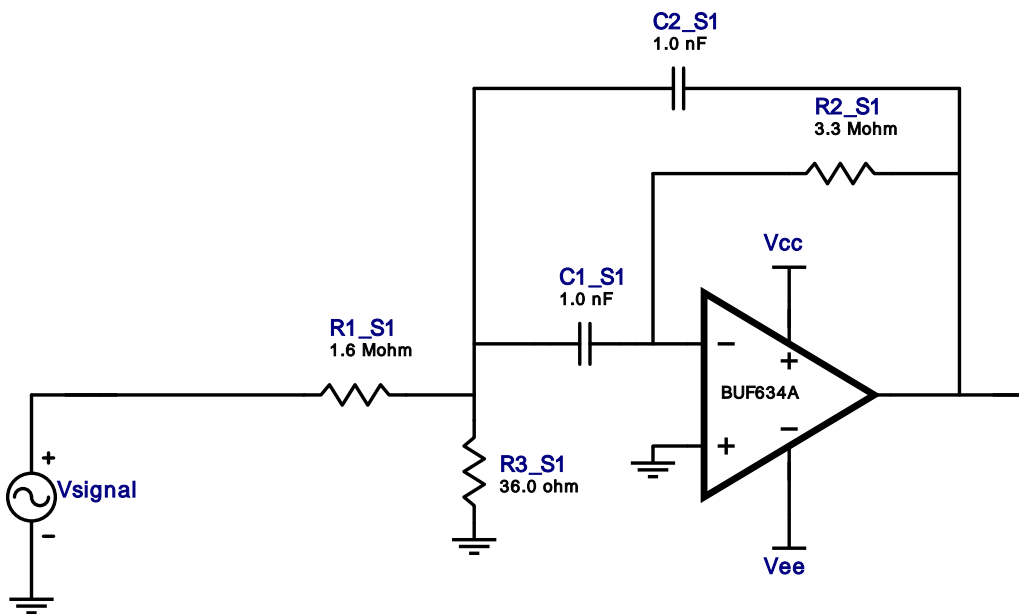


Type : Bandpass
Response : Butterworth
Order : 2
Number of Stages : 1

Filter Design Report

Design : Bandpass Filter - 2nd order Butterworth
Design ID: 13

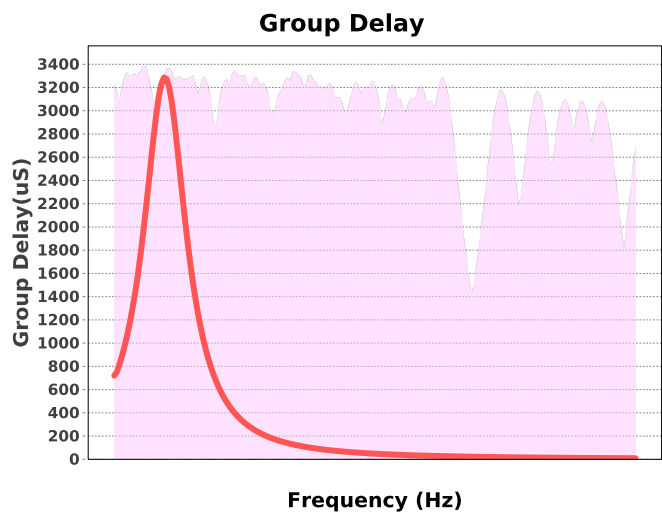
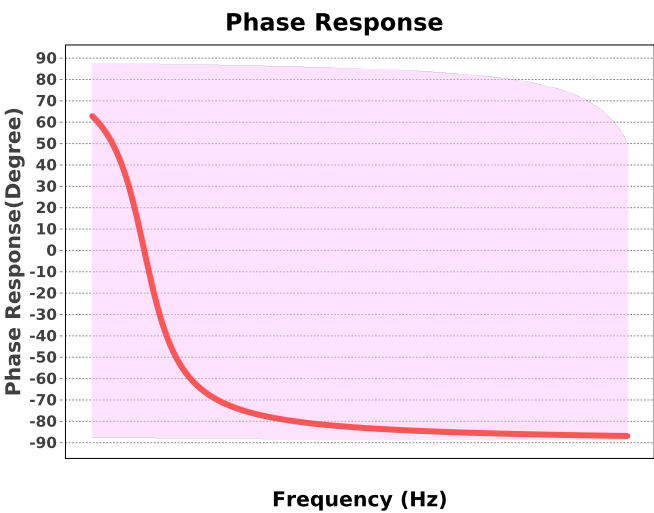
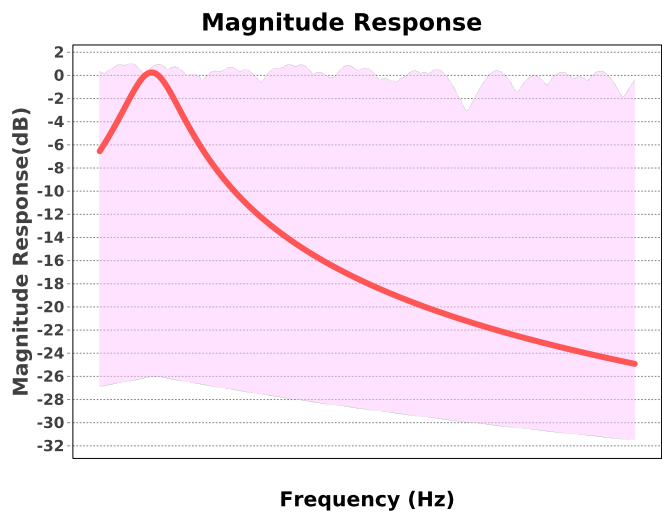


