

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.)

Applications

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

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	dB
ORL(S22/S33)		-23	-15	dB
Amplitude Balance		0.05	0.2	dB
Phase Balance		0.5	1.0	deg

*All specifications apply to the following test conditions,

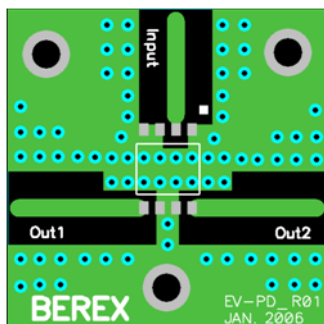
1. Device performance _ measured on BeRex E/B at 25°C, 50ohm system.
2. Insertion Loss: Above 3.0dB.
3. Back side ground _ soldered.

Absolute Maximum Ratings

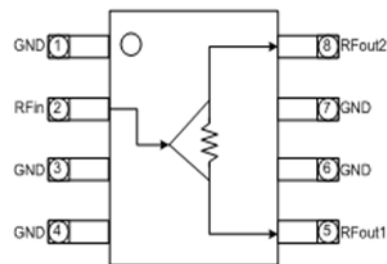
Parameter	Rating
Input Power	1W CW dBm
Storage Temperature	-55 to +155°C
Operating Temperature	-40 to +85°C

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.

