

## Mounting

Our MMICs are all back metalized such that it can be surface mounted by soldering or epoxy. The mounting surface should be clean and smooth. The thickness of our MMICs is 50  $\mu\text{m}$  (2 mil) and your building practice should be at the same height for optimum performance.

## Bonding

We recommend using 75  $\mu\text{m} \times 12.5 \mu\text{m}$  (3  $\times$  0.5 mil) Au ribbons or 17  $\mu\text{m}$  (0.7 mil) diameter Au bondwires. The width of the RF pads on the MMIC is 72  $\mu\text{m}$  and DC is 90  $\mu\text{m}$ . All bonds must be made within the pad area to avoid damaging adjacent structures. All RF bondwires should be kept as short as possible, not exceeding 300  $\mu\text{m}$ . Longer bondwires will induce a big inductance that is difficult to compensate for over a larger bandwidth. Bondwires to DC pads are also preferably kept as short as possible to first a 100 pF MIM capacitor and then to a 50 nF-1  $\mu\text{F}$  capacitor onto the building practice.

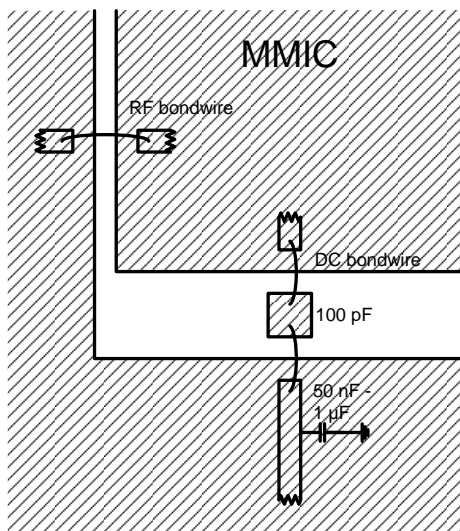


Table 1. Bondwire Parameters

Parameter	Typ	Max
RF bondwire length	150 $\mu\text{m}$	300 $\mu\text{m}$
DC bondwire length	300 $\mu\text{m}$	2 mm
Bondwire diameter	17 $\mu\text{m}$	75 $\mu\text{m}$

## RF Bondwire compensation

The layout below is an example of bondwire compensation network used on a PCB with 100  $\mu\text{m}$  (4 mil) thickness, dielectric constant ( $\epsilon_r$ ) 2.1. If other PCB material are used the network has to be adjusted through EM-simulations.

E-band bondwire compensation structure



DXF available upon request.