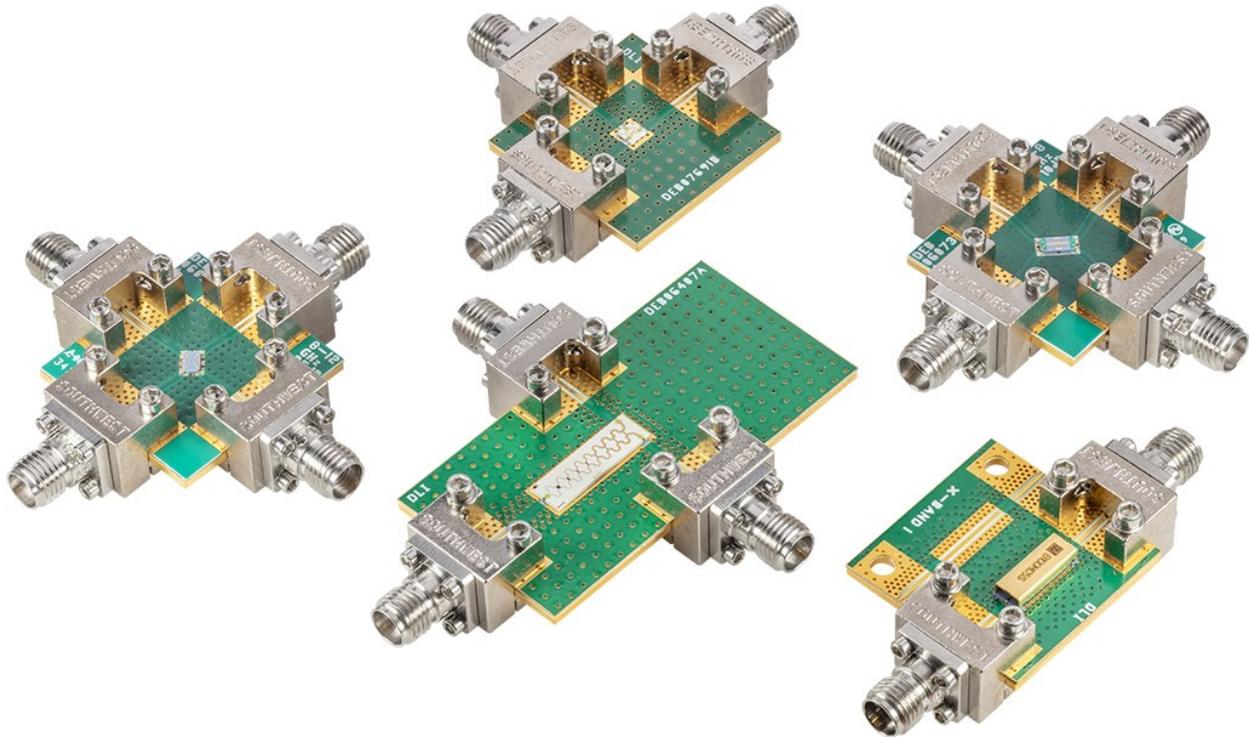


Design Evaluation Board (DEB) Datasheet

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DLI brand Design Evaluation Boards (DEB) are a great way to test the assembled performance of DLI devices in a connectorized module. Each DEB includes a device mounted onto a 10 mil thick Rogers RO4350B circuit board with an aluminum base plate and connectors at each I/O port.

The filters, couplers and dividers in this datasheet utilize DLI's high dielectric ceramic materials to deliver small size and minimal performance variation over temperature. The selection of DLI Microwave Products Catalog devices are offered in a variety of frequency bands, demonstrating a range of useful performance for RF and Microwave applications.

DEB FEATURES:

Fully assembled test board for evaluation of DLI devices

Maximum Temperature for Exposure: 150°C

DEBs are not RoHS Compliant due to SnPb solder used to attach the part to the board (and for filters, solder for attaching the integrated shielding, RoHS compliant per exemption 7a)

Electrical specifications differ from the performance of the device alone, referenced on the product datasheet here: <https://www.knowlescapacitors.com/Products/Microwave-Products>

Information in this document is for informational and guideline purposes only. All information regarding the Product described in this datasheet is subject to change from time to time at Knowles Precision Devices' sole discretion. It is the customer's sole responsibility to evaluate the suitability of the Product in the customer's particular application. Knowles Precision Devices assumes no responsibility or liability for the use of the information contained within.

