

# BD25B

## Quadruple Band 2-Way SMT Power Divider

1700~2500MHz USPCS & PCS, WCDMA & TD-SCDMA, WiBro



### Device Features

- Typical Isolation = 23 dB
- Typical Insertion Loss = 0.5 dB
- MSL 3 moisture rating
- Lead-free/RoHS-compliant SOIC-8 Plastic Package  
With exposed back side ground pad



### Product Description

BeRex's Divider BD25B is designed for PCS, WCDMA & TD-SCDMA and WiBro 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 Performance<sup>1</sup>

Parameter	Min	Typical	Max	Unit
Frequency Range	1700		2500	MHz
Insertion Loss		0.5	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		0.7	2.0	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

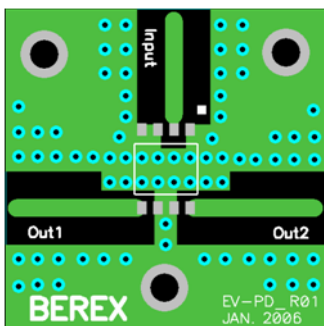
- Base station Infrastructure
- Commercial/Industrial/Military wireless system

### Absolute Maximum Ratings

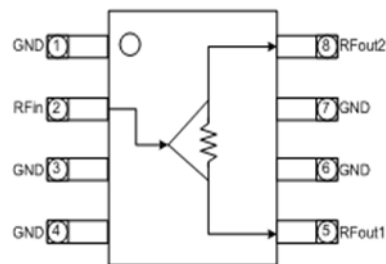
Parameter	Rating
Input Power	1W CW dBm
Storage Temperature	-55 to +155°C
Operating Temperature	-40 to +85°C

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.

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### Typical Test Data

#### With Back Side Ground Soldering

Parameters	Unit	USPCS & PCS			TD-SCDMA WCDMA			WiBro		
		1700	1800	1900	1900	2075	2250	2200	2350	2500
Frequency Range	MHz	1700	1800	1900	1900	2075	2250	2200	2350	2500
Insertion Loss	dB	0.37	0.38	0.38	0.38	0.42	0.53	0.48	0.60	0.75
Isolation	dB	19.6	20.8	21.9	21.9	25.7	28.9	30.6	22.2	15.5
IRL(S11)	dB	-21.3	-23.7	-25.4	-25.4	-22.0	-17.3	-18.5	-15.2	-12.6
ORL(S22,S33)	dB	-24.4	-32.2	-33.9	-33.9	-24.7	-22.4	-22.6	-22.5	-22.7
Phase Diff.	deg	0.2	0.2	0.3	0.3	0.4	0.5	0.5	0.7	0.7
Amplitude Balance	dB	0.07	0.07	0.07	0.08	0.09	0.10	0.10	0.12	0.10

