

Electro-Resales

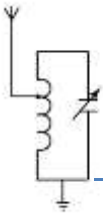
QRP 50 Ω Dummy Load

Many thanks for purchasing this low power dummy load. It has been designed and engineered for long usable life. The following notes are designed to help get the most from this load.

1. Always attach the load directly to the antenna or test port when possible, using jumper leads or lots of adapters can affect the loads impedance/SWR.
2. When testing with a transmitter start at the lowest power that gives accurate readings, work up to the maximum output for the load.
3. The load has a maximum continuous rating of 12 Watts RF, at this wattage the load resistors will get hot/warm, allow time for cool down between tests.
4. For brief periods of operation the load can be used to 25 watts RF, please do not exceed this rating or use for more than 1- 3 seconds at a time, and allow the resistors ample cool down time, between tests.
5. To calculate the wattage from the test port attach a DC voltmeter to the screw terminals, with the positive lead attached to the terminal nearest the top board edge, and ground to the other terminal.
6. Using the calculation : $\text{Volts DC}^2/100 = \text{Watts}$ – For example a measured voltage of 25 volts becomes, $25^2/100 = 625/100 = 6.25 \text{ W}$
7. Another method of calculating the power is here:
 1. Measure voltage – 25VDC, add on 0.4 for the diode drop
 2. Divide this result by 1.414 = $25.4/1.414 = 17.96$
 3. Square this result = 322.56 and divide by 50 = 6.45 W

This calculation does give a slightly higher result, as it takes into account the diode and conversion to RMS

8. The dummy load can also be used to test or assist in calibration of equipment like antenna analyzers, as it presents near 50 Ω impedance. Again attach directly to the test port where possible to reduce variations in impedance.
9. SWR measurements with an MFJ antenna analyzer showed a 1.0: 1.0 SWR from 1.7 MHz to 110 MHz above 110 MHz the SWR rose to 1.1:1.0 up to 170MHz. At 415MHz the SWR was measured at 2.5:1.0, and at 470 MHz 3.0:1.0
10. **At all times exercise due care and attention when operating RF transmitting equipment to ensure your own and others safe**



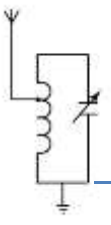
Electro-Resales

SWR Table

Test Frequency	SWR Measured*	Notes
1.7 – 50 MHz	1.0 : 1.0	
50.5 – 110 MHz	1.0 : 1.0	
110.5 – 170 MHz	1.1 : 1.0	
415 MHz	2.3 : 1.0	
435 MHz	2.5 : 1.0	
450 MHz	2.6 : 1.0	
470 MHz	3.0 : 1.0	

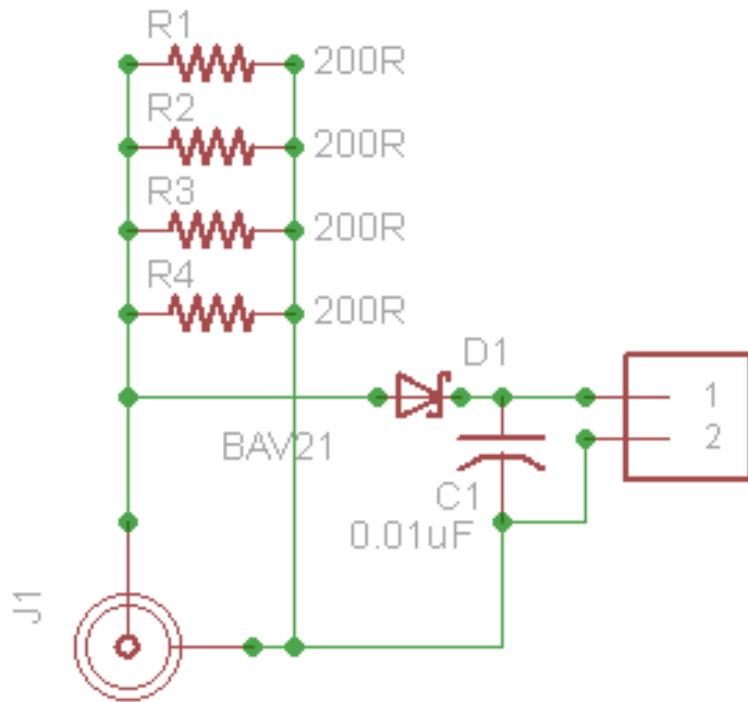
***Measured with an MFJ Antenna Analyzer Model # 269**

Your notes



Electro-Resales

Schematic



PCB Layout