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Design Evaluation Board (DEB) Datasheet

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Design Evaluation Boards for Filters

The DEBs in the table below are similar to the configuration in this image with these characteristics:

- Assembled filter on a 10 mil thick Rogers RO4350B PCB with Aluminum baseplate with board dimensions 1" x 1"
- 2 x 2.92mm female connectors
- Thru-line included in some board designs per table
- DEBs without a thru-line are similar to the image but the part and connectors are centered
- Integrated filter shielding assembled with high melting point Pb-based solder
- Filter assembled onto DEB with SnPb Eutectic solder
- Reference the Product Datasheets for part performance here:
<https://www.knowlescapacitors.com/Products/Microwave-Products/Bandpass-Filters> and
[here: https://www.knowlescapacitors.com/Products/Microwave-Products/Lowpass-Filters](https://www.knowlescapacitors.com/Products/Microwave-Products/Lowpass-Filters)



Filter DEB Example 1x1"

| Knowles Part Number | DEB Part Number | Operating Frequency (GHz) | DEB Min. RL (dB) | DEB Max. IL (dB) | Connector Style | With ThruLine? |
|---------------------|-----------------|---------------------------|------------------|------------------|-----------------|----------------|
| B056RC4S | DEB-B056RC4S | 4-8 | 10 | 3 | SMA Female | No |
| B080MB5S | DEB-B080MB5S | 7.5-8.5 | 10 | 2.5 | SMA Female | No |
| B083LB6S | DEB-B083LB6S | 8-8.5 | 10 | 3 | 2.92 mm Female | Yes |
| B089NC4S | DEB-B089NC4S | 8.1-10.1 | 8 | 2 | 2.92 mm Female | Yes |
| B094LA2S | DEB-B094LA2S | 9.25-9.6 | 14 | 3.5 | 2.92 mm Female | Yes |
| B095MB1S | DEB-B095MB1S | 8.9-10 | 10 | 2.5 | 2.92 mm Female | Yes |
| B096QC2S | DEB-B096QC2S | 8-10 | 10 | 2.7 | SMA Female | No |
| B100MC5S | DEB-B100MC5S | 9.5-10.5 | 8 | 2.5 | 2.92 mm Female | Yes |
| B148QF0S | DEB-B148QF0S | 12-15 | 15 | 2 | SMA Female | No |
| L065XG9S | DEB-L065XG9S | DC-6 | 15 | 1.5 | SMA Female | No |
| L095XG9S | DEB-L095XG9S | DC-9 | 12 | 1.7 | 2.92 mm Female | No |
| L185XF4S | DEB-L185XF4S | DC-18 | 12 | 3 | 2.92 mm Female | No |
| L204XF4S | DEB-L204XF4S | DC-20 | 12 | 3 | 2.92 mm Female | No |
| L288XC3S | DEB-L288XC3S | DC-27 | 10 | 3 | 2.92 mm Female | No |

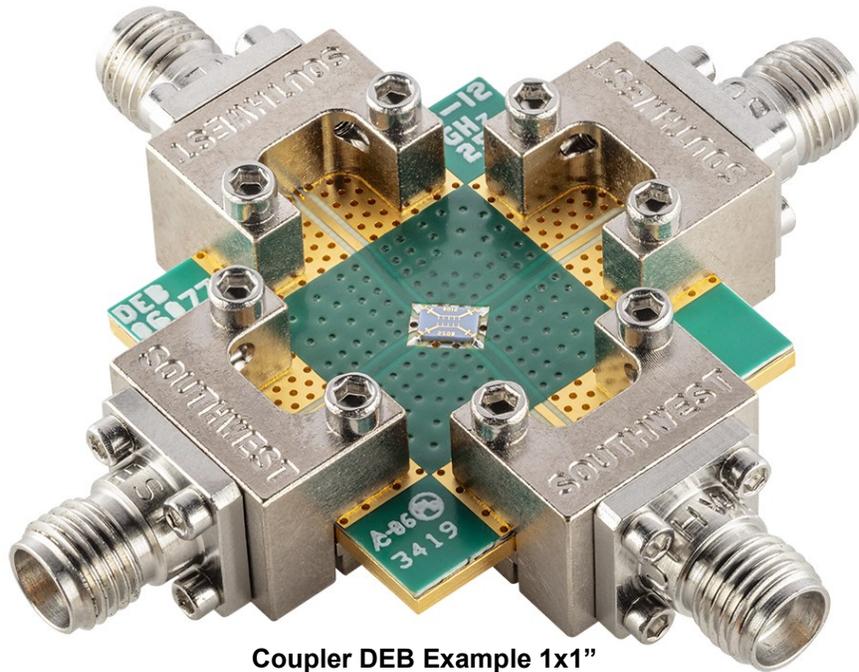
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Design Evaluation Board (DEB) Datasheet

