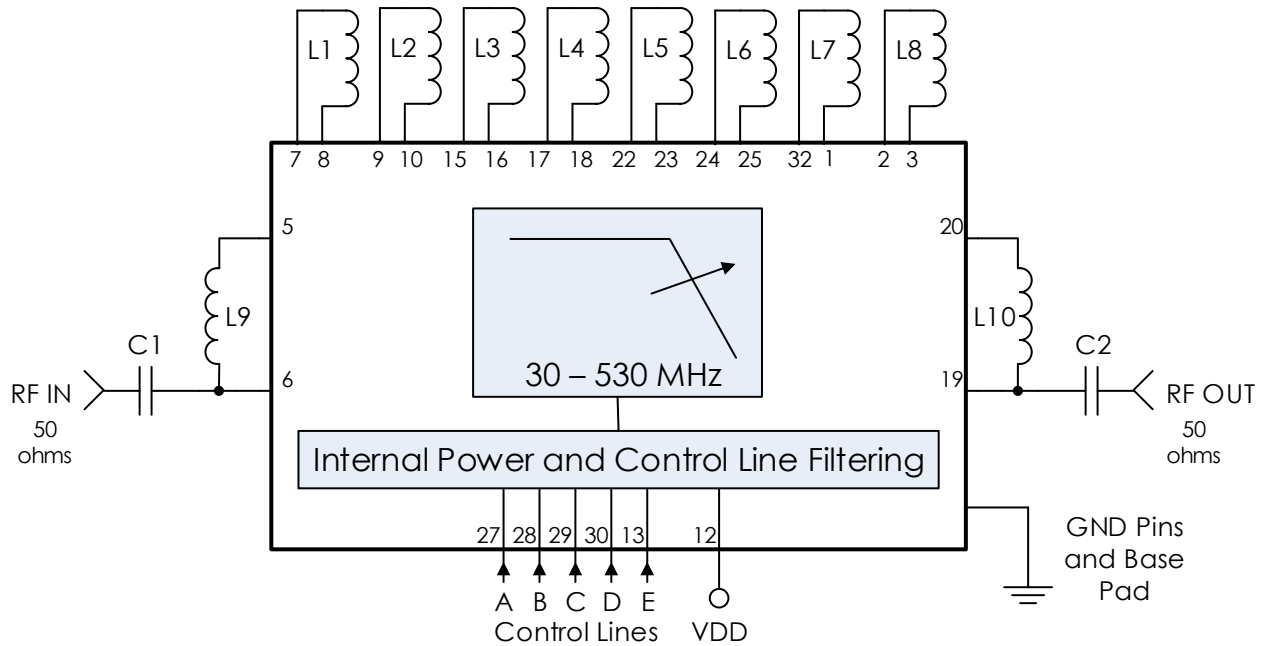


AM3150 Application Note

Digitally Tunable 30 to 530 MHz Lowpass

Typical Application

Configuration A: Best Performance



Recommended Component List (or equivalent):

Part	Value	Part Number	Manufacturer
C1, C2	0.1 μ F	0201BB104KW160	Passives Plus
L1, L4	18 nH	0805HP-18NXGRB	Coilcraft
L2, L3	27.3 nH	0908SQ-27NGLB	Coilcraft
L5, L8	150 nH	0805HP-151XGRB	Coilcraft
L6, L7	120 nH	0805HP-121XGRB	Coilcraft
L9, L10	11 nH	0302CS-11NXJEU	Coilcraft

Notes:

