

# MOBILE BAND REJECT DUPLEXERS • HELICAL TYPE

## DHL Series • 70 - 520 MHz

RPL DHL Series are helical mobile duplexers intended to be used in systems up to 50 watts.

Typical applications include:

“digital and analog wireless radio”, “low power repeaters”, “mobile full duplex radios”, etc..

Resonant cavities are interconnected in a band reject configuration, which allows typical Tx to Rx frequency separation of 2.5 MHz in the range of 70 - 90 MHz, and 5.0 MHz in the range of 136 - 520MHz.

These dupelxers use six helical resonators, housed in 6063-T6 aluminum cavities with alodine finishing.

To improve Tx to Rx isolation, semi-rigid coaxial cables are used.

In order to have a long life performance, metal surfaces are properly finished.

The entire unit is painted for additional protection.

Standard connectors are BNC female. N female and TNC female available upon request.

For other than specified, please contact the factory or sales offices.

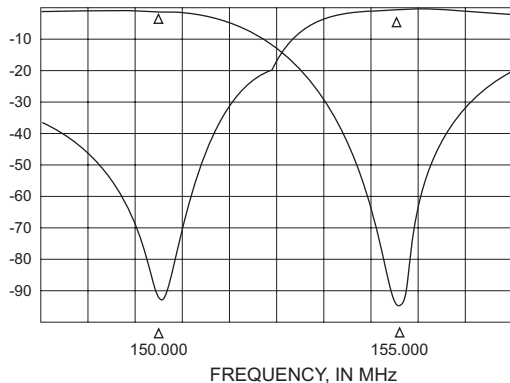


DHL 1533

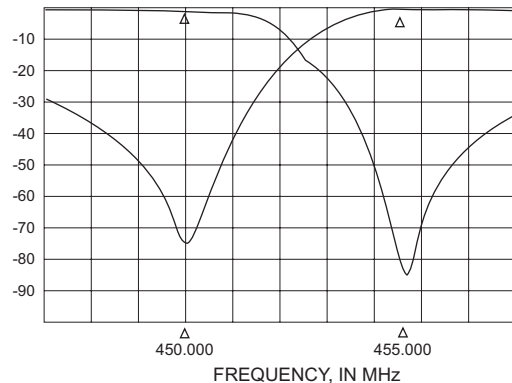
DHL 4533

TWO WAY RADIO  
& WIRELESS

DHL 1533 • TYPICAL RESPONSE CURVES  
5.0 MHz split



DHL 4533 • TYPICAL RESPONSE CURVES  
5.0 MHz split



<b>ELECTRICAL SPECIFICATIONS</b>	<b>DHL0733-A</b>	<b>DHL0733-B</b>	<b>DHL1533-A</b>	<b>DHL1533-B</b>
Frequency Range - MHz	70 - 90	70 - 90	136 - 174	136 - 174
Tx-Rx Separation, Min - MHz	4.0	10.0	4.5	10.0
Tx-Rx Band Width - MHz	0.025	0.025	0.025	0.025
Continuous Power Input, Max - W.	50	50	50	50
Insertion Loss Tx - Antenna, dB	1.1	1.0	1.2	1.0
Insertion Loss Antenna - Rx, dB	1.1	1.0	1.2	1.0
Tx Noise Rejection at Rx Freq. - dB	90	95	90	95
Rx-Tx Isolation at Tx Freq. - dB	90	95	90	95
RL - dB	22	22	22	22
Connectors, Standard Type	BNC	BNC	BNC	BNC
Connectors, Optional	N(f) ; TNC	N(f) ; TNC	N(f) ; TNC	N(f) ; TNC
Temperature range - °C	- 30 to + 60	- 30 to + 60	- 30 to + 60	- 30 to + 60

<b>MECHANICAL SPECIFICATIONS</b>	<b>DHL0733-A</b>	<b>DHL0733-B</b>	<b>DHL1533-A</b>	<b>DHL1533-B</b>
Height- in (mm)	1.25 (31.0)	1.25 (31.0)	1.25 (31.0)	1.25 (31.0)
Width - in (mm)	6.1 (155.0)	6.1 (155.0)	6.1 (155.0)	6.1 (155.0)
Depth - in (mm)	9.0 (226.0)	9.0 (226.0)	5.6 (142.0)	5.6 (142.0)
Weight - lbs ( kg)	3.0 ( 1.4)	3.0 ( 1.4)	2.2 (1.0)	2.2 (1.0)

