

# Bi-Directional Coupler

# SYBDC-15-52VHP+

## Typical Performance Data

| FREQ.<br>(MHz) | INSERTION LOSS |         | COUPLING |         | DIRECTIVITY |         | RETURN LOSS |       |       |       |
|----------------|----------------|---------|----------|---------|-------------|---------|-------------|-------|-------|-------|
|                | (dB)           |         | (dB)     |         | (dB)        |         | (dB)        |       |       |       |
|                | IN-OUT         | FWD-REV | IN-FWD   | OUT-REV | IN-REV      | OUT-FWD | IN          | OUT   | FWD   | REV   |
| 1              | 0.32           | 0.42    | 14.98    | 14.98   | 19.82       | 22.72   | 20.43       | 20.81 | 17.51 | 17.84 |
| 2              | 0.36           | 0.46    | 15.03    | 15.00   | 20.02       | 23.14   | 25.18       | 27.41 | 22.19 | 24.01 |
| 3              | 0.38           | 0.47    | 15.05    | 15.01   | 20.09       | 23.18   | 26.50       | 30.31 | 23.43 | 26.53 |
| 4              | 0.38           | 0.47    | 15.06    | 15.01   | 20.14       | 23.21   | 27.16       | 32.06 | 24.02 | 27.89 |
| 6              | 0.37           | 0.46    | 15.05    | 15.00   | 20.05       | 23.18   | 28.12       | 34.60 | 24.83 | 29.88 |
| 8              | 0.35           | 0.44    | 15.04    | 14.99   | 19.99       | 23.20   | 28.56       | 36.04 | 25.35 | 31.17 |
| 10             | 0.35           | 0.43    | 15.03    | 14.99   | 19.93       | 23.17   | 29.09       | 37.43 | 25.82 | 32.35 |
| 20             | 0.33           | 0.40    | 15.01    | 14.97   | 19.80       | 23.18   | 30.27       | 40.73 | 26.90 | 35.45 |
| 30             | 0.32           | 0.39    | 15.01    | 14.97   | 19.74       | 23.20   | 30.99       | 41.35 | 27.51 | 37.38 |
| 40             | 0.32           | 0.38    | 15.00    | 14.97   | 19.66       | 23.21   | 31.46       | 41.81 | 27.91 | 38.70 |
| 50             | 0.31           | 0.38    | 15.00    | 14.97   | 19.65       | 23.26   | 31.75       | 41.80 | 28.19 | 39.63 |
| 60             | 0.32           | 0.38    | 15.01    | 14.98   | 19.63       | 23.31   | 32.06       | 41.81 | 28.36 | 40.19 |
| 70             | 0.32           | 0.38    | 15.01    | 14.99   | 19.60       | 23.33   | 32.30       | 41.85 | 28.46 | 40.74 |
| 80             | 0.32           | 0.39    | 15.01    | 15.00   | 19.52       | 23.30   | 32.42       | 42.16 | 28.60 | 41.49 |
| 90             | 0.32           | 0.39    | 15.02    | 15.00   | 19.50       | 23.30   | 32.60       | 41.97 | 28.71 | 41.88 |
| 100            | 0.33           | 0.39    | 15.02    | 15.01   | 19.57       | 23.29   | 33.02       | 40.92 | 28.89 | 41.55 |
| 110            | 0.33           | 0.39    | 15.02    | 15.01   | 19.48       | 23.33   | 33.04       | 41.04 | 28.91 | 41.79 |
| 120            | 0.33           | 0.39    | 15.02    | 15.02   | 19.23       | 23.54   | 32.79       | 41.73 | 28.79 | 42.50 |
| 130            | 0.33           | 0.39    | 15.02    | 15.03   | 19.09       | 23.65   | 32.89       | 41.18 | 28.93 | 43.22 |
| 140            | 0.33           | 0.40    | 15.02    | 15.04   | 19.18       | 23.44   | 33.75       | 40.17 | 29.69 | 43.82 |
| 150            | 0.34           | 0.40    | 15.02    | 15.04   | 19.27       | 23.22   | 34.74       | 39.49 | 30.36 | 44.17 |
| 160            | 0.34           | 0.40    | 15.03    | 15.05   | 19.24       | 23.28   | 34.99       | 39.28 | 30.36 | 44.24 |
| 170            | 0.34           | 0.40    | 15.03    | 15.06   | 19.17       | 23.43   | 35.07       | 39.18 | 30.15 | 44.19 |
| 180            | 0.35           | 0.41    | 15.03    | 15.06   | 19.09       | 23.55   | 34.99       | 39.28 | 29.96 | 44.14 |
| 190            | 0.35           | 0.41    | 15.03    | 15.07   | 19.06       | 23.61   | 35.20       | 39.20 | 29.98 | 44.16 |
| 200            | 0.35           | 0.41    | 15.03    | 15.08   | 19.04       | 23.64   | 35.65       | 38.68 | 30.19 | 44.39 |
| 210            | 0.35           | 0.41    | 15.03    | 15.08   | 19.00       | 23.66   | 36.09       | 38.33 | 30.42 | 44.47 |
| 220            | 0.36           | 0.42    | 15.03    | 15.09   | 18.96       | 23.69   | 36.42       | 38.18 | 30.63 | 44.66 |
| 230            | 0.36           | 0.42    | 15.03    | 15.10   | 18.91       | 23.69   | 36.88       | 37.95 | 30.91 | 45.02 |
| 240            | 0.36           | 0.42    | 15.02    | 15.11   | 18.86       | 23.67   | 37.33       | 37.75 | 31.26 | 45.09 |
| 250            | 0.36           | 0.43    | 15.02    | 15.12   | 18.80       | 23.71   | 37.78       | 37.70 | 31.49 | 45.20 |
