

Product Features

Operating Frequency: DC ~ 6GHz

Slope: 5dB

Package: DFN8

Application

Mobile Infrastructure

LTE/WCDMA/CDMA/GSM

General Wireless

TDD or FDD Systems

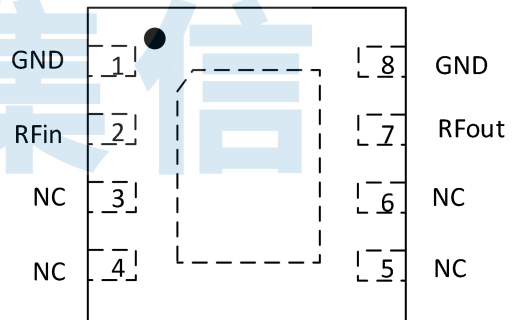
General Description

The BR9312DA is an absorptive gain equalizer fabricated using IPD MMIC process in a 2mm×2mm DFN8 package. Covering a frequency range of DC to 6GHz, BR9312DA has a nominal attenuation slope of 5dB with Π -type structure topology. The product has the advantage of wide bandwidth, low insertion loss, and good equalization slope, which can meet the gain equalization compensation of amplifier, receiver and transmitter system to improve the gain flatness within the operating frequency band.

Ordering Information

Part Number	Package	Description
BR9312DA	DFN8	DC~6GHz 5dB Equalizer

Functional Block Diagram



Electrical Specifications @+25°C

Parameters	Test Conditions	Min.	Typ.	Ma.	Units
Insertion Loss	10MHz	-	-5.80	-	dB
	1000MHz	-	-5.41	-	dB
	3000MHz	-	-3.21	-	dB
	6000MHz	-	-0.68	-	dB
Input Return Loss	10MHz	-	-47.47	-	dB
	1000MHz	-	-24.78	-	dB
	3000MHz	-	-18.12	-	dB
	6000MHz	-	-28.24	-	dB
Output Return Loss	10MHz	-	-45.58	-	dB
	1000MHz	-	-24.80	-	dB
	3000MHz	-	-18.66	-	dB
	6000MHz	-	-22.90	-	dB

Absolute Maximum Ratings

Maximum RF input Power: +28dBm;

Recommended Operating Conditions

Storage Temperature: -65°C ~ +150°C

Operating Temperature: -55°C ~ +125°C

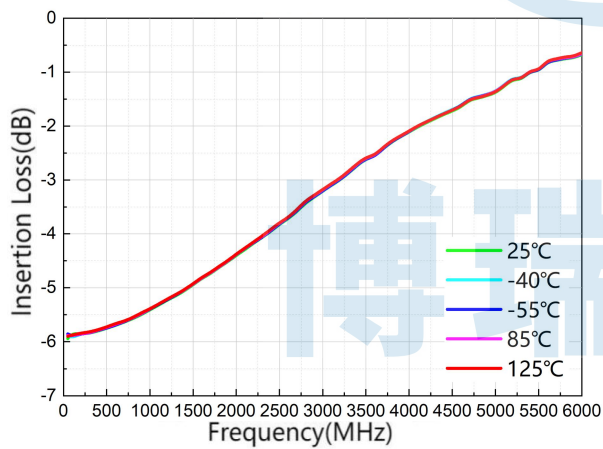
Note: Operation of the device outside the parameter ranges given absolute-maximum-ratings conditions may cause permanent damage, and. exposure to absolute-maximum-ratings conditions for extended periods will affect the reliability.

ESD WARNING

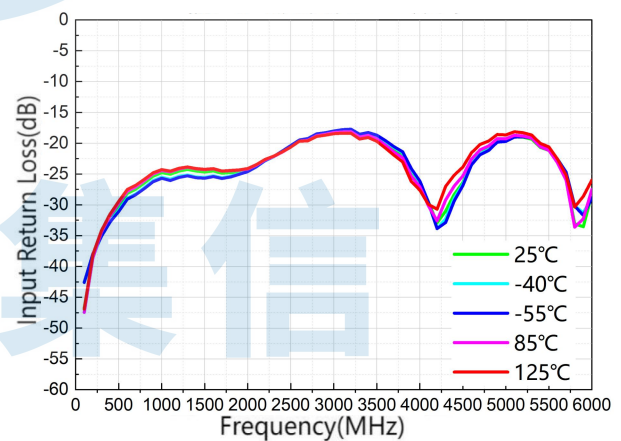

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Typical Performance (EVB test results)

