



Dummy Load

This is a dummy load for low and medium power radio transmitters.

- Resistor 50 Ω 5 %, 250 W, thick film, ANC material
- Frequency range from DC to 2 GHz with SWR < 1.1 (resistor)
- Massive Al-profile heat sink, T_{ja} = 0.48 K/W
- Power handling 100 W continuously, 250 W up to T_{hs} < 100 C
- N-female coaxial connector

Load Resistor

Resistor type is Bourns® CHF9838CNF500L. Resistor material is aluminum nitride ceramic (ANC); thick film type with flange and silver tab. Resistance 50 Ω, tolerance 5 % (this proto within 3 %). Frequency range is from 0 to 2.2 GHz with max. VSWR < 1.1. Temperature range -55 C to 150 C, full 250 W power up to case temperature of 100 C.

Mechanics

Aluminum die-cast enclosure (Hammond) is fitted top of the heat sink. The heat sink is Fisher SK109/100/SA, 135 x 125 x 100 mm, thermal resistance is T_{jh} = 0.48 K/W. The resistor is fitted directly to the heat sink, using graphite thermal paste of 10.5 W/mK. The resistor flange is grounded directly to N-connector (and to the box) with copper strips. The resistor tab is soldered into the center pin of the female N-connector.

Measurements

At this time the load was measured only with miniVNA instrument, frequency range from 2 to 200 MHz. The VSWR curve seems to be rather flat. Further SWR tests will be done later. The temperature behavior (rise/fall curves) of the heat sink must also be checked...

