

## Wideband Transformers Selection Guide

Product Number	Model Number	-1 dB Bandwidth (MHz)	Typical Midband Insertion Loss (dB)	Typical Midband VSWR	Package Style	Special Notes
<b>Z Ratio: 50 Ω unbal/800 Ω bal, DC isolated</b>						
153	LF-452	.01-10	.5	1.5	Plastic PC Mount	Very Low Frequency, PC Mount
<b>Z Ratio: 50 Ω unbal/1800 Ω bal, DC isolated</b>						
154	LF-454	.01-5	.5	1.5	Plastic PC Mount	Very Low Frequency, PC Mount

## Four Port 180° Hybrid Power Dividers/Combiners Selection Guide

Product Number	Model Number	Frequency Range (MHz)	Package Style	Loss dB	VSWR	Isolation dB	Amp Bal (dB)	θ Bal (°)
<b>Transforming Types (Z, Ports C,D = 100Ω)</b>								
155	HYB-1	1-300	Plastic PC Mount	.5	1.5:1	30	.5	7
156	HYB-3	.5-150	Plastic PC Mount	.5	1.5:1	30	.5	5
157	HYB-11	25-200	Metal TO-5 (6 pin)	.5	1.5:1	30	.3	5
<b>Non-Transforming Types (Z, Ports C,D = 50 Ω)</b>								
158	HYB-16	1-200	Metal Flatpack	.3	1.3:1	35	.2	1

## Four Port 90° Hybrid Power Dividers/Combiners Selection Guide

Product Number	Model Number	Frequency Range (MHz)	Package Style	Typical Midband Performance			Amp Bal (dB)	θ Bal (°)
				Loss dB	VSWR	Isolation dB		
<b>Impedance All Ports 50 ohms</b>								
159	QH-5	57-63	Metal Flatpack	.15	1.15:1	30	.25	1.5
160	QH-6	66.5-73.5	Metal Flatpack	.15	1.15:1	30	.25	1.5
161	QH-7	114-126	Metal Flatpack	.15	1.2:1	30	.25	1.5
162	QH-8	40-80	Metal Flatpack	.3	1.15:1	25	.5	1.5
163	QH-3	2-40	SMA Connector	.5	1.3:1	20	.5	1.5

### NOTES:

- (1) Most of the above 90° hybrids are also available in TO-8 (5 pin) and surface mount packages.
- (2) Standard octave and 10% quadrature hybrids cover frequency ranges up to 400 MHz. Contact the Factory for special frequency devices.

## Wideband Directional Couplers

Product Number	Model Number	Frequency Range (MHz)	Package Style	Nominal Coupling	Coupling Tolerance	Typical Midband Performance		
						Loss	Directivity	VSWR
164	DC-1	10-500	Metal Flatpack	6	.25	.25	25	1.2
165	DC-2	10-1000	Metal Flatpack	6	.4	.75	25	1.5
166	DC-3	10-500	Metal Flatpack	10	.25	.25	25	1.2
167	DC-4	10-1000	Metal Flatpack	10	.4	.75	25	1.5
168	DC-5	10-500	Metal Flatpack	20	.5	.5	25	1.2
169	DC-6	10-1000	Metal Flatpack	20	.75	1.0	25	1.5

## Wideband Chokes Selection Guide

Product Number	Model Number	I <sub>Z</sub> Max. I (Ohms)	Package Style	Approximate Frequency I <sub>Z</sub> Max. I (MHz)	Approx. Freq. Band for Z = I <sub>Z</sub> Max. I (MHz)
170	WC-1	800	Plastic PC	200	50-1100
171	WC-2	1100	Plastic PC	100	70-800
172	WC-3	900	Plastic PC	20	5-250
173	WC-4	1000	Plastic PC	30	1-150

### NOTE:

- (1) I<sub>DC</sub> max for rated performance = 2 Amperes

## Special Assembly Modules Selection Guide

### 174

Typical special products recently produced at Vari-L include phase locked loop oscillator/synthesizer modules, digital phase shifters, digital attenuators and complete up and down converter assemblies.

We are continuing to develop custom subassemblies and welcome the opportunity to work with you on your special modular assembly requirements.

Contact the factory for a technical discussion.

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4895 Peoria Street • Denver, Colorado 80239 • sales@vari-l.com • www.vari-l.com

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