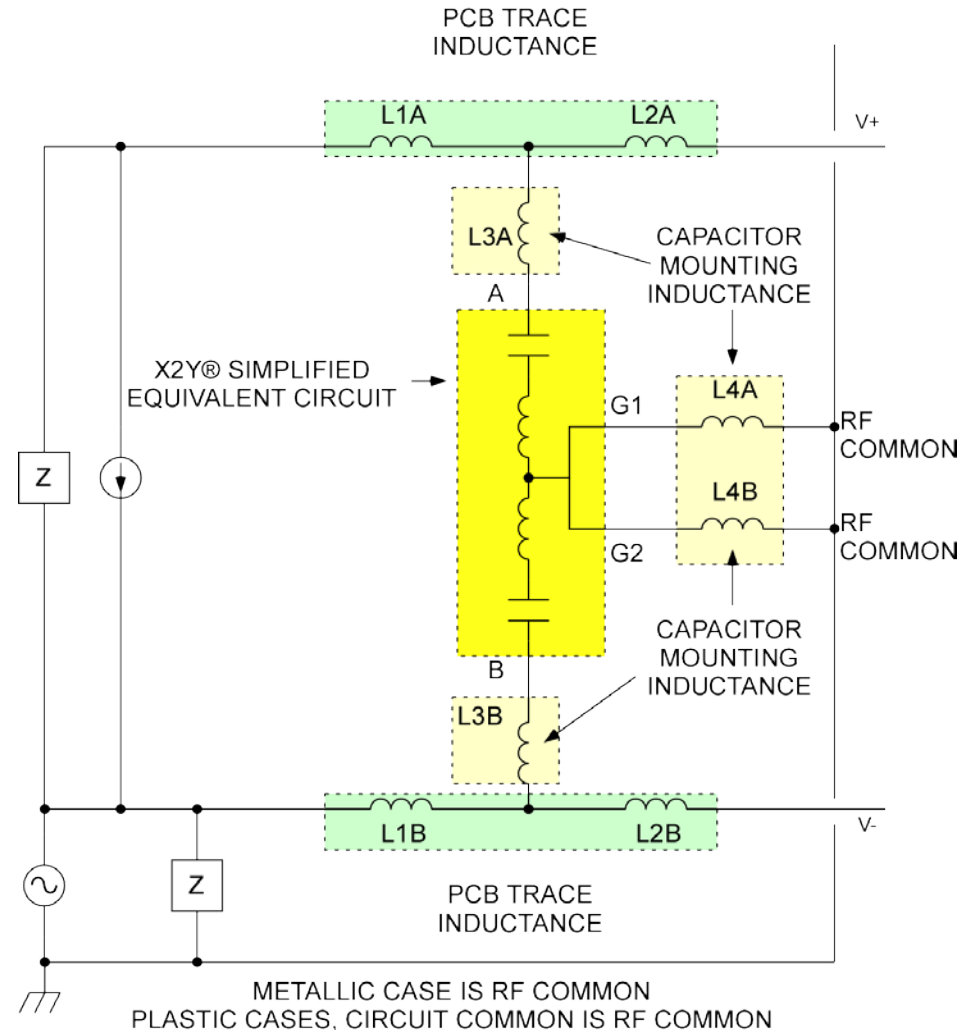


Best Mounting Practices for X2Y® Capacitors in Circuit 1

X2Y[®] Capacitors, Best Practices Circuit 1

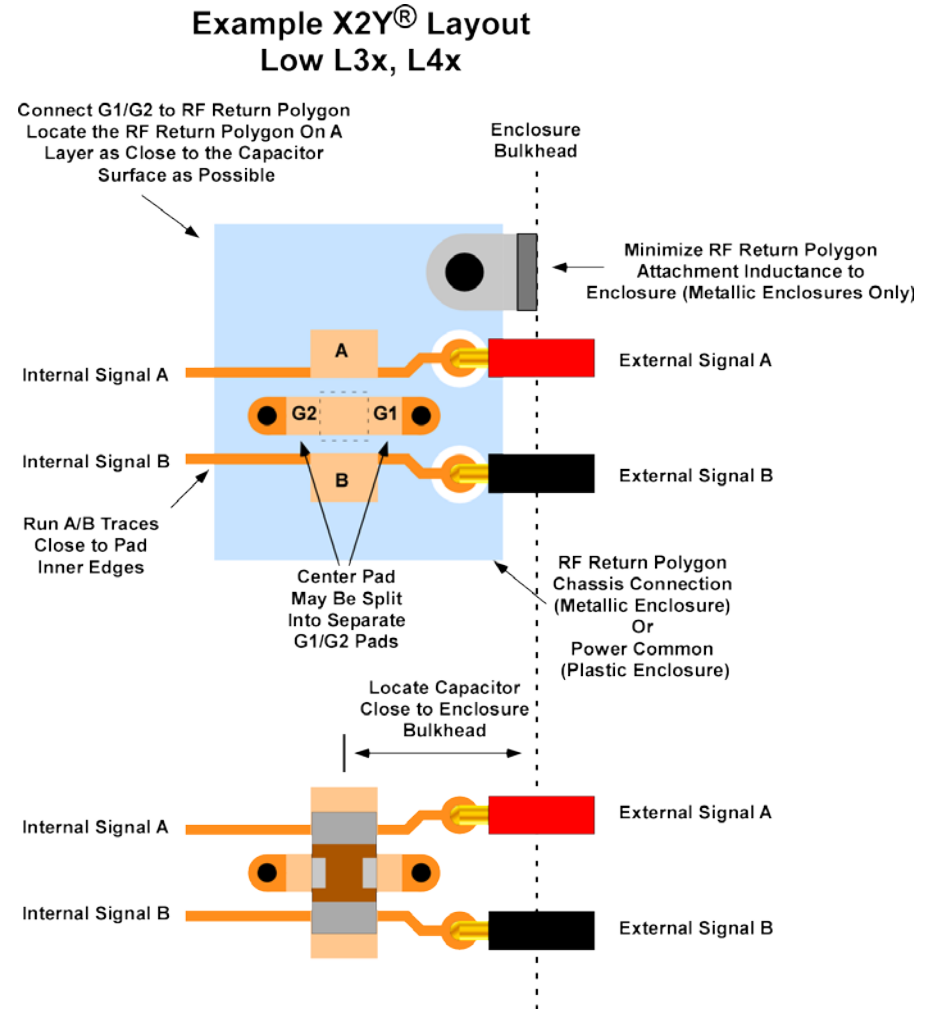
X2Y[®] Circuit 1 CM Filter

- Performance is typically limited by external capacitor wiring inductance:
 - L3A/L3B, L4A, L4B
