PDW12154 - 0.3 - 1GHz 2-way Power Divider

RF/Microwave Products

Datasheet

DESCRIPTION

The PDW12154 is a compact, surface mount 0.3-1GHz, 2-way Wilkinson power divider/ combiner. It utilizes a quasi-lumped element structure to achieve a miniaturized size, excellent gain /phase balance repeatability, and frequency stability over operating temperature range.

FEATURES

- Small Size: 0.400 x 0.250 in (10.16 x 6.35 mm)
- Solder Surface Mount Package
- Moisture Sensitivity Level: MSL1
- Frequency Stable over Temperature
- Operating & Storage Temp: -55˚C to +125˚C
- Characteristic Impedance: 50Ω

ORDERING INFORMATION

Orderable Part Number	Packaging
PDW12154	Bulk
PDW12154-T	Tape & Reel
DEB12154	Design Evaluation Board

SPECIFICATIONS*

Parameter	Frequency Range (GHz)	Min	Typ.	Max
Nominal Power Splitting (dB)	0.3 - 1		3.0	
Excess Insertion Loss (dB)			0.8	1
Input Return Loss (dB)		12	14	
Output Return Loss (dB)		20	25	
Amplitude Balance (dB)			± 0.1	± 0.2
Phase Balance (Deg)			± 2	± 3
Isolation (dB)		12	14	
Max CW Input Power** as Divider (W)				10
Max CW Input Power** as Combiner*** (W)				5

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

**Power rating assumes the component will be mounted to a PCB with good thermally conducting ground vias as outlined in the recommended PCB layout that are connected to an adequate heat sink. Max power is based on 85° C base temperature.

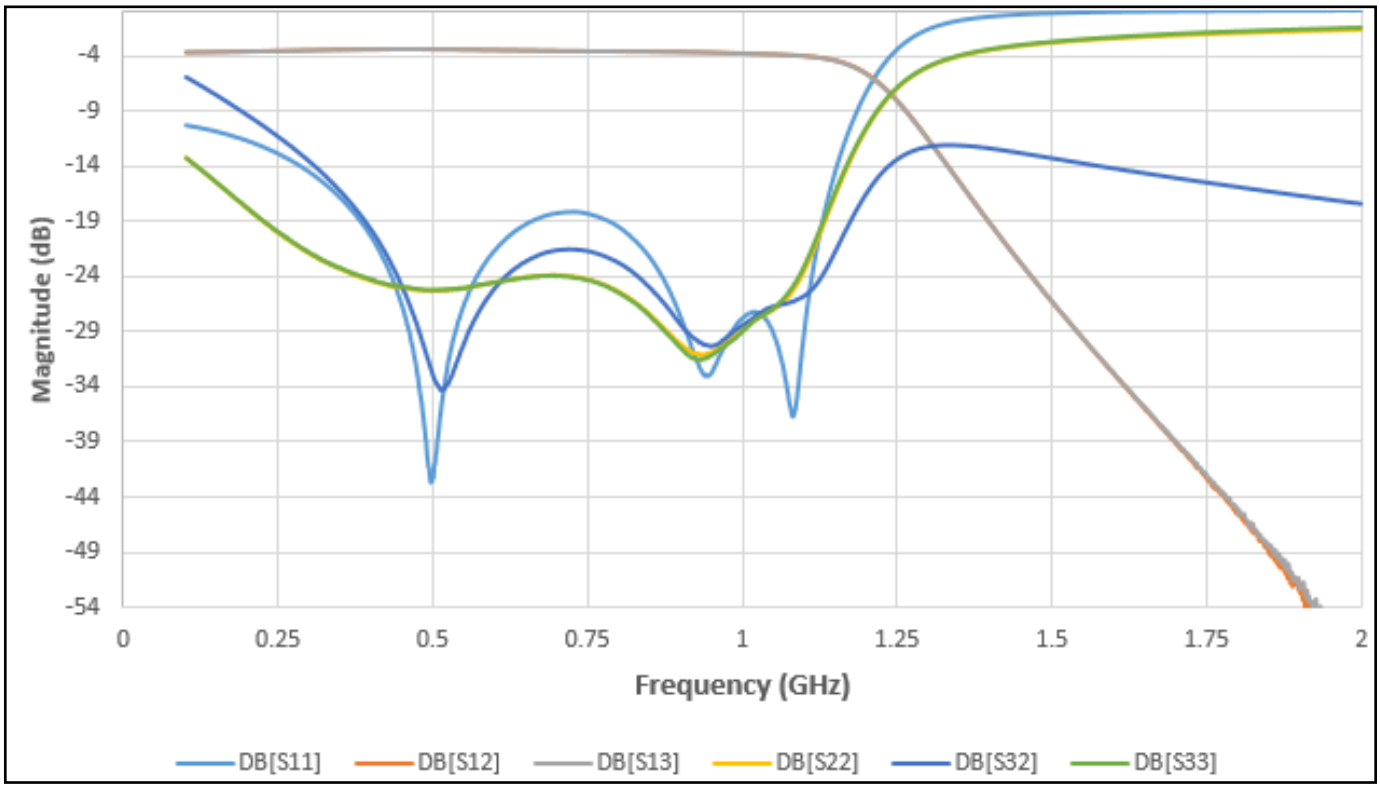
***Power rating as a combiner assumes that the incoming signals are of equal amplitude and phase.

