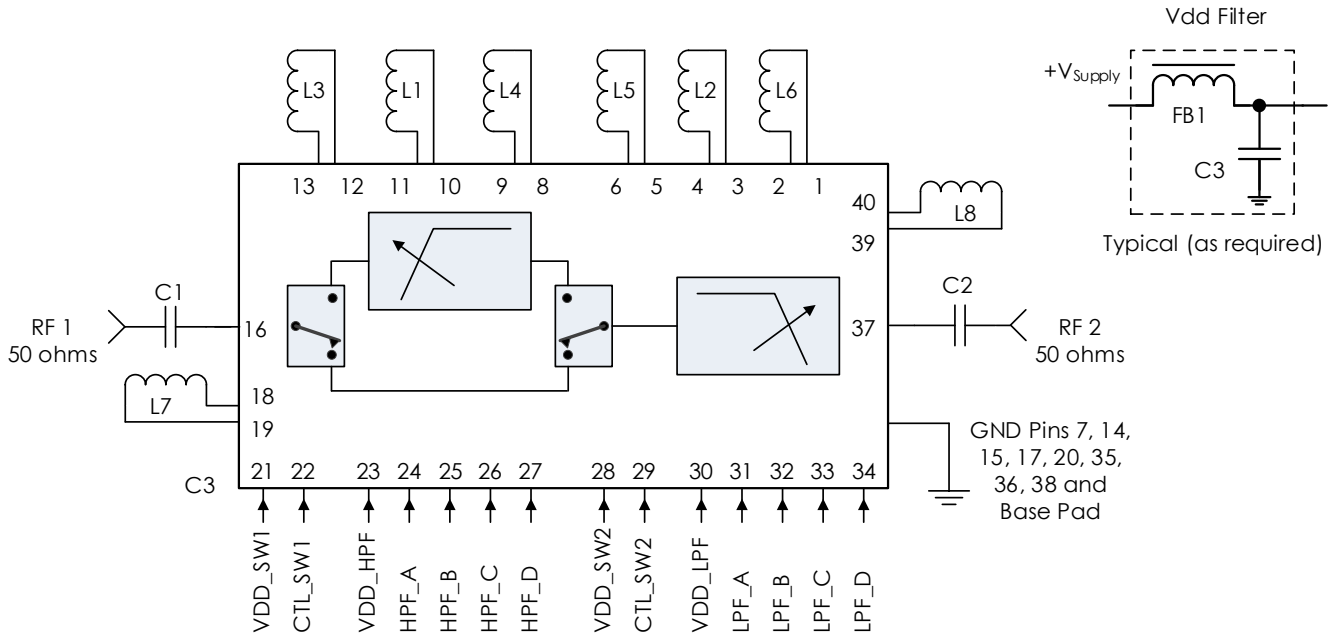
AM3090 / AM3098 Application Note

Digitally Tunable Bandpass

Typical Application



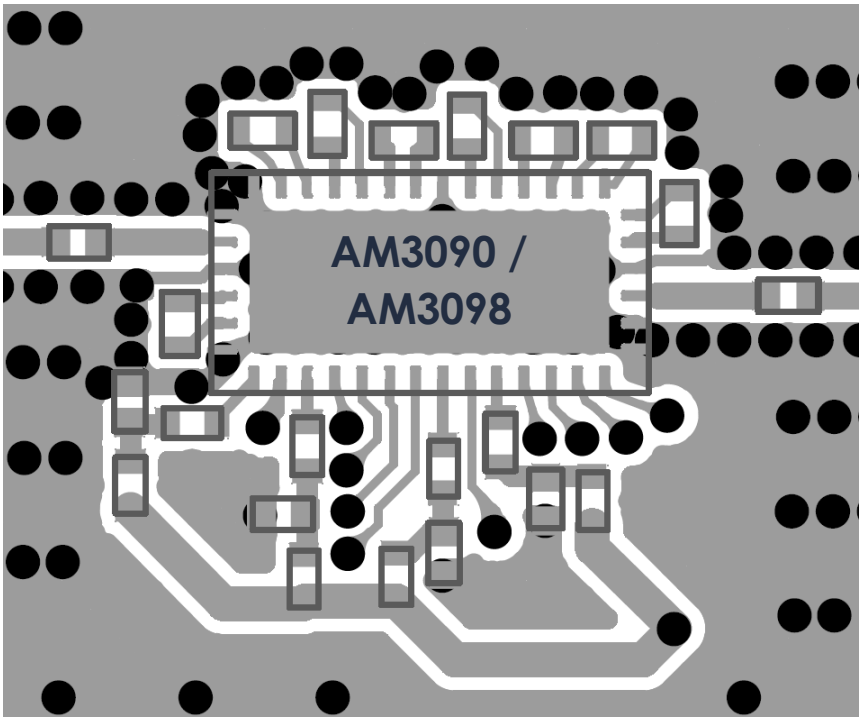
Recommended Component List (or equivalent):

Part	Value	Part Number	Manufacturer
C1, C2	0.1µF	0402BB104KW160	Passive Plus
C3	0.1µF	C1005X7R1H104K050BB	TDK
FB1	-	MMZ1005A222E	TDK
L4, L7	68 nH	0402HP-68NXGLW	Coilcraft
L1, L3	56 nH	0402HP-56NXGLW	Coilcraft
AM3090			
L2, L6	27 nH	0402HP-27NXGLW	Coilcraft
L5, L8	24 nH	0402HP-24NXGLW	Coilcraft
AM3098			
L2, L6	6.8 nH	0402HP-6N8XGLW	Coilcraft
L5, L8	6.2 nH	0402HP-6N2XGLW	Coilcraft

Notes:

1. DC blocking capacitors should be low-loss, broadband capacitors for optimum performance
2. Routes to off-chip inductors, L1 through L8, should be kept as short as possible.
3. VDD and control lines filtered internally providing high frequency isolation to 50 + GHz.
    a. See AM35 datasheet for more information.

Recommended Layout



Notes:

1. Power line filtering is made symmetric here such that it is L – C – L filtering. L – C filtering may be used if space is critical.
2. Recommended input trace is grounded coplanar waveguide, 50 ohms.
3. IC and RF inputs / outputs should be via fenced.
4. Vias should be placed under IC and GND pads (not shown).
5. Vias shown are 10mil hole size with 24mil pad.
6. Inductors are to be as close as possible to the IC.

Revision History

Date	Revision Number	Notes
May 21, 2020	1	Initial Release
June 22, 2020	2	Added AM3098 Values to Typical Application