<b>ELECTRICAL SPECIFICATIONS</b>	<b>DHL2633-A</b>	<b>DHL2633-B</b>	<b>DHL3533-A</b>	<b>DHL3533-B</b>
Frequency Range - MHz	220 – 280	220 - 280	300 – 400	300 - 400
Tx–Rx Separation, Min - MHz	4.5	10.0	5.0	10.0
Tx-Rx Band Width – MHz	0.025	0.025	0.025	0.025
Continuous Power Input, Max- W.	50	50	40	40
Insertion Loss Tx - Antenna, dB	1.2	1.0	1.5	1.1
Insertion Loss Antenna - Rx, dB	1.2	1.0	1.5	1.3
Tx Noise Rejection at Rx Freq. - dB	90	95	65	80
Rx-Tx Isolation at Tx Freq. - dB	90	95	65	80
RL - dB	22	22	22	22
Connectors, Standard Type	BNC	BNC	BNC	BNC
Connectors, Optional	N(f) ; TNC	N(f) ; TNC	N(f) ; TNC	N(f) ; TNC
Temperature range - °C	- 30 to + 60	- 30 to + 60	- 30 to + 60	- 30 to + 60

<b>MECHANICAL SPECIFICATIONS</b>	<b>DHL2633-A</b>	<b>DHL2633-B</b>	<b>DHL3533-A</b>	<b>DHL3533-B</b>
Height – in (mm)	1.25 (31.0)	1.25 (31.0)	1.25 (31.0)	1.25 (31.0)
Width – in (mm)	6.1 (155.0)	6.1 (155.0)	6.1 (155.0)	6.1 (155.0)
Depth – in (mm)	5.6 (142.0)	5.6 (142.0)	4.1 (104.0)	4.1 (104.0)
Weight – lbs ( kg)	1.6 (0.75)	1.6 (0.75)	1.3 (0.6)	1.3 (0.6)

<b>ELECTRICAL SPECIFICATIONS</b>	<b>DHL3533-17</b>	<b>DHL3533-27</b>	<b>DHL4533-A</b>	<b>DHL4533-B</b>
Frequency Range - MHz	300 – 400	300 – 400	400 – 520	400 - 520
Tx–Rx Separation, Min - MHz	17.0	27.0	5.0	10.0
Tx-Rx Band Width - MHz	0.025	0.025	0.025	0.025
Continuous Power Input, Max- W.	40	40	40	40
Insertion Loss Tx - Antenna, dB	1.0	1.0	1.5	1.0
Insertion Loss Antenna - Rx, dB	1.3	1.3	1.5	1.2
Tx Noise Rejection at Rx Freq. - dB	85	85	65	80
Rx-Tx Isolation at Tx Freq.- dB	85	85	65	77
RL - dB	22	22	22	22
Connectors, Standard Type	BNC	BNC	BNC	BNC
Connectors, Optional	N(f) ; TNC	N(f) ; TNC	N(f) ; TNC	N(f) ; TNC
Temperature range - °C	- 30 to + 60	- 30 to + 60	- 30 to + 60	- 30 to + 60

<b>MECHANICAL SPECIFICATIONS</b>	<b>DHL3533-17</b>	<b>DHL3533-27</b>	<b>DHL4533-A</b>	<b>DHL4533-B</b>
Height – in (mm)	1.25 (32.0)	1.25 (32.0)	1.25 (32.0)	1.25 (32.0)
Width – in (mm)	6.1 (155.0)	6.1 (155.0)	6.1 (155.0)	6.1 (155.0)
Depth – in (mm)	4.1 (104.0)	4.1 (104.0)	4.0 (101.0)	4.0 (101.0)
Weight – lbs ( kg)	1.3 (0.6)	1.3 (0.6)	1.3 (0.6)	1.3 (0.6)