Typical Test Data

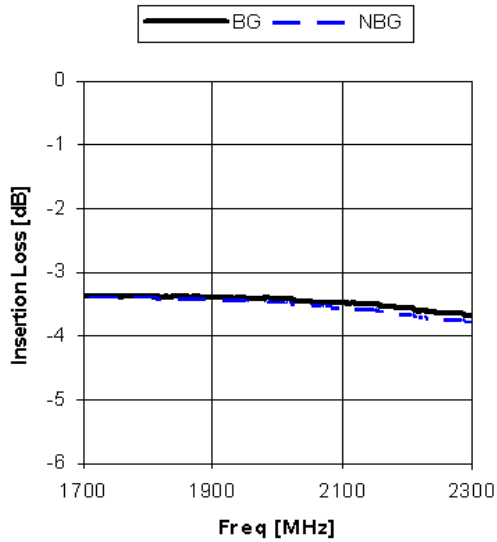
With Back Side Ground Soldering

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

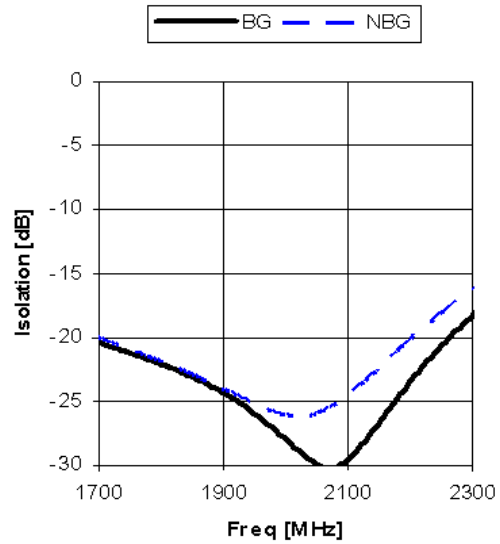
Without Back Side Ground Soldering

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

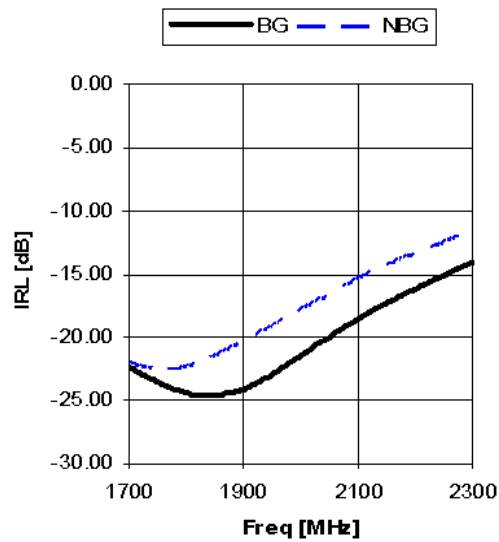
Insertion Loss vs. Frequency



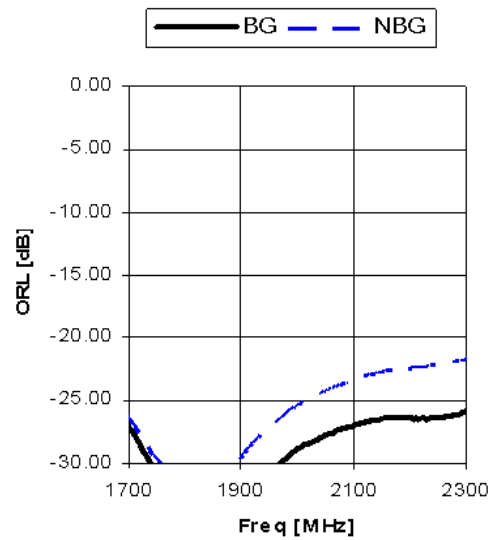
Isolation vs. Frequency



IRL vs. Frequency



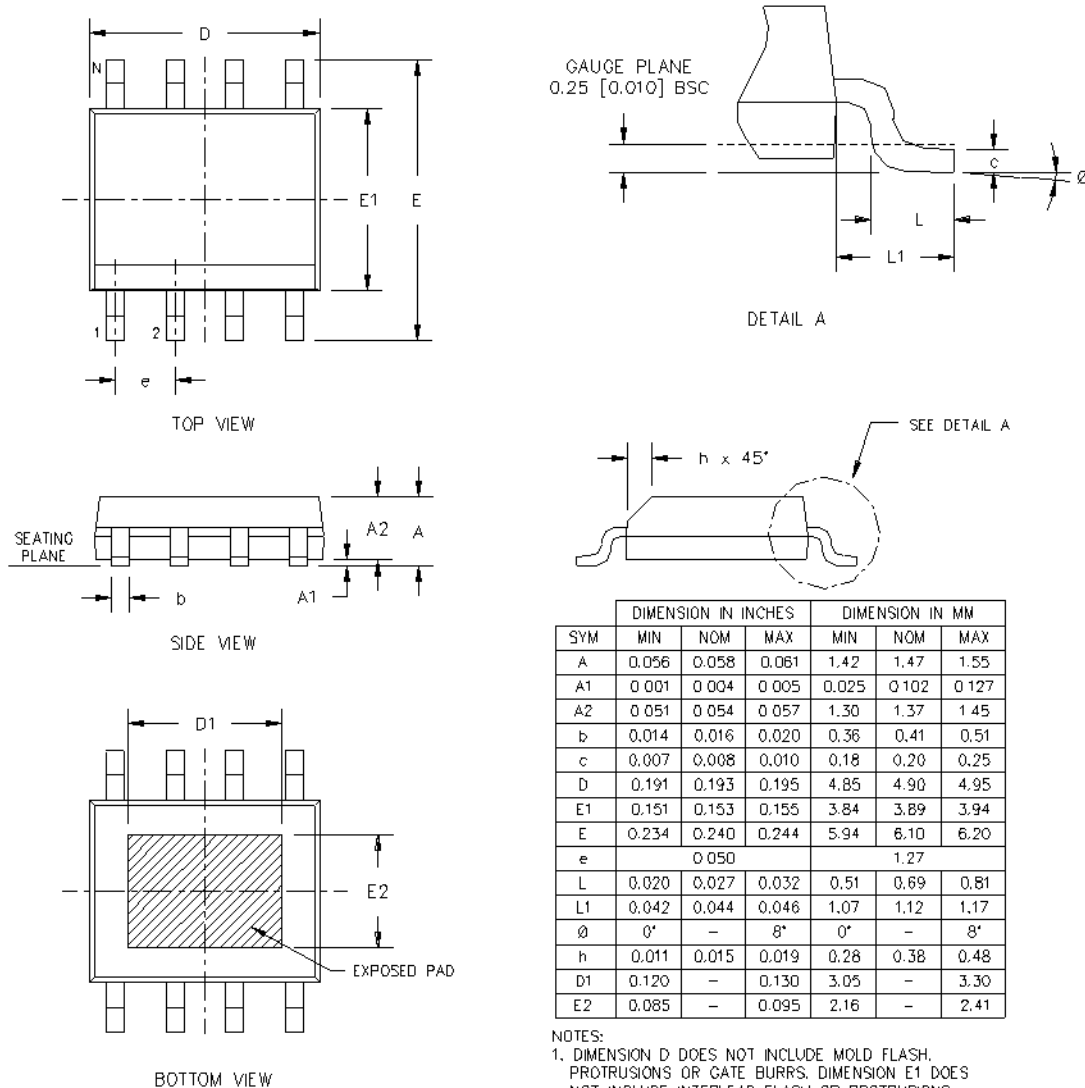
ORL vs. Frequency



Notes)

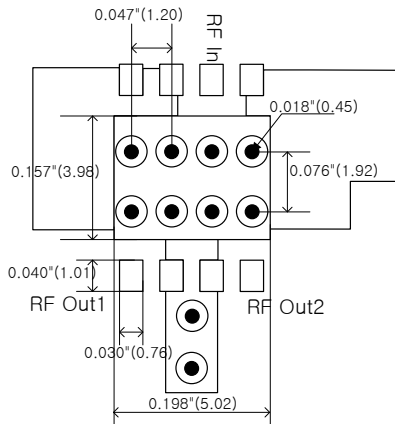
- BG: Data taken with backside ground soldering
- NBG: Data taken without backside ground soldering

Package Outline Drawing

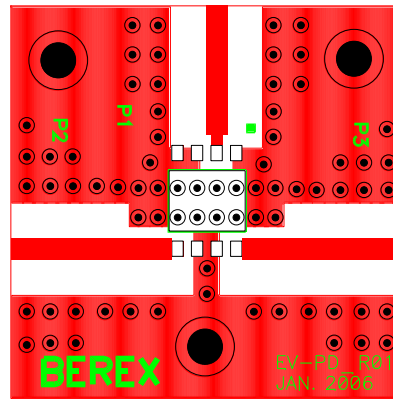


Suggested PCB Land Pattern and PAD Layout

PCB Land Pattern



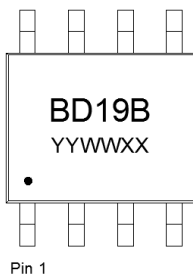
PCB Mounting



Note : All dimension _ millimeters

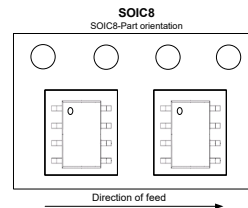
PCB lay out _ on BeRex website

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

Proper ESD procedures should be followed when handling this device.

NATO CAGE code:

2	N	9	6	F
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