Electrical BOM

| # | Name | Manufacturer | Part Number | Properties | Qty |
|----|-------|------------------------|-------------|---|-----|
| 1. | A1_S1 | Texas Instruments Inc. | BUF634A | GbwTyp= 240MHz VccMax= 36V VccMin= 4.5V | 1 |
| 2. | C1_S1 | Generic | Ideal | Cap= 1.0 nF Tolerance= 5.0 % | 1 |
| 3. | C2_S1 | Generic | Ideal | Cap= 1.0 nF Tolerance= 5.0 % | 1 |
| 4. | R1_S1 | Generic | Ideal | Res= 1600000.0ohm Tolerance= 5% | 1 |
| 5. | R2_S1 | Generic | Ideal | Res= 3300000.0ohm Tolerance= 5% | 1 |
| 6. | R3_S1 | Generic | Ideal | Res= 36.0ohm Tolerance= 5% | 1 |

Sensitivity Analysis

| # | Name | Series | Tolerance |
|----|------|--------|-----------|
| 1. | Cap | E24 | 5% |
| 2. | Res | E24 | 5% |



Design Inputs

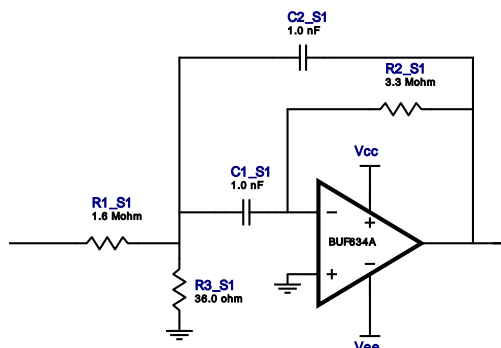
| # | Name | Value | Description |
|-----|---------------------|-------------------|---|
| 1. | FilterType | bandpass | |
| 2. | FilterResponse | Butterworth | |
| 3. | FilterOrder | 2.0 | |
| 4. | FilterTopology | Multiple Feedback | |
| 5. | NumberOfStages | 1.0 | |
| 6. | CenterFrequency | 15.0 k | |
| 7. | StopbandAttenuation | -20.043 | |
| 8. | PassbandBandwidth | 100.0 | |
| 9. | StopbandBandwidth | 1,000.0 | |
| 10. | Gain | 1.0 | |
| 11. | DualSupply | +/-15.00 V | Power supply(s) to active chips |
| 12. | ResistorTolerance | E24 | Resistor series - 5% Passive resistor tolerance |
| 13. | CapacitorTolerance | E24 | Capacitor series - 5% Passive capacitor tolerance |

Design Assistance

1. **BUF634A** Product Folder : <http://www.ti.com/product/BUF634A> : contains the data sheet and other resources.

Filter Stage :1

Cutoff Frequency 14.602 kHz
 Min GBW Req'd 225.0 MHz
 Stage Gain 1.031 V/V
 Stage Q 151.384
 Stage Topology Multiple Feedback



Electrical BOM

| # | Name | Manufacturer | Part Number | Properties | Qty |
|----|-------|------------------------|-------------|---|-----|
| 1. | A1_S1 | Texas Instruments Inc. | BUF634A | GbwTyp= 240MHz VccMax= 36V VccMin= 4.5V | 1 |
| 2. | C1_S1 | Generic | Ideal | Cap= 1.0 nF Tolerance= 5.0 % | 1 |
| 3. | C2_S1 | Generic | Ideal | Cap= 1.0 nF Tolerance= 5.0 % | 1 |
| 4. | R1_S1 | Generic | Ideal | Res= 1600000.0ohm Tolerance= 5% | 1 |
| 5. | R2_S1 | Generic | Ideal | Res= 3300000.0ohm Tolerance= 5% | 1 |
| 6. | R3_S1 | Generic | Ideal | Res= 36.0ohm Tolerance= 5% | 1 |

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