- Maximize performance by minimizing L3x, and L4x inductances.
 - Follow X2Y[®] mounting guidelines.
- L1x, and L2x inductance is OK and even beneficial when balanced.
 - Limitation on L2 is to keep connection close to egress.



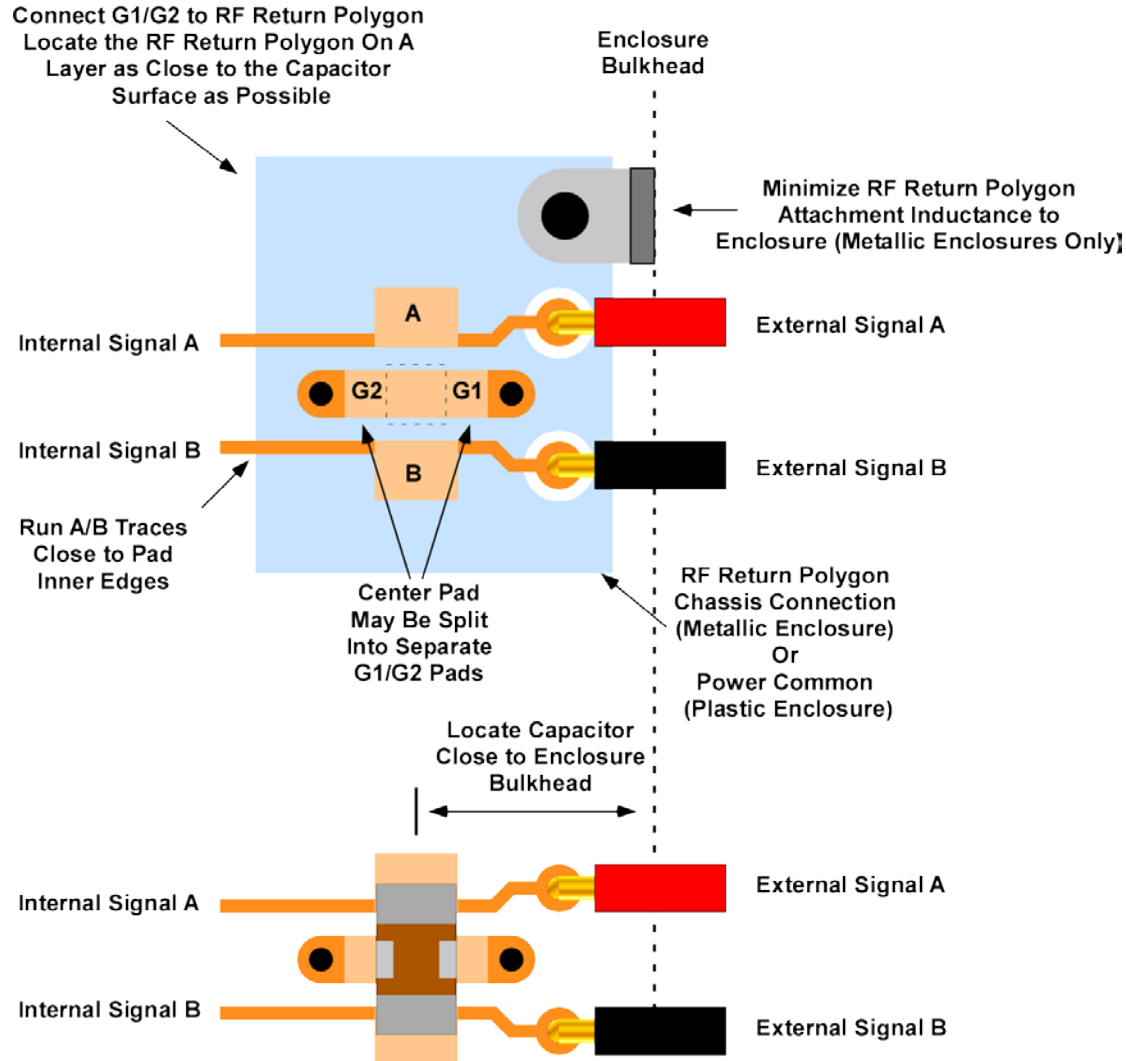
X2Y[®] Capacitors, Best Practices Circuit 1

