

BD19B

Dual Band 2-Way SMT Power Divider

1700~2300MHz PCS, WCDMA & TD-SCDMA



Device Features

- Typical Isolation = 23 dB
- Typical Insertion Loss = 0.4 dB
- MSL 3 moisture rating
- Lead-free/RoHS-compliant SOIC-8 Plastic Package
With exposed back side ground pad



Product Description

BeRex's Divider BD19B is designed for PCS, WCDMA & TD-SCDMA band with low Insertion Loss and Isolation. This chip is fully passivated for enhanced performance and reliability and packaged in RoHS-compliant with SOIC-8 surface mount package.

It can be used without back side ground soldering. (This may degrade the performance at the high frequency edge.)

Typical Performance¹

Parameter	Min	Typical	Max	Unit
Frequency Range	1700		2300	MHz
Insertion Loss		0.4	0.8	dB
Isolation	15	23		dB
IRL(S11)		-20	-15	dBm
ORL(S22/S33)		-23	-15	dBm
Amplitude Balance		0.05	0.2	dB
Phase Balance		0.5	1.0	deg

*All specifications apply to the following test conditions,

1. Device performance _ measured on BeRex E/B at 25°C, 50ohm system.
2. Insertion Loss: Above 3.0dB.
3. Back side ground _ soldered.

Applications

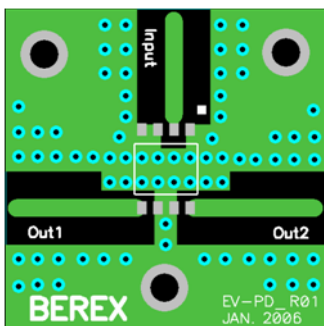
- Base station Infrastructure
- Commercial/Industrial/Military wireless system

Absolute Maximum Ratings

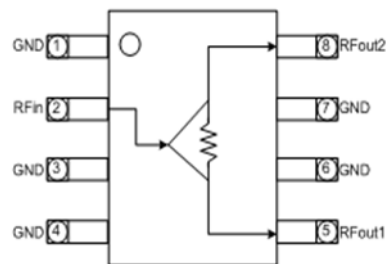
Parameter	Rating
Input Power	1W CW dBm
Storage Temperature	-55 to +155°C
Operating Temperature	-40 to +85°C

Operation of this device above any of these parameters may result in permanent damage.

Evaluation Board Drawing



Function Block Diagram



Pins 1,3,4,6 and 7 must be DC and RF grounded.

BD19B



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Typical Test Data

With Back Side Ground Soldering

Parameters	Unit	PCS, WCDMA & TD-SCDMA					
Frequency Range	MHz	1700	1800	1900	1900	2075	2250
Insertion Loss	dB	0.35	0.37	0.38	0.38	0.47	0.64
Isolation	dB	20.4	22.1	24.4	24.4	30.1	20.6
IRL(S11)	dB	-22.3	-24.4	-24.1	-24.1	-19.3	-15.1
ORL(S22,S33)	dB	-27.1	-36.4	-34.1	-34.1	-27.4	-26.4
Phase Diff.	deg	0.2	0.2	0.3	0.3	0.5	0.8
Amplitude Balance	dB	0.03	0.04	0.04	0.04	0.06	0.07