| 260            | 0.37           | 0.43    | 15.02    | 15.13   | 18.73       | 23.75   | 38.16       | 37.76 | 31.57 | 45.13 |
| 270            | 0.38           | 0.44    | 15.02    | 15.13   | 18.73       | 23.69   | 38.64       | 37.49 | 31.80 | 45.70 |
| 280            | 0.38           | 0.44    | 15.02    | 15.14   | 18.71       | 23.63   | 39.07       | 37.09 | 32.09 | 46.27 |
| 290            | 0.38           | 0.44    | 15.01    | 15.14   | 18.67       | 23.65   | 39.60       | 36.67 | 32.41 | 46.29 |
| 300            | 0.38           | 0.45    | 15.01    | 15.15   | 18.57       | 23.69   | 39.93       | 36.51 | 32.56 | 46.07 |
| 310            | 0.39           | 0.45    | 15.01    | 15.16   | 18.51       | 23.71   | 40.36       | 36.36 | 32.73 | 46.20 |
| 320            | 0.39           | 0.46    | 15.00    | 15.16   | 18.48       | 23.67   | 40.82       | 36.03 | 33.07 | 46.58 |
| 330            | 0.40           | 0.46    | 15.00    | 15.17   | 18.45       | 23.65   | 41.41       | 35.65 | 33.42 | 46.61 |
| 340            | 0.40           | 0.46    | 14.99    | 15.17   | 18.42       | 23.61   | 41.85       | 35.27 | 33.80 | 46.19 |
| 350            | 0.40           | 0.47    | 14.99    | 15.18   | 18.38       | 23.59   | 42.42       | 35.08 | 34.13 | 46.09 |
| 360            | 0.41           | 0.47    | 14.98    | 15.18   | 18.33       | 23.58   | 43.22       | 34.82 | 34.38 | 45.69 |
| 370            | 0.41           | 0.48    | 14.98    | 15.19   | 18.27       | 23.54   | 43.56       | 34.65 | 34.65 | 45.70 |
| 380            | 0.42           | 0.48    | 14.97    | 15.19   | 18.21       | 23.51   | 43.77       | 34.38 | 34.98 | 45.57 |
| 390            | 0.42           | 0.49    | 14.96    | 15.20   | 18.13       | 23.47   | 43.63       | 34.19 | 35.34 | 45.39 |
| 400            | 0.43           | 0.49    | 14.96    | 15.21   | 18.05       | 23.47   | 43.52       | 33.96 | 35.71 | 45.11 |
| 410            | 0.43           | 0.50    | 14.95    | 15.21   | 17.94       | 23.49   | 43.27       | 33.72 | 36.09 | 45.24 |
| 420            | 0.44           | 0.50    | 14.94    | 15.22   | 17.85       | 23.42   | 42.67       | 33.43 | 36.51 | 45.31 |
| 430            | 0.44           | 0.51    | 14.93    | 15.22   | 17.75       | 23.37   | 41.98       | 33.16 | 36.99 | 44.77 |
| 440            | 0.45           | 0.52    | 14.92    | 15.23   | 17.62       | 23.35   | 41.15       | 32.97 | 37.38 | 44.68 |
| 450            | 0.46           | 0.53    | 14.91    | 15.24   | 17.50       | 23.41   | 40.66       | 32.81 | 37.53 | 44.66 |
| 460            | 0.46           | 0.53    | 14.89    | 15.25   | 17.38       | 23.45   | 40.54       | 32.70 | 37.61 | 44.49 |
| 470            | 0.47           | 0.54    | 14.88    | 15.25   | 17.27       | 23.47   | 39.94       | 32.58 | 37.64 | 44.31 |
| 480            | 0.48           | 0.55    | 14.87    | 15.26   | 17.16       | 23.49   | 39.39       | 32.47 | 37.87 | 44.18 |
| 490            | 0.48           | 0.55    | 14.86    | 15.26   | 17.08       | 23.45   | 38.69       | 32.28 | 38.06 | 44.25 |
| 500            | 0.49           | 0.56    | 14.84    | 15.27   | 17.00       | 23.42   | 37.96       | 32.08 | 38.05 | 44.25 |
| 510            | 0.49           | 0.57    | 14.83    | 15.27   | 16.85       | 23.41   | 37.40       | 31.92 | 38.15 | 44.62 |
| 520            | 0.50           | 0.58    | 14.81    | 15.29   | 16.72       | 23.47   | 36.89       | 31.74 | 38.07 | 45.29 |
| 530            | 0.51           | 0.59    | 14.79    | 15.29   | 16.65       | 23.60   | 36.43       | 31.56 | 37.82 | 45.30 |
| 540            | 0.52           | 0.60    | 14.78    | 15.28   | 16.62       | 23.66   | 35.91       | 31.43 | 37.39 | 45.09 |
| 550            | 0.52           | 0.61    | 14.76    | 15.26   | 16.59       | 23.70   | 35.51       | 31.31 | 36.76 | 44.14 |
| 560            | 0.53           | 0.61    | 14.75    | 15.25   | 16.55       | 23.69   | 35.09       | 31.26 | 36.02 | 43.08 |
| 570            | 0.54           | 0.62    | 14.74    | 15.23   | 16.51       | 23.62   | 34.85       | 31.21 | 35.45 | 42.17 |
| 580            | 0.54           | 0.63    | 14.73    | 15.21   | 16.48       | 23.47   | 34.56       | 31.06 | 34.99 | 41.25 |
| 590            | 0.55           | 0.63    | 14.73    | 15.18   | 16.45       | 23.26   | 34.12       | 30.94 | 34.54 | 40.46 |
| 600            | 0.55           | 0.64    | 14.72    | 15.16   | 16.41       | 23.06   | 33.65       | 30.81 | 34.03 | 39.64 |