<b>ELECTRICAL SPECIFICATIONS</b>	<b>DHL4533-17</b>	<b>DHL4533-27</b>
Frequency Range - MHz	400 – 520	400 - 520
Tx–Rx Separation, Min - MHz	17.0	27.0
Tx-Rx Band Width- MHz	0.025	0.025
Continuous Power Input, Max - W.	40	40
Insertion Loss Tx - Antenna, dB	1.0	1.0
Insertion Loss Antenna - Rx, dB	1.3	1.3
Tx Noise Rejection at Rx Freq. - dB	85	85
Rx-Tx Isolation at Tx Freq.- dB	85	85
RL - dB	22	22
Connectors, Standard Type	BNC	BNC
Connectors, Optional	N(f) ; TNC	N(f) ; TNC
Temperature range - °C	- 30 to + 60	- 30 to + 60

<b>MECHANICAL SPECIFICATIONS</b>	<b>DHL4533-17</b>	<b>DHL4533-27</b>
Height – in (mm)	1.25 (32.0)	1.25 (32.0)
Width – in (mm)	6.1 (155.0)	6.1 (155.0)
Depth – in (mm)	4.0 (101.0)	4.0 (101.0)
Weight – lbs ( kg)	1.3 (0.6)	1.3 (0.6)

# MOBILE BAND REJECT DUPLEXERS • COAXIAL TYPE

## DCL Series • 300 - 960 MHz

**Fiplex** DCL Series are coaxial mobile duplexers intended to be used in applications up to 50 watts. Typical applications include: "digital and analog wireless radio", "low power repeaters", "mobile full duplex radios", etc.. These dupelxers use six TEM silver plated copper resonators, housed in 6063-T6 alodine finished aluminum cavities. Resonant cavities are interconnected in a band reject configuration, which allows typical Tx to Rx frequency separation of 5.0 MHz in the range of 300 - 520 Mhz, and a minimum of 9.0 MHz in the range of 800 - 960MHz. To improve the Tx to Rx isolation, semi-rigid coaxial cables are used. The entire unit is painted for additional protection. Standard connectors are BNC female. N female and TNC female are available upon request. For other than specified, please contact the factory or sales offices.



DCL 4533

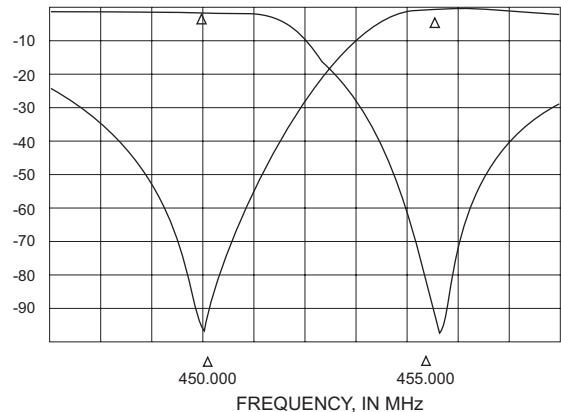
DCL 9533

DCL 9533 • TYPICAL RESPONSE CURVES  
9.0 MHz split

-50

FREQUENCY, IN MHz

DCL 4533 • TYPICAL RESPONSE CURVES  
5.0 MHz split



<b>ELECTRICAL SPECIFICATIONS</b>	<b>DCL3533-A</b>	<b>DCL3533-B</b>
Frequency Range - MHz	300 - 400	300 - 400
Tx-Rx Separation - MHz	5	10
Tx-Rx Band Width - MHz	0.025	0.025
Continuous Power Input, Max - W.	50	50
Insertion Loss Tx - Antenna, dB	1.2	1.2
Insertion Loss Antenna - Rx, dB	1.2	1.2
Tx Noise Rejection at Rx Freq. - dB	80	90
Rx-Tx Isolation at Tx Freq. - dB	80	90
RL - dB	22	22
Connectors, Standard Type	BNC	BNC
Connectors, Optional	N(f) ; TNC	N(f) ; TNC
Temperature range - °C	- 30 to + 60	- 30 to + 60