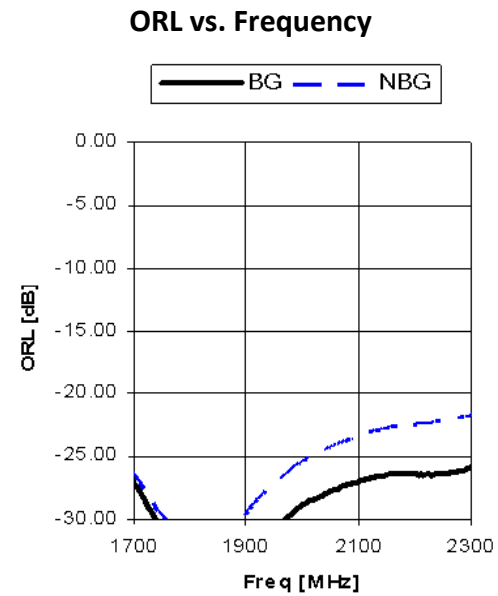
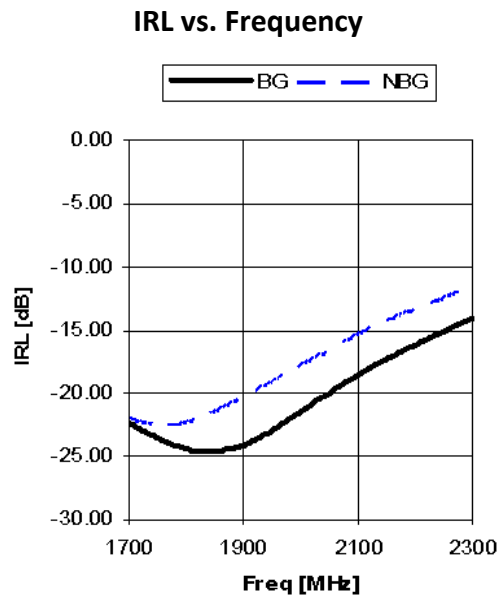
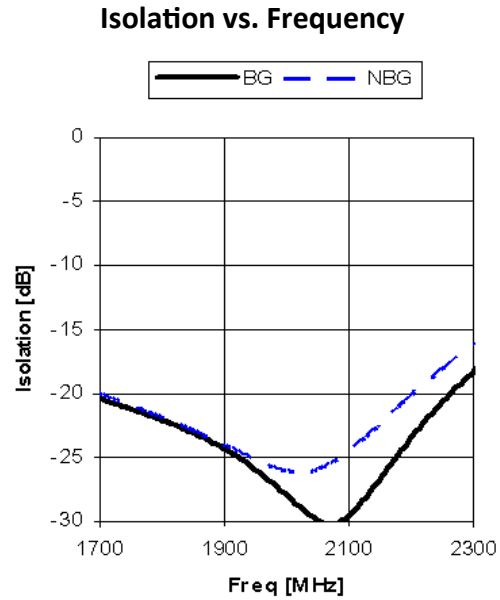
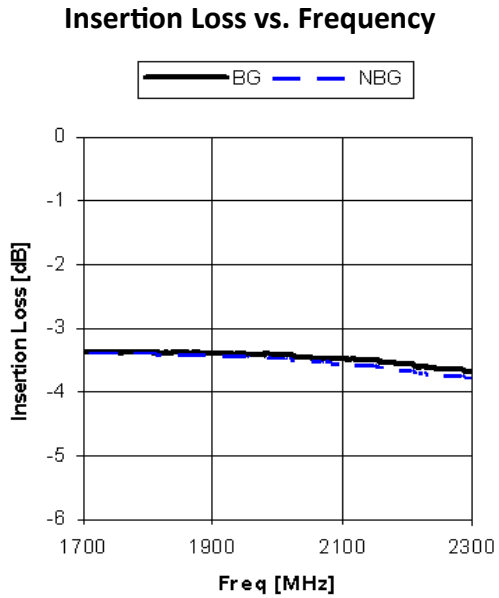
Without Back Side Ground Soldering

Parameters	Unit	PCS, WCDMA & TD-SCDMA					
Frequency Range	MHz	1700	1800	1900	1900	2075	2250
Insertion Loss	dB	0.38	0.40	0.43	0.43	0.54	0.75
Isolation	dB	20.0	21.9	24.1	24.1	25.4	18.1
IRL(S11)	dB	-22.0	-22.3	-20.3	-20.3	-16.0	-12.4
ORL(S22,S33)	dB	-26.4	-32.9	-29.5	-29.5	-23.8	-22.1
Phase Diff.	deg	1.0	1.0	1.0	1.0	0.9	0.8
Amplitude Balance	dB	0.06	0.06	0.06	0.06	0.05	0.04

BD19B

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Notes)

- BG: Data taken with backside ground soldering
- NBG: Data taken without backside ground soldering