To Order: Europe: KPD-Europe-sales@knowles.com | Asia: KPD-Asia-sales@knowles.com | North America: KPD-NA-sales@knowles.com

Technical inquiries: DLIengineering@knowles.com

April 2026

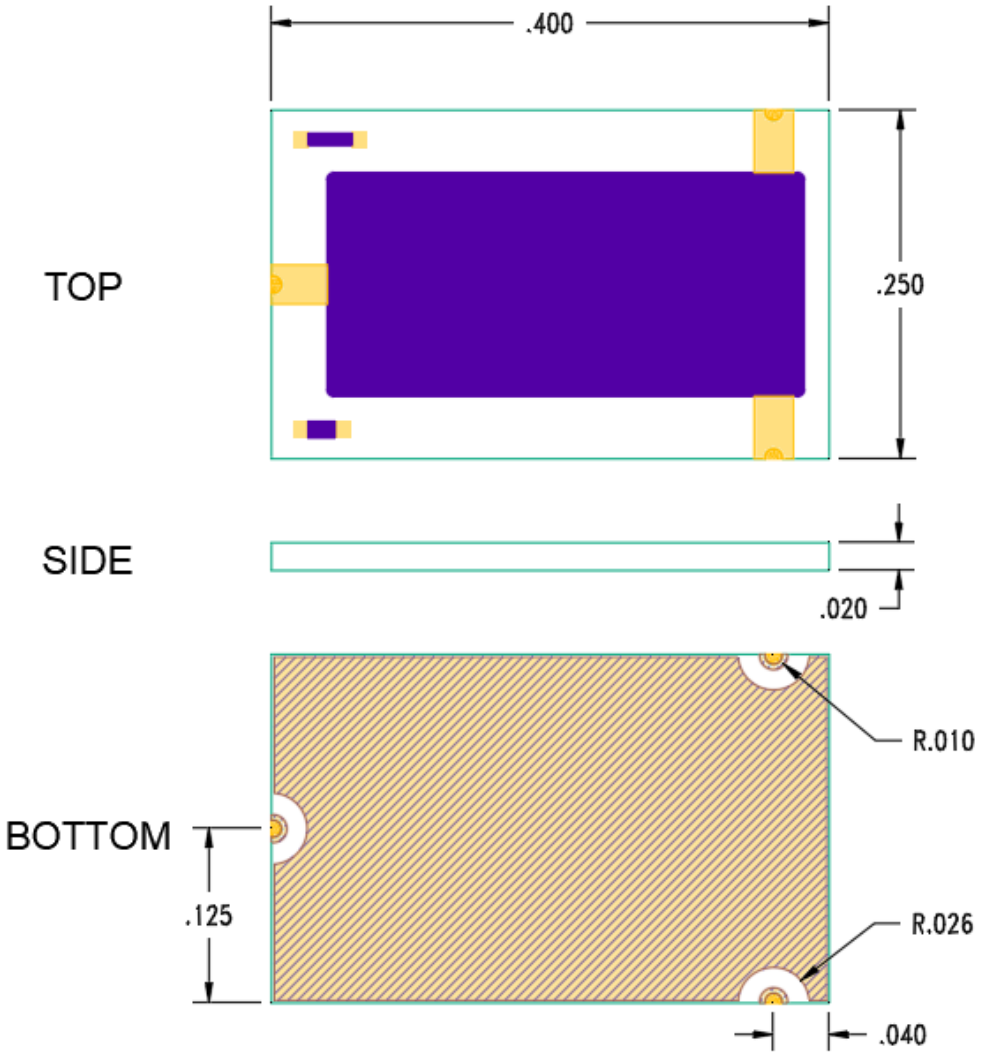
Typical Measured Performance



*Typical de-embedded measured performance mounted on a connectorized test fixture. DEB is 0.010 in. RO4350B with 50.0Ohm CPW ground traces going into the ports at room temperature.