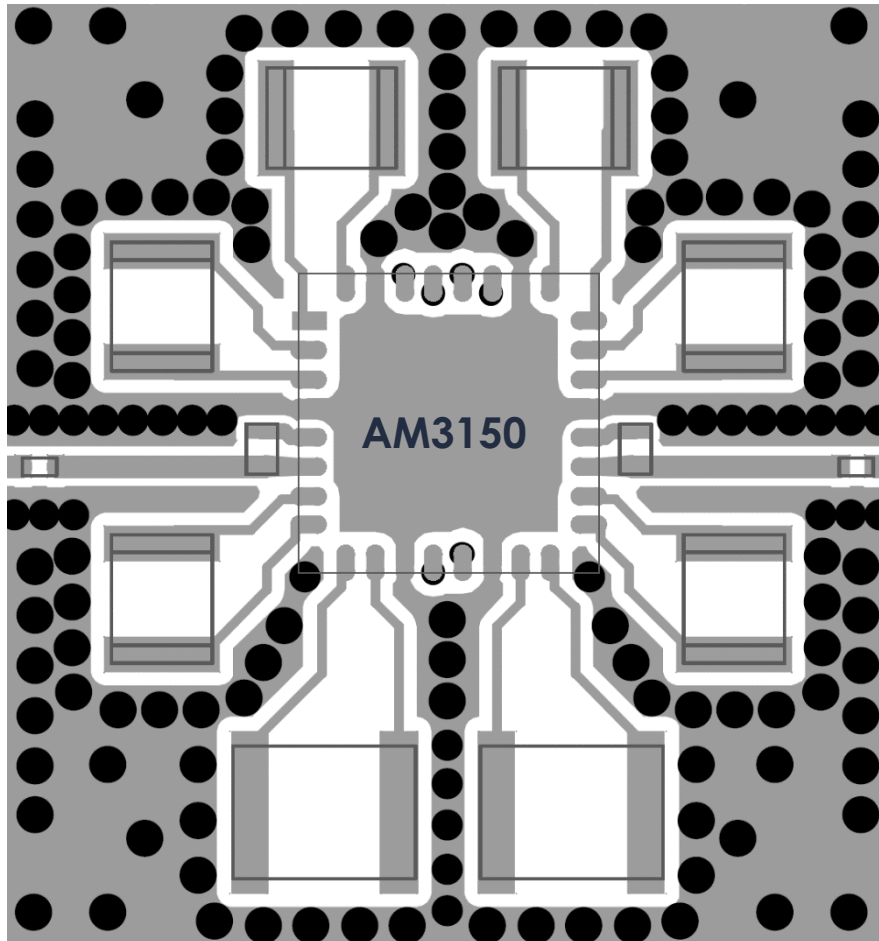
1. RF blocking capacitors should be high performance, low-loss, broadband capacitors for optimum performance.
2. VDD and control lines filtered internally providing high frequency isolation.
3. RC time constant is 20ns for control lines.
4. Tallest component: 1.83mm +/- 0.203mm

AM3150 Application Note

Digitally Tunable 30 to 530 MHz Lowpass

Recommended Layout

Configuration A: Best Performance



Notes:

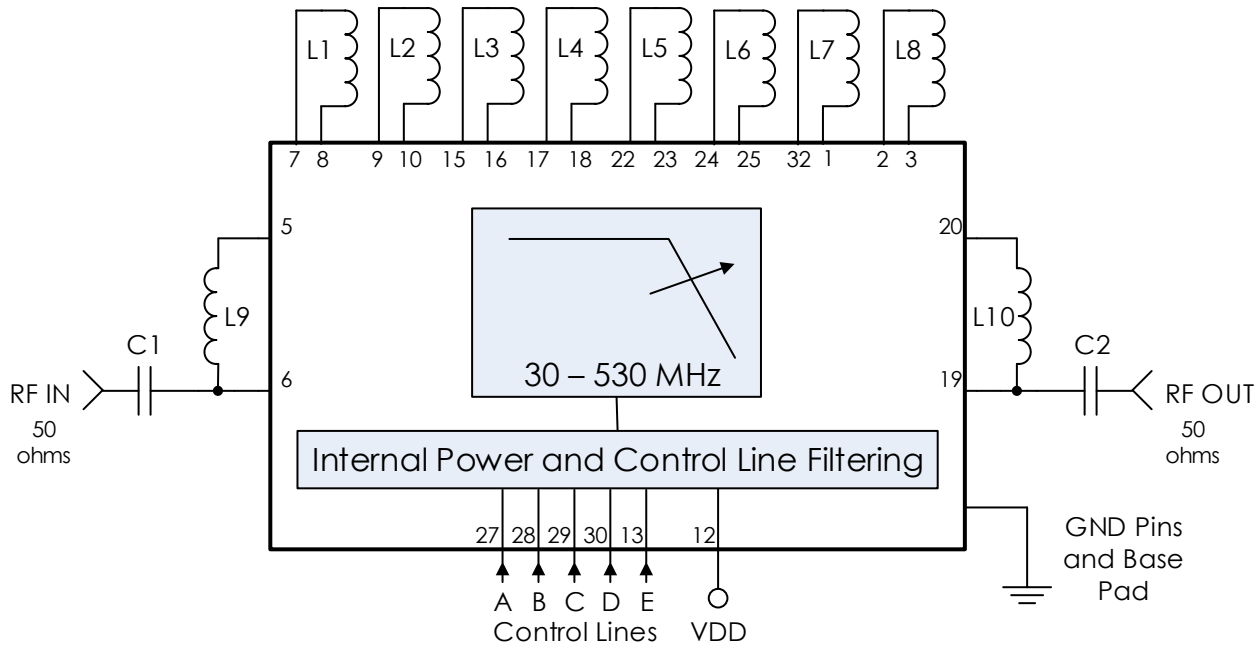
1. Recommended input trace is grounded coplanar waveguide, 50 ohms.
2. IC and RF inputs / outputs should be via fenced.
3. Vias should be placed under IC and GND pads (not shown).
4. Vias shown are 10mil hole size with 24mil pad.
5. To facilitate a better layout, control lines and power should via directly into board.
6. Vias shown here are 6mil hole size with 14mil pad.
7. Ground pour around inductors should be at least 8mil away to minimize fringing capacitance.
8. L9 and L10 should be as close to AM3150 as possible.