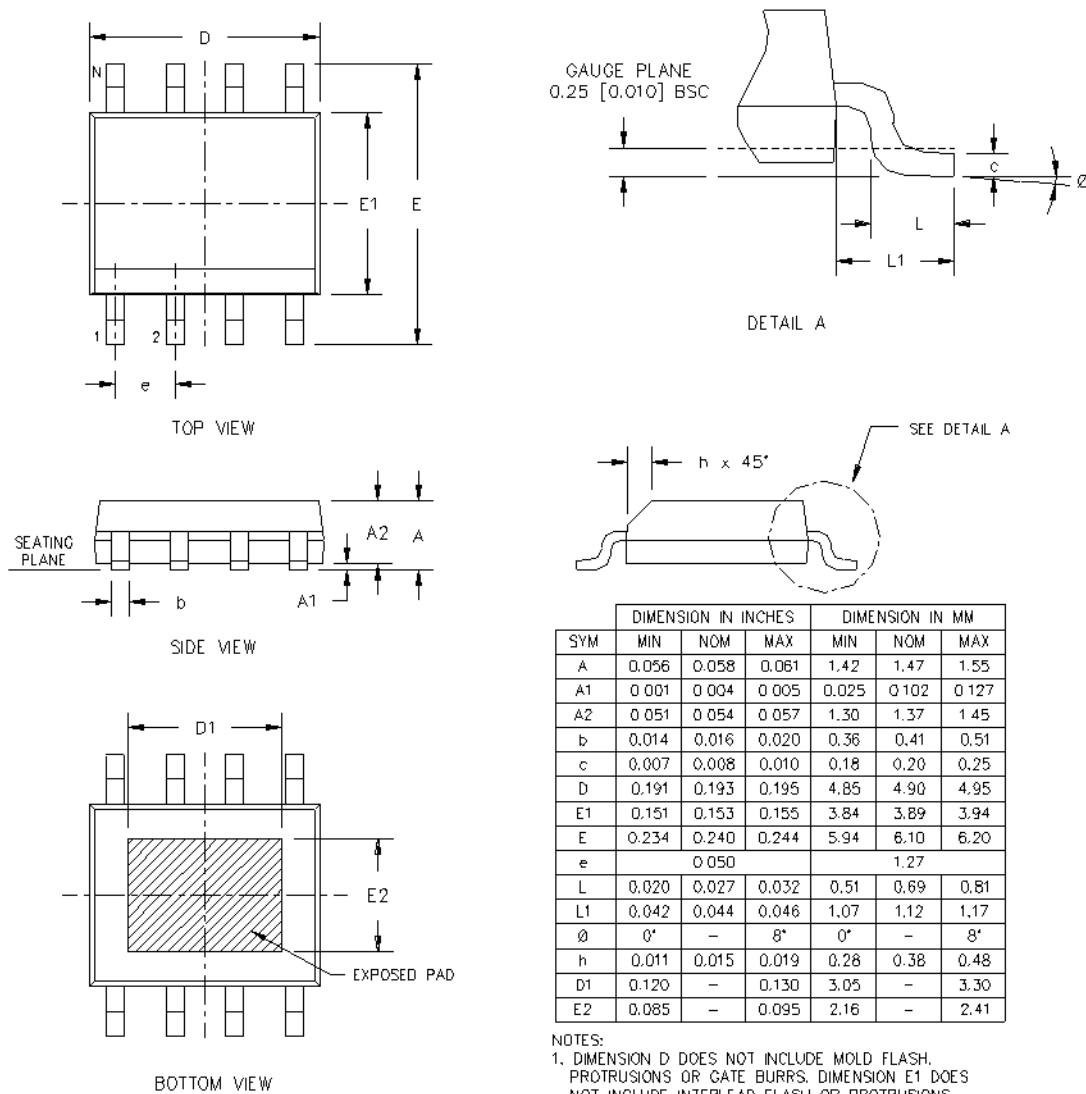
BD19B

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Package Outline Drawing



NOTES:

1. DIMENSION D DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. DIMENSION E1 DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSIONS.
2. COPLANARITY APPLIES TO THE TERMINALS. COPLANARITY SHALL NOT EXCEED 0.003" [0.08 mm].
3. BASED FROM JEDEC MS-012 VARIATION AA.

BD19B

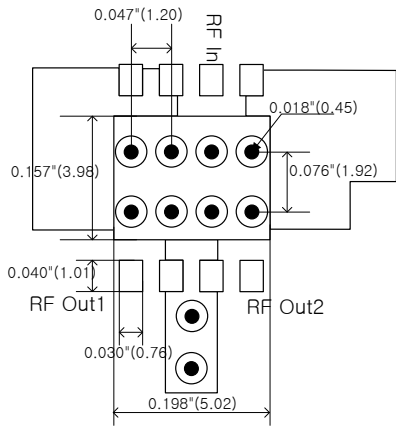
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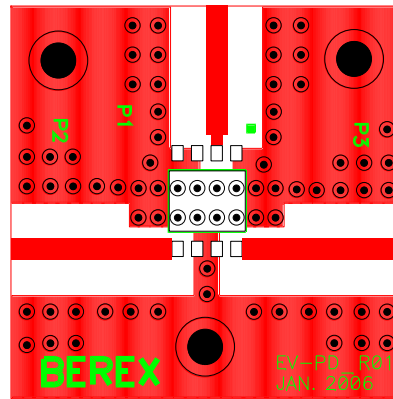


Suggested PCB Land Pattern and PAD Layout

PCB Land Pattern



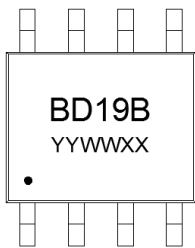
PCB Mounting



Note : All dimension _ millimeters

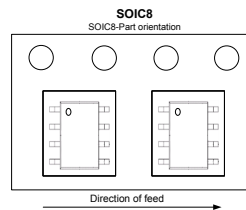
PCB lay out _ on BeRex website

Package Marking



YY = Year, WW = Working Week,
XX = Wafer No.

Tape & Reel



Packaging information:

- Tape Width (mm): 12
- Reel Size (inches): 7
- Device Cavity Pitch (mm): 8
- Devices Per Reel: 1000

Lead plating finish

100% Tin Matte finish

(All BeRex products undergoes a 1 hour, 150 degree C, Anneal bake to eliminate thin whisker growth concerns.)

MSL / ESD Rating

MSL Rating: Level 3 at +265°C convection reflow

Standard: JEDEC Standard J-STD-020

NATO CAGE code:

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