

# Filter Module - 117.5 kHz

## Application Notes

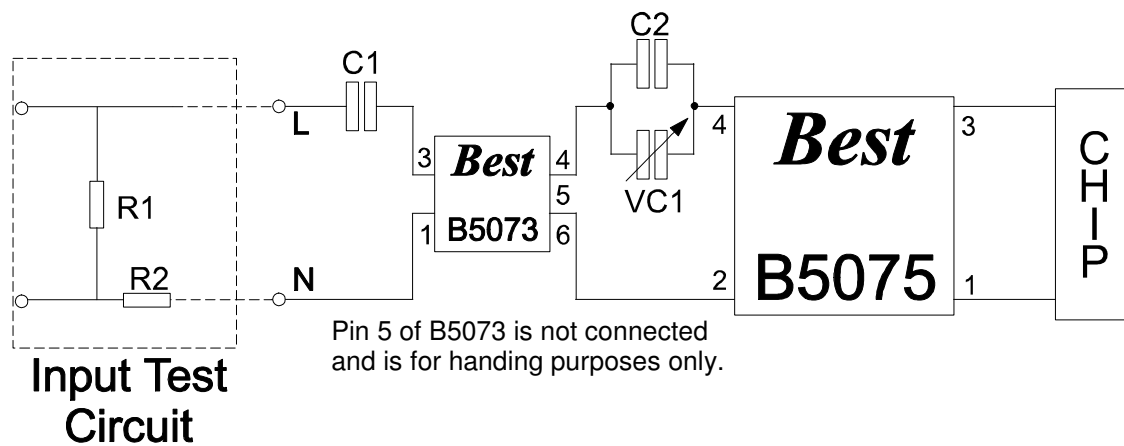
Provisional Issue

# B5073&B5075

### Applications

- ◆ Remote metering
- ◆ Security systems
- ◆ Computer terminal interface
- ◆ Data communications
- ◆ Fire alarm systems
- ◆ Inter-office communication
- ◆ Appliance control

Fig.1



Pin 5 of B5073 is not connected and is for handling purposes only.

Where:-

C1=100nF  
C2=47pF  
VC1=5.5/65pF Trimmer

R1=12Ω  
R2=47Ω  
N.B. C1 Must be suitably rated for local mains supply voltage.

The B5075 filter module has been developed for use with national Semiconductor LM1893<sup>®</