- Locate capacitors close to bulkhead
- Minimize, L3A, L3B
 - Connect A, B pad connections near base of pads
- Minimize L4A, L4B:
 - Connect G1/G2 to RF return polygon on an internal PCB layer as close to the capacitor surface as possible.
 - Chassis for metal enclosures
 - Power common plane for plastic enclosures.
 - 12mil vs 4mil upper dielectric costs about 3dB insertion loss @1GHz
 - Metal enclosures attach RF return polygon to chassis w/ low inductance
 - Multiple attachments along PCB edge recommended



X2Y[®] Capacitors, Best Practices Circuit 1

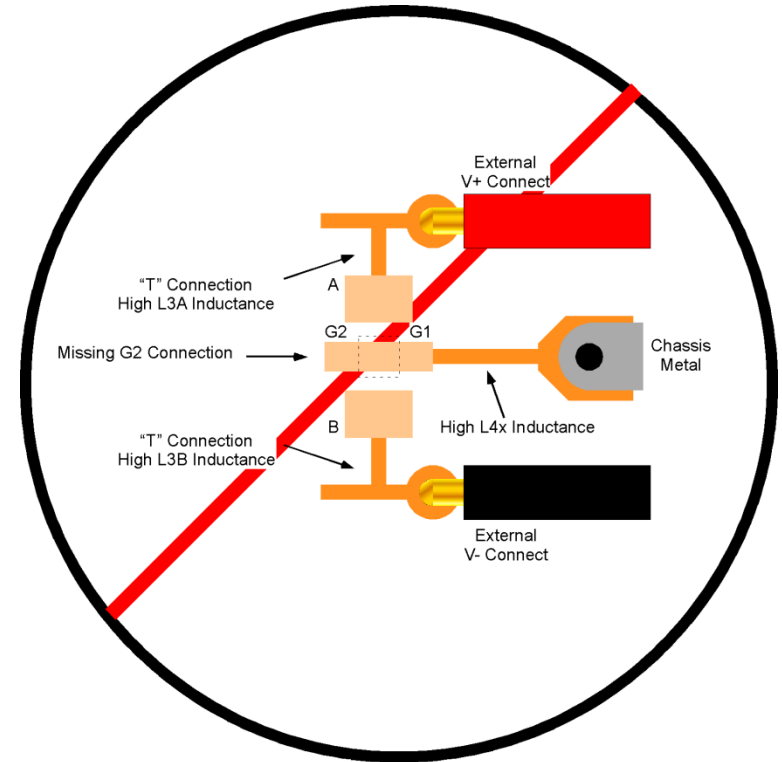
Example X2Y[®] Layout Low L3x, L4x



X2Y[®] Capacitors, Mounting Errors

Example, Circuit 1 Mount:

- AVOID THESE BAD PRACTICES:
 - “T” to A, or B pad connections
 - Leaving G2 unconnected
 - Stringer trace from any pad.
- Any of the above practices insert substantial inductance which impairs performance at high frequency.



Example X2Y[®] Layout
Mistakes to Avoid
High L3x, L4x