LEAD-FREE / RoHS-COMPLIANT

3 dB QUADRATURE HYBRID QH-0R518

The QH-0R518 is a 0.5-18 GHz, multi-purpose broadband 3dB quadrature hybrid. The multisection tri-plate stripline design exhibits excellent amplitude balance with broadband quadrature phasing (90°) between the output ports. Applications include single sideband upconverters, image rejection downconverters, IQ modulators, balanced amplifiers, microwave correlators and microwave Butler matrices. Custom designs are also available; contact the factory for details.

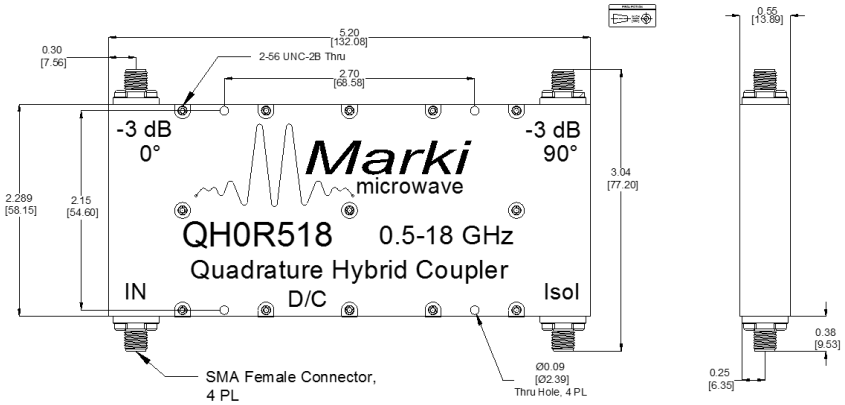


- ~~Excellent amplitude and phase balance~~
- High isolation
- Low VSWR
- Microwave Power Dividers & Couplers App Note

Electrical Specifications

Parameter[1]	Frequency Range (GHz)	Min	Typ	Max
Coupling (dB)	0.5 to 18		3	
Phase Shift (Degrees)			90	
Amplitude Balance (dB) [2]			±0.5	
Phase Balance (Degrees)			±3	
Excess Insertion Loss (dB) [3]			1.5	
VSWR			1.5	
Isolation (dB)			20	
CW Power (W)				20
Weight (g)			225	

[1]Specifications guaranteed when operated in a 50Ω system.
[2]Maximum amplitude *differential* is twice the magnitude of the amplitude *balance* (see Fig. 3).
[3]Excess Insertion Loss = (Input Port to Output Port Insertion Loss) – 3 dB.



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Typical Performance

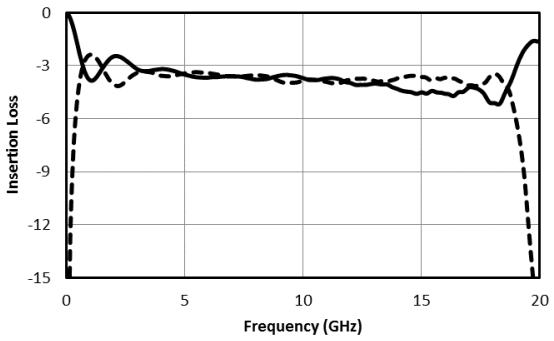


Fig. 1. Through and coupled line insertion loss.

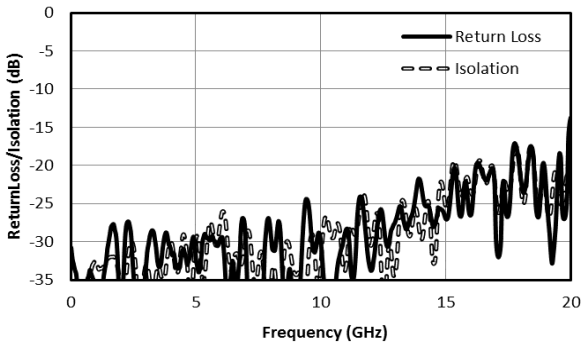


Fig. 2. Return loss and isolation (all ports 50 Ω terminated).

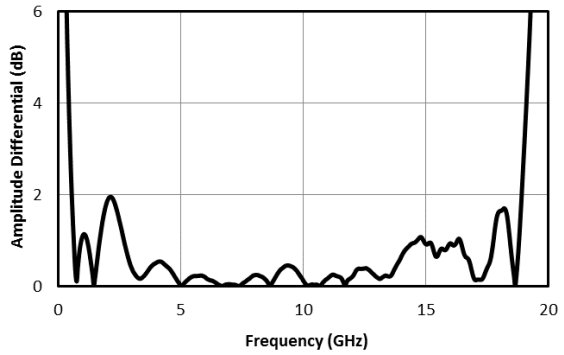


Fig. 3. Amplitude difference between the 0° and 90° output ports.

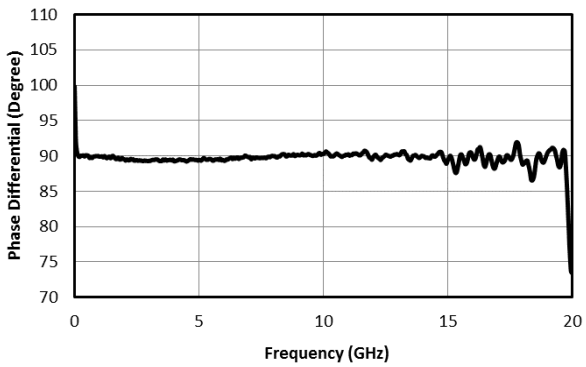


Fig. 4. Phase difference between the 0° and 90° output ports.

Model Number	Description
QH-0R518	0.5-18 GHz 3 dB Quadrature Hybrid with SMA connectors[1], LEAD-FREE/RoHS COMPLIANT

[1]Default is SMA female connectors. Consult factory for other connector options.

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