Physical Dimensions

Units = Inch



Notes :

1. Termination Finish (2.2)

   ENIG: 3 - 6 µinch Au over 50 µinch Ni

2. Maximum Assembly Process Temperature: 250°C

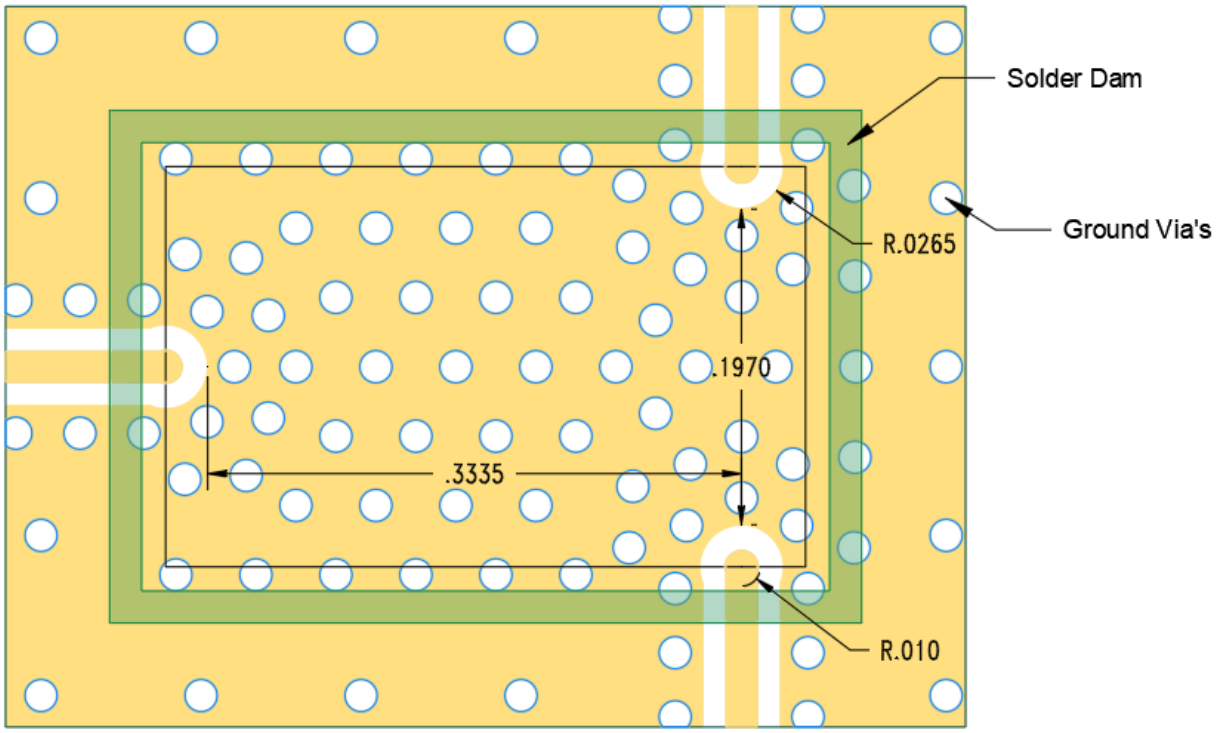
Tolerances:

For values with 3 decimal places ±0.001

For values with 4 decimal places ±0.0005

Recommended PCB Layout

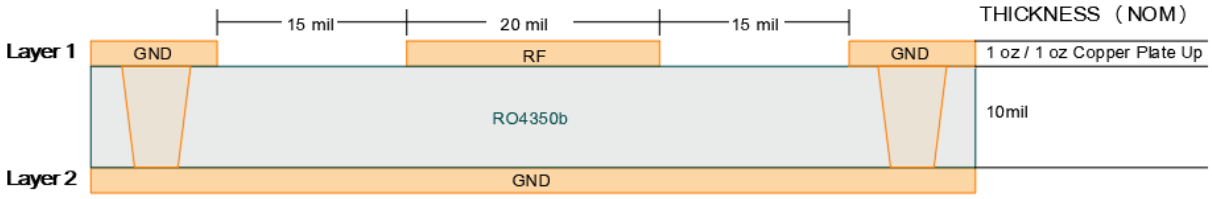
Units = inch



PCB RECOMMENDED STACKUP

Filters are matched to RF layer stackup seen below
Dimensions are specified below in inches (not to scale)

Board material	:	RO4350b
Board material design dk	:	3.66
CPWG	:	20mil trace width, 15mil gaps



For further details and best practices, reference the **Microwave Products Guide,** available at: https://www.knowlescapacitors.com/Support/Catalogs