

Quadrature Hybrid Coupler Series

Wire Bond Devices Preliminary Datasheet

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DESCRIPTION

DLI's Quadrature Hybrid Couplers offer unmatched size and wideband performance in a wire bond configuration. These 3 dB couplers offers excellent phase and amplitude balance with low loss and good isolation. As catalog components, they are available in a variety of frequency bands which offers a drop in solution with highly repeatable performance.

Packaging and Ordering Information

For packaging in tape and reel please use part number: FHC#####-T

SPECIFICATIONS*

FEATURES

- Small Size
- 90° Phase Delta between Output Ports
- >50W Power Handling
- Wire Bond Package
- Frequency Stable over Temperature
- Operating & Storage Temp: -55°C to +125°C
- Moisture Sensitivity Level: MSL1
- Characteristic Impedance: 50Ω

Product Number	Frequency (GHz) Low	Frequency (GHz) High	Typical Insertion Loss (dB)	Typical Return Loss (dB)	Isolation (dB)	Amplitude Balance (dB)
FHC09101	4	8	0.35	20.00	22	0.4
FHC09102	4	8	1.00	16.50	17	0.2
FHC10289	6	12	1.00	16.50	17	0.2
FHC10291	10	20	0.80	16.50	20	0.2
FHC10293	6	18	1.00	16.50	20	0.4

*Electrical specifications based on typical mounted performance at room temperature. Insertion loss may vary ±0.5dB over temperature.

Quadrature Hybrid Coupler Port Configuration Options				
	Port 1	Port 2	Port 3	Port 4
Configuration 1	Input	Isolated	Coupled	Output
Configuration 2	Isolated	Input	Output	Coupled
Configuration 3	Coupled	Output	Input	Isolated
Configuration 4	Output	Coupled	Isolated	Input



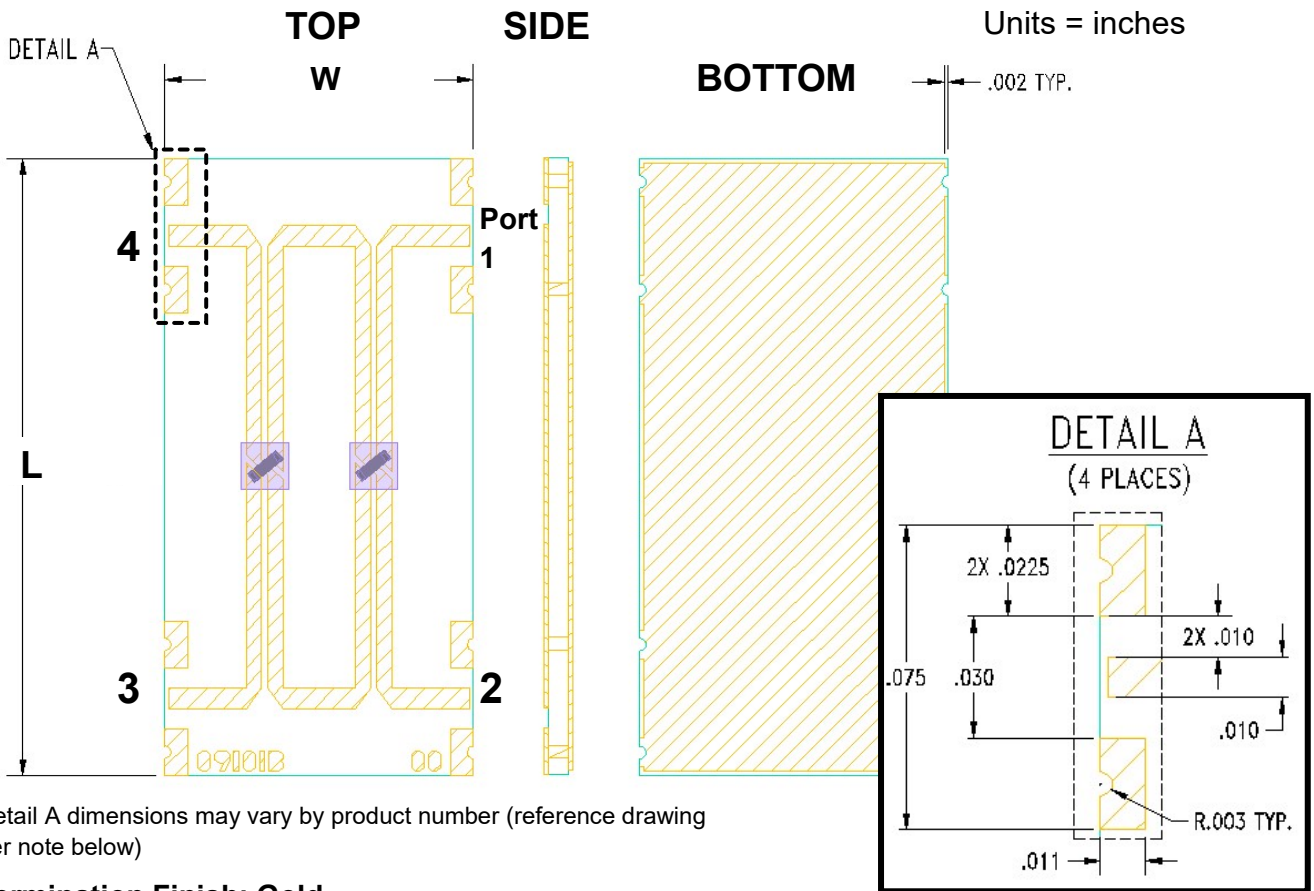
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To Order Contact KCCSales@knowles.com | For Technical Inquiries Contact DLIengineering@knowles.com

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Detail A dimensions may vary by product number (reference drawing per note below)

Termination Finish: Gold

Maximum Assembly Process Temperature: 250°C

Recommended PCB

Parameters:

- 0.010 inch Rogers Board RO4350B
- 3.66 dK, Board Material design
- Dimensions of 50.0 Ohm CPWG :
 - 0.016 in. RF trace width
 - 0.007 in. spacing

Product Number	Length (in)	Width (in)	Height (in)	Length (mm)	Width (mm)	Height (mm)
FHC09101	0.3	0.15	0.01	7.62	3.81	0.254
FHC09102	0.7	0.25	0.01	17.78	6.35	0.254
FHC10289	0.5	0.25	0.01	12.7	6.35	0.254
FHC10291	0.3	0.25	0.01	7.62	6.35	0.254
FHC10293	0.35	0.25	0.01	8.89	6.35	0.254

Contact DLIengineering@knowles.com for drawings and recommended PCB layouts

For more information on how to mount this SMD part, refer to the SMD Guide, available in the Thin Film section of <https://www.knowlescapacitors.com/Support/Resources>

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