

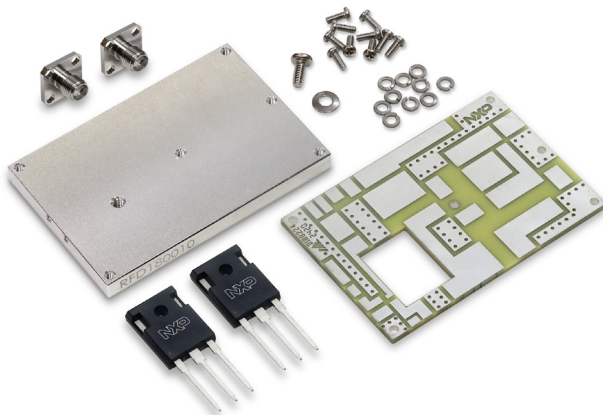


QUICK START GUIDE

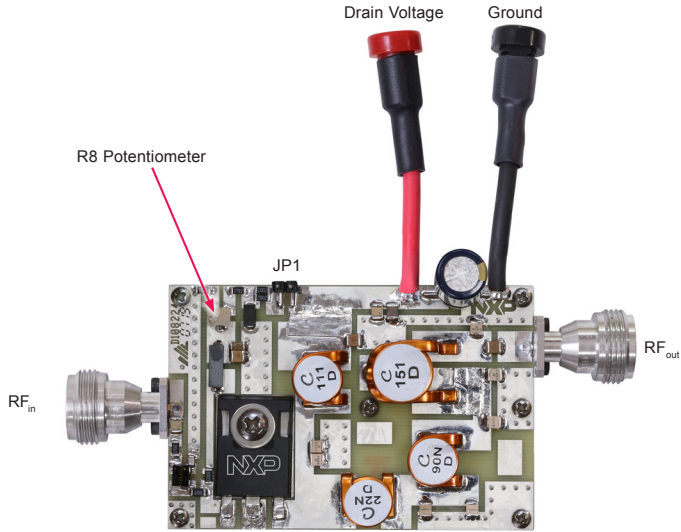
MRF300AN KIT

MRF300AN ESSENTIALS KIT

Accelerate your RF amplifier design with the MRF300AN RF Essentials Component Kit.



GET TO KNOW THE MRF300AN KIT



Alternatively, the jumper JP1 can be removed to supply an external gate voltage on the J1 connector

Figure 1: MRF300AN Board Connections

HOW TO GET STARTED

If the fixture is a new build:

1. Set gate bias to minimum by turning pot fully clockwise (12 turns).
2. Remove JP1 and check drain DC power terminal using an ohmmeter: DC power terminal should read a high impedance.
3. Replace JP1.

Initial power on:


1. Mount baseplate onto a heatsink capable of dissipating more than 100 W.
2. Terminate RF output with a 50 ohm load capable of dissipating more than 330 W.
3. Connect RF input to a 50 ohm source with RF off.
4. Ensure the drain DC is set to 0 V.
5. Connect ground, drain DC.
6. Raise drain DC slowly to 50 Vdc. Current should be 0 A.
7. Adjust gate bias to desired target current, typically 50-500 mA.
8. Slowly increment RF input power source not exceeding 1 W. Monitor drain DC current and RF output power (typically less than 10 A max at 300 W).
9. Check drain DC current, RF output power and temperature.

Shutdown:

1. Shut off RF input power.
2. Remove drain DC voltage.

Assembly notes:

- Mount all SMT devices on PCB (device values are dependent on frequency of operation).
- Make sure no solder blobs are on non-component side of board.
- Trim leads of MRF300AN to shoulder.
- Mount board onto baseplate.
- Mount device using thermal grease, solder only after tightening device mounting screw.
- Mount connectors and solder center pins.
- Connect power wires



Check out our reference designs at **www.nxp.com/RFcollection**

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Document Number: MRF300ANEKITQRC Rev. 0