MHz                                          | 1.0 MHz                                          | 3.0 MHz                                          |
| Tx–Rx Separation, Typ              | 5.0 MHz                                          | 3.0 MHz                                          | 5.0 MHz                                          |
| Continuous Power Input, Max        | 150 W                                            | 150 W                                            | 150 W                                            |
| Insertion Loss Tx - Antenna Max    | 1.5 dB @ 3.0 MHz split<br>0.9 dB @ 5.0 MHz split | 1.5 dB @ 1.0 MHz split<br>1.1 dB @ 3.0 MHz split | 1.1 dB @ 3.0 MHz split<br>0.9 dB @ 5.0 MHz split |
| Insertion Loss Antenna - Rx Max    | 1.5 dB @ 3.0 MHz split<br>0.9 dB @ 5.0 MHz split | 1.5 dB @ 1.0 MHz split<br>1.1 dB @ 3.0 MHz split | 1.1 dB @ 3.0 MHz split<br>0.9 dB @ 5.0 MHz split |
| Tx Noise Rejection at Rx Freq. Max | 75 dB @ 3.0 MHz split<br>90 dB @ 5.0 MHz split   | 75 dB @ 3.0 MHz split<br>100 dB @3.0 MHz split   | 75 dB @ 3.0 MHz split<br>85 dB @ 5.0 MHz split   |
| Rx-Tx Isolation at Tx Freq. Max    | 75 dB @ 3.0 MHz split<br>90 dB @ 5.0 MHz split   | 75 dB @ 3.0 MHz split<br>100 dB @3.0 MHz split   | 75 dB @ 3.0 MHz split<br>85 dB @ 5.0 MHz split   |
| RL                                 | 22 dB                                            | 22 dB                                            | 22 dB                                            |
| Connectors, Standard Type          | N(f)                                             | N(f)                                             | N(f)                                             |
| Temperature range                  | -22° to 140° F • -30° to +60° C                  | -22° to 140° F • -30° to +60° C                  | -22° to 140° F • -30° to +60° C                  |
| Dimension                          | 17 x19 x5 in • 432x482.6x127 mm                  | 17x19x10 in • 432x482.6x254 mm                   | 16x19x5 in • 406x482.6x127 mm                    |
| Weight                             | 11 lbs • 5 kg                                    | 17 lbs • 8kg                                     | 8.8 lbs • 4 kg                                   |

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## 136 - 960 MHz

**DVN Series**

| Specifications                     | DVN4533L                        | DVN 9022/3L                     | DVN9033/3L                      |
|------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Frequency Range                    | 400 – 520 MHz                   | 800 – 960 MHz                   | 800 - 960 MHz                   |
| Cavity O.D.                        | 4 inches                        | 4 inches                        | 4 inches                        |
| Number fo cavities in each section | 3                               | 2                               | 3                               |
| Tx–Rx Separation, Min              | 1.0 MHz                         | 3.6 MHz split                   | 3.6 MHz split                   |
| Tx–Rx Separation, Typ              | 3.0 MHz                         | 45.0 MHz split                  | 45 MHz split                    |
| Continuous Power Input, Max        | 150 W                           | 150 W                           | 150 W                           |
| Insertion Loss Tx - Antenna Max    | 1.8 dB @ 1.0 MHz split          | 1.3 dB @ 3.6 MHz split          | 1.5 dB @ 3.6 MHz split          |
|                                    | 1.5 dB @ 3.0 MHz split          | 0.5 dB @ 45.0 MHz split         | 0.7 dB @ 45.0 MHz split         |
| Insertion Loss Antenna - Rx Max    | 1.8 dB @ 1.0 MHz split          | 1.3 dB @ 3.6 MHz split          | 1.5 dB @ 3.6 MHz split          |
|                                    | 1.5 dB @ 3.0 MHz split          | 0.5 dB @ 45.0 MHz split         | 0.7 dB @ 45.0 MHz split         |
| Tx Noise Rejection at Rx Freq. Max | 75 dB @ 1.0 MHz split           | 75 dB @ 3.6 MHz split           | 85 dB @ 3.6 MHz split           |
|                                    | 90 dB @ 3.0 MHz split           | 90 dB @ 45.0 MHz split          | 100 dB @ 45.0 MHz split         |
| Rx-Tx Isolation at Tx Freq. Max    | 75 dB @ 1.0 MHz split           | 75 dB @ 3.6 MHz split           | 85 dB @ 3.6 MHz split           |
|                                    | 90 dB @ 3.0 MHz split           | 90 dB @ 45.0 MHz split          | 100 dB @ 45.0 MHz split         |
| RL                                 | 22 dB                           | 22 dB                           | 22 dB                           |
| Connectors, Standard Type          | N(f)                            | N(f)                            | N(f)                            |
| Temperature range                  | -22° to 140° F • -30° to +60° C | -22° to 140° F • -30° to +60° C | -22° to 140° F • -30° to +60° C |
| Dimension (No Rods Included)       | 16x19x10 in • 406x482.6x254 mm  | 6.6x19x5 in • 167x482.6x127 mm  | 17x19x10 in • 432x482.6x254 mm  |
| Weight                             | 15.2 lbs • 6.9 kg               | 11 lbs • 5 kg                   | 17 lbs • 6 kg                   |