AM3150 Application Note

Digitally Tunable 30 to 530 MHz Lowpass

Typical Application

Configuration B: Smallest Form Factor



Recommended Component List (or equivalent):

Part	Value	Part Number	Manufacturer
C1, C2	0.1 μ F	0201BB104KW160	Passives Plus
L1, L4	18 nH	0603HP-18NXGEU	Coilcraft
L2, L3	27 nH	0603HP-27NXGEU	Coilcraft
L5, L8	150 nH	0603HP-R15XGEU	Coilcraft
L6, L7	120 nH	0603HP-R12XGEU	Coilcraft
L9, L10	11 nH	0302CS-11NXJEU	Coilcraft

Notes:

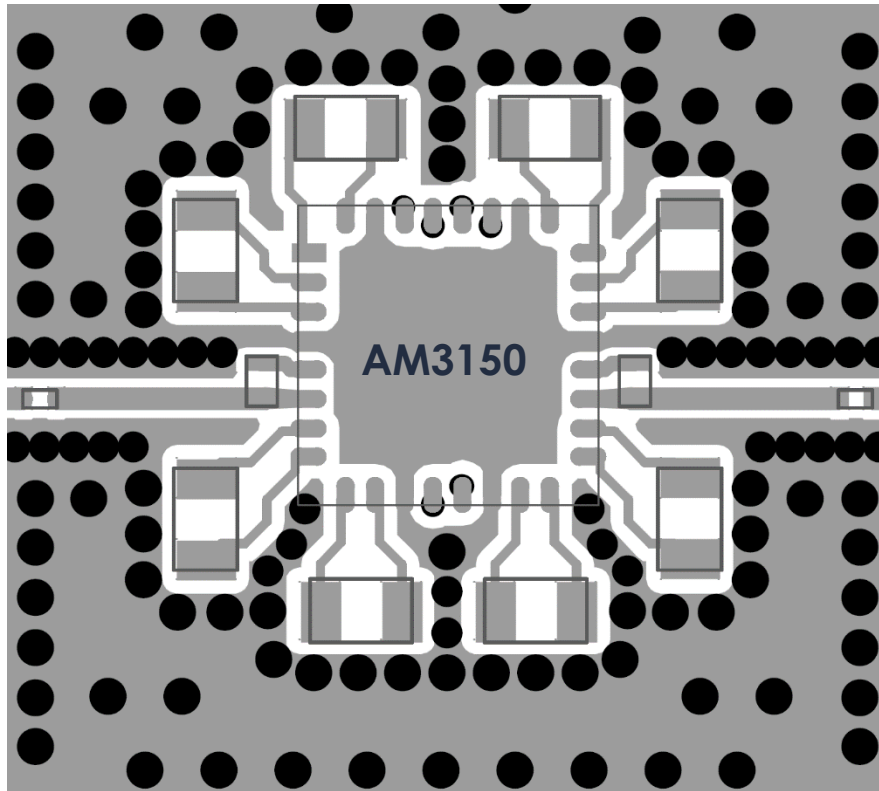
1. RF blocking capacitors should be high performance, low-loss, broadband capacitors for optimum performance.
2. VDD and control lines filtered internally providing high frequency isolation.
3. RC time constant is 20ns for control lines.
4. Tallest component: 1.2mm +/- 0.1mm

AM3150 Application Note

Digitally Tunable 30 to 530 MHz Lowpass

Recommended Layout

Configuration B: Smallest Form Factor



Notes:

1. Recommended input trace is grounded coplanar waveguide, 50 ohms.
2. IC and RF inputs / outputs should be via fenced.
3. Vias should be placed under IC and GND pads (not shown).
4. Vias shown are 10mil hole size with 24mil pad.
5. To facilitate a better layout, control lines and power should via directly into board.
6. Vias shown here are 6mil hole size with 14mil pad.
7. Ground pour around inductors should be at least 8mil away to minimize fringing capacitance.
8. L9 and L10 should be as close to AM3150 as possible.

Revision History

Date	Revision Number	Notes
April 10, 2020	1	Initial Release
October 23, 2020	2	Added Configuration B information for smaller form factor.