<b>MECHANICAL SPECIFICATIONS</b>	<b>DCL3533-A</b>	<b>DCL3533-B</b>
Height- in (mm)	1.25 (31.0)	1.25 (31.0)
Width - in (mm)	6.1 (155.0)	6.1 (155.0)
Depth - in (mm)	11 (280)	11 (280)
Weight - lbs ( kg)	2.2 ( 1.0)	2.2 ( 1.0)

<b>ELECTRICAL SPECIFICATIONS</b>	<b>DCL4533-A</b>	<b>DCL4533-B</b>	<b>DCL4533-17</b>	<b>DCL4533-27</b>
Frequency Range - MHz	400 - 520	400 - 520	400 - 520	400 - 520
Tx-Rx Separation, Min - MHz	5	10	17	27
Tx-Rx Band Width – MHz	0.025	0.025	0.025	0.025
Continuous Power Input, Max- W.	50	50	50	50
Insertion Loss Tx - Antenna, dB	1.2	1.2	1.2	1.2
Insertion Loss Antenna - Rx, dB	1.2	1.2	1.2	1.2
Tx Noise Rejection at Rx Freq. - dB	90	95	95	95
Rx-Tx Isolation at Tx Freq. - dB	90	95	95	95
RL - dB	22	22	22	22
Connectors, Standard Type	BNC	BNC	BNC	BNC
Connectors, Optional	N(f) ; TNC	N(f) ; TNC	N(f) ; TNC	N(f) ; TNC
Temperature range - °C	- 30 to + 60	- 30 to + 60	- 30 to + 60	- 30 to + 60

<b>MECHANICAL SPECIFICATIONS</b>	<b>DCL4533-A</b>	<b>DCL4533-B</b>	<b>DCL4533-A</b>	<b>DCL4533-B</b>
Height – in (mm)	1.25 (31.0)	1.25 (31.0)	1.25 (31.0)	1.25 (31.0)
Width – in (mm)	6.1 (155.0)	6.1 (155.0)	6.1 (155.0)	6.1 (155.0)
Depth – in (mm)	8.7 (220.0)	11 (280)	8.7 (220.0)	11 (280)
Weight – lbs ( kg)	1.8 ( 0.8)	1.8 ( 0.8)	1.8 ( 0.8)	1.8 ( 0.8)

<b>ELECTRICAL SPECIFICATIONS</b>	<b>DCL9533-A</b>	<b>DCL9533-B1</b>	<b>DCL9533B2</b>
Frequency Range - MHz	800 – 960	800 – 890	870 - 960
Tx–Rx Separation - MHz	9.0 – 30.0	30.0 – 84.0	30.0 – 84.0
Tx-Rx Band Width - MHz	0.030	0.100	0.100
Continuous Power Input, Max- W.	50	50	50
Insertion Loss Tx - Antenna, dB	1.5	1.0	1.0
Insertion Loss Antenna - Rx, dB	1.5	1.0	1.0
Tx Noise Rejection at Rx Freq. - dB	75	85	85
Rx-Tx Isolation at Tx Freq.- dB	75	85	85
RL - dB	22	22	22
Connectors, Standard Type	BNC	BNC	BNC
Connectors, Optional	N(f) ; TNC	N(f) ; TNC	N(f) ; TNC
Temperature range - °C	- 30 to + 60	- 30 to + 60	- 30 to + 60

<b>MECHANICAL SPECIFICATIONS</b>	<b>DCL9533-A</b>	<b>DCL9533-B1</b>	<b>DCL9533B2</b>
Height – in (mm)	1.25 (32.0)	1.25 (32.0)	1.25 (32.0)
Width – in (mm)	6.1 (155.0)	6.1 (155.0)	6.1 (155.0)
Depth – in (mm)	5.1 (129.0)	5.1 (129.0)	5.1 (129.0)
Weight – lbs ( kg)	1.3 (0.6)	1.3 (0.6)	1.3 (0.6)

**NOTES:**

1. Splits indicated above, are for standard models. If different split is required, please contact Sales Department.
2. Exact frequencies are required when ordering