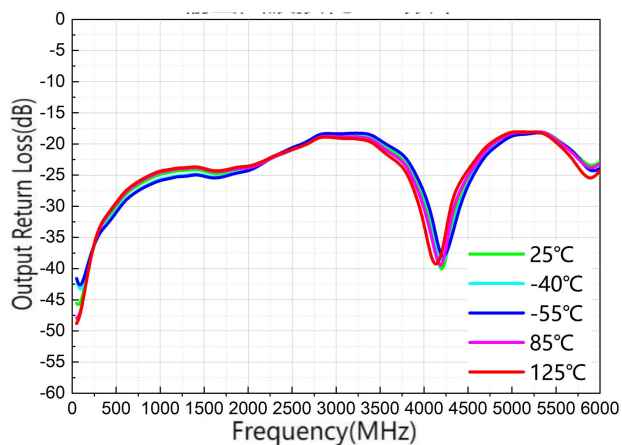
Parameters	Typ.								Units
Frequency	10	100	300	500	800	1000	1500	2000	MHz
Insertion Loss	-5.80	-5.84	-5.84	-5.75	-5.57	-5.41	-4.94	-4.40	dB
Input Return Loss	-47.47	-46.70	-34.68	-30.10	-26.44	-24.78	-24.65	-24.38	dB
Output Return Loss	-45.58	-46.16	-33.72	-29.94	-26.13	-24.80	-24.34	-24.10	dB
Parameters	Typ.								Units
Frequency	2500	3000	3500	4000	4500	5000	5500	6000	MHz
Insertion Loss	-3.82	-3.21	-2.61	-2.11	-1.72	-1.39	-0.99	-0.68	dB
Input Return Loss	-20.56	-18.12	-18.96	-26.32	-26.38	-19.62	-21.17	-28.24	dB
Output Return Loss	-20.86	-18.66	-19.87	-28.54	-25.87	-18.39	-19.12	-22.90	dB
Test Conditions: Pin=0dBm, Temp=+25 ° C									



Insertion Loss

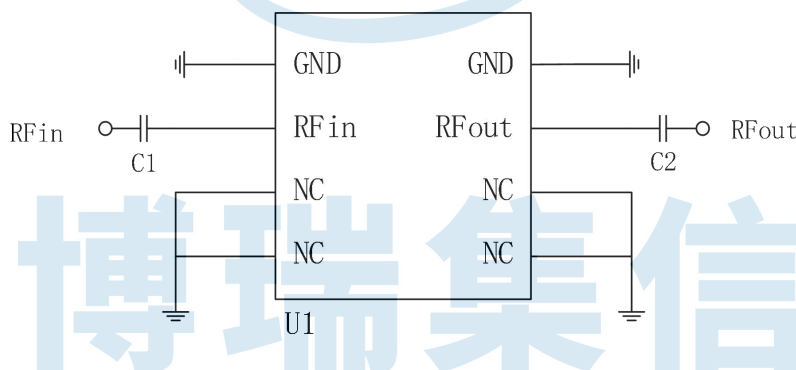


Input Return Loss



Output Return Loss

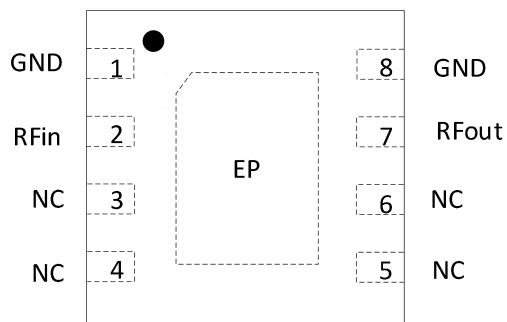
Typical Application Schematic



Bill of Material

Reference Designator	Package	Description	Part Number
U1	DFN8	Equalizer	BR9312DA
C1,C2	0402	1uF	GRM155Z71A105KE01D

Pin Configuration and Description



Pin Number	Pin Name	Description
2	RFin	RF input pin. A DC Block is required.
7	RFout	RF output pin. A DC Block is required.
1, 8	GND	Ground pins. These pins must be connected to the RF/DC ground.
3,4,5,6	NC	No electrical connection. These pins should be connected to ground
-	EP	Exposed pin. The exposed pad must be connected to RF/DC ground.

Package Dimensions (mm)