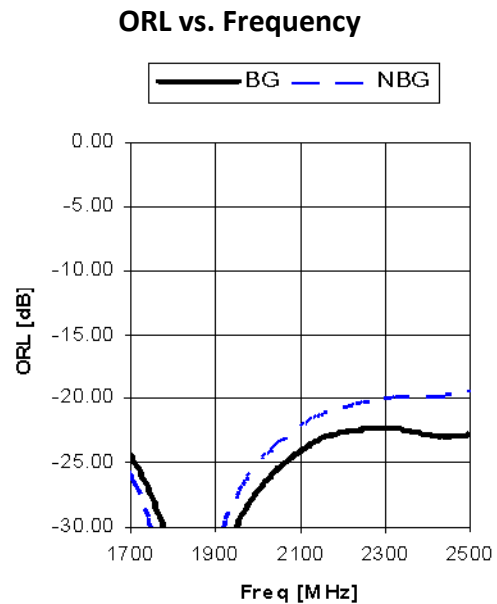
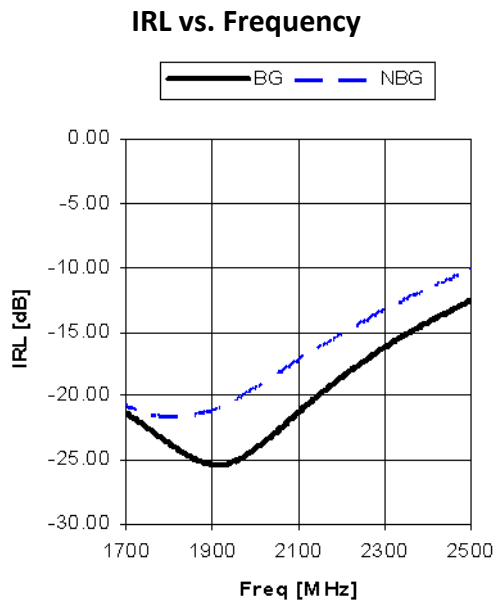
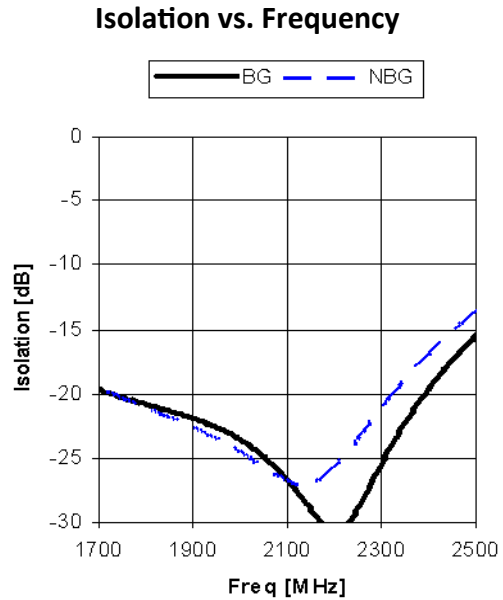
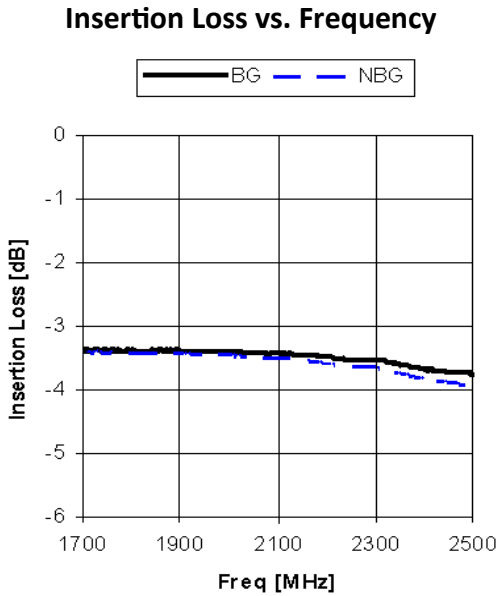
#### Without Back Side Ground Soldering

Parameters	Unit	USPCS & PCS			TD-SCDMA WCDMA			WiBro		
		1700	1800	1900	1900	2075	2250	2200	2350	2500
Frequency Range	MHz	1700	1800	1900	1900	2075	2250	2200	2350	2500
Insertion Loss	dB	0.40	0.41	0.42	0.42	0.49	0.64	0.59	0.75	0.94
Isolation	dB	19.5	21.1	22.7	22.7	26.3	23.6	25.7	19.0	13.7
IRL(S11)	dB	-20.8	-21.7	-21.1	-21.1	-17.8	-14.3	-15.2	-12.4	-10.2
ORL(S22,S33)	dB	-25.9	-37.8	-31.5	-31.5	-22.8	-20.3	-20.6	-19.9	-19.4
Phase Diff.	deg	1.5	1.5	1.6	1.6	1.7	1.7	1.7	1.7	2.0
Amplitude Balance	dB	0.08	0.08	0.09	0.09	0.11	0.10	0.11	0.10	0.08

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### Notes)

