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Data Sheet

Psufilt.pdf
1 Page
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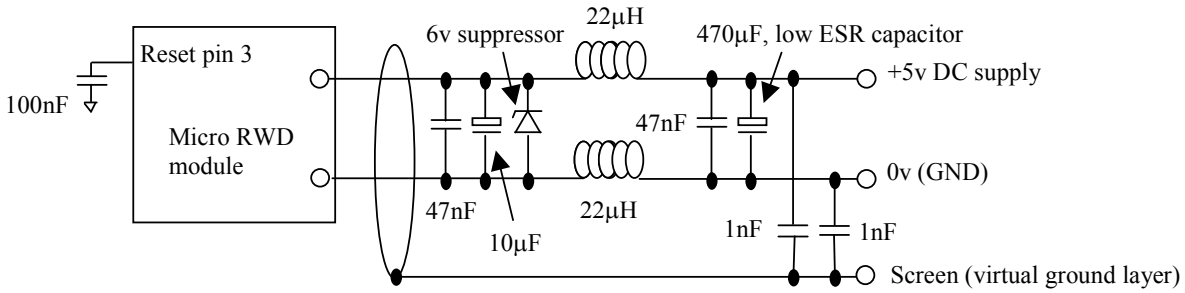
Power Supply Filtering and EMC/EMI Considerations

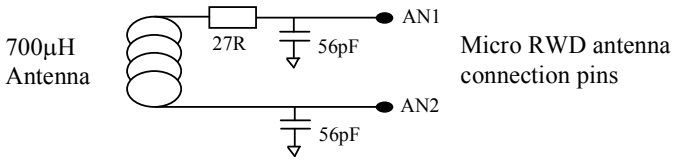
The Micro RWD has been designed to achieve excellent rejection of airborne RF and EM noise. However particular attention must be paid to the module 5v DC supply which must be as noise and ripple free as possible. The following guidelines should be followed.



Suggested filter components for 5v DC supply

Power supplies can generate high frequency noise on the supply rails and the MicroRWD module itself creates short bursts of current consumption each polling cycle as the RF field is turned on briefly. These factors can reduce system performance and reduce range. A simple remedy is to use in-line 22µH chokes in conjunction with the filtering components shown. **In addition the large value, low ESR (Effective Series Resistance) capacitor across the supply rails is strongly recommended to absorb the MicroRWD current pulses. This capacitor helps filter noise and reduces the average power consumption.**

The MicroRWD Reset pin (3) is not normally connected but under noisy conditions it should be de-coupled to ground via a 100nF capacitor as shown. This will prevent accidental resets.
As additional protection to airborne RF noise, the antenna connection pins can be de-coupled to ground by 56pF capacitors (125kHz antenna).



The 27 ohm in-line resistor reduces the peak antenna voltage to 200 volts peak-to-peak (125kHz antenna) to ensure optimum signal to noise ratios are maintained for best performance and range.

No responsibility is taken for the method of integration or final use of MicroRWD

More information on the Micro RWD and other products can be found at the Internet web site:

http://www.ibtechnology.co.uk

Or alternatively contact IB Technology by email at:

sales@ibtechnology.co.uk