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Design Evaluation Boards for Couplers



Coupler DEB Example 1x1"

The DEBs in the table below are similar to the configuration in the image above with these characteristics:

- Assembled coupler on a 10 mil thick Rogers RO4350B PCB with Aluminum baseplate with board dimensions 1" x 1" with SnPb Eutectic solder
- Reference the Product Datasheets for the performance of the couplers here:
<https://www.knowlescapacitors.com/Products/Microwave-Products/Couplers>

| Knowles Part | DEB Part Number | Part Description | DEB Min. RL | DEB Max. IL | # of Connectors | Connector Style |
|--------------|-----------------|--------------------------------------|-------------|-------------|-----------------|-----------------|
| FPC06073 | DEB06073 | 4 to 8GHz 10dB Directional Coupler | 12 | 1.3 | 4 | SMA Female |
| FPC06074 | DEB06074 | 8 to 12GHz 10dB Directional Coupler | 15 | 1.5 | 4 | 2.92 mm Female |
| FPC06077 | DEB06077 | 8 to 12GHz 25dB Directional Coupler | 12 | 1 | 4 | 2.92 mm Female |
| FPC07181 | DEB07181 | 20 to 40GHz 20dB Directional Coupler | 10 | 3 | 4 | 2.92 mm Female |
| FPC07182 | DEB07182 | 20 to 40GHz 10dB Directional Coupler | 10 | 3 | 4 | 2.92 mm Female |
| FPC07803 | DEB07803 | DC to 40GHz 20dB Resistive Coupler | 10 | 5 | 3 | 2.92 mm Female |

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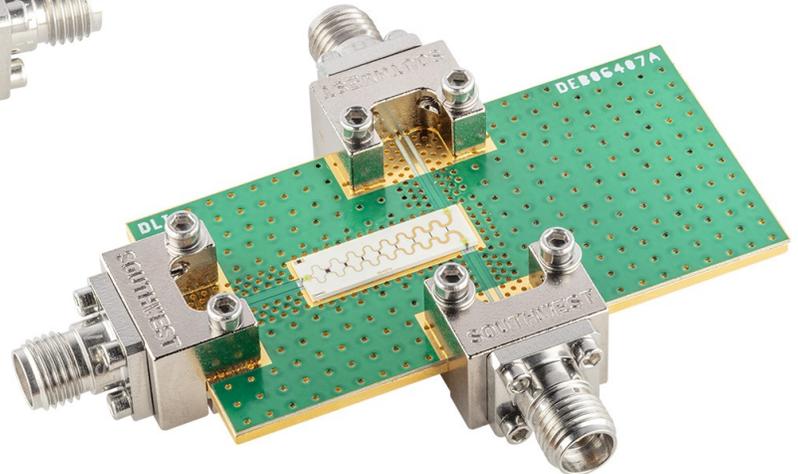
Design Evaluation Board (DEB) Datasheet

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Design Evaluation Boards for Wilkinson Power Dividers



2-way PDW Example 1x1"



2-way PDW Example 2x1"

The DEBs in the table below are similar to the configurations in the images above with these characteristics:

- Assembled power divider on a 10 mil thick Rogers RO4350B PCB with Aluminum baseplate
- 2.92mm female connectors
- Power divider assembled onto DEB with SnPb Eutectic solder
- Reference the Product Datasheets for the performance of the PDW along here:
<https://www.knowlescapacitors.com/Products/Microwave-Products/Power-Dividers>

| Knowles Part Number | DEB Part Number | Part Description | DEB Min. RL (dB) | DEB Max. IL (dB) | Board Dimensions (in) | # of Connectors |
|---------------------|-----------------|-------------------------------|------------------|------------------|-----------------------|-----------------|
| PDW05758 | DEB05758 | 6-18GHz 2-way Power Divider | 15 | 2 | 1x1 | 3 |
| PDW06399 | DEB06399 | 9-11GHz 2-way Power Divider | 15 | 1 | 1x1 | 3 |
| PDW07691 | DEB07691 | 18-20GHz 2-way Power Divider | 12 | 2 | 1x1 | 3 |
| PDW06407 | DEB06407 | 2-18GHz 2-way Power Divider | 14 | 3 | 2x1 | 3 |
| PDW06089 | DEB06089 | 6 - 18GHz 4-way Power Divider | 10 | 3 | 2x1 | 5 |

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