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

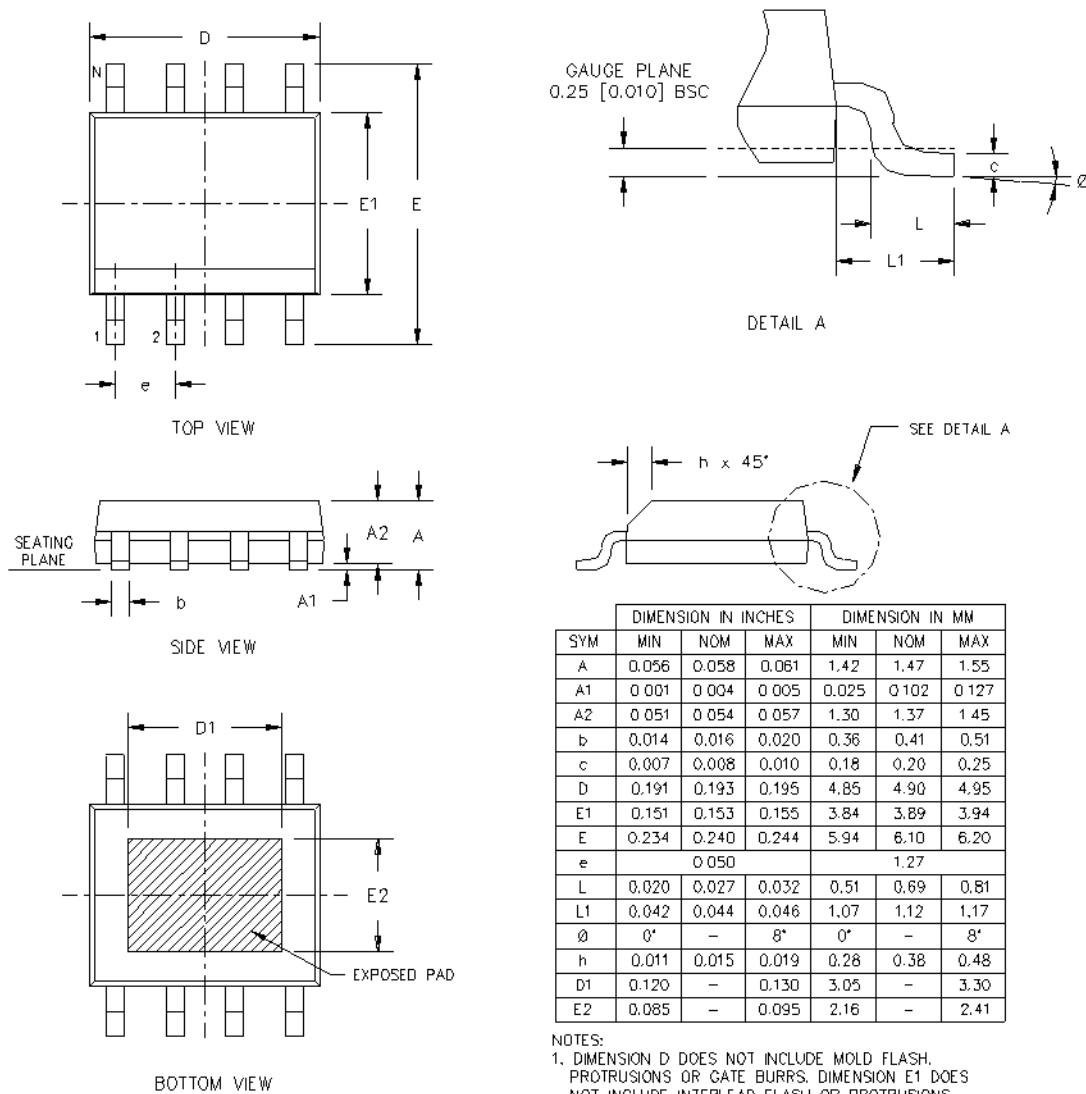
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### Package Outline Drawing



- 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.

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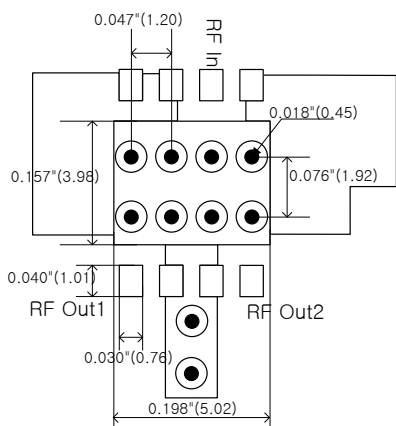


## Quadruple Band 2-Way SMT Power Divider

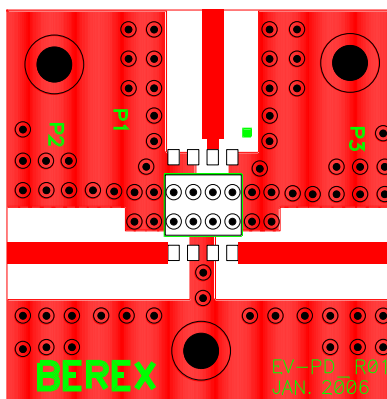
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### Suggested PCB Land Pattern and PAD Layout

#### PCB Land Pattern



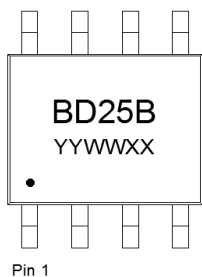
#### PCB Mounting



Note : All dimension \_ millimeters

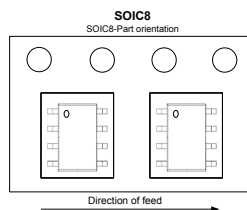
PCB lay out \_ on BeRex website

#### 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:

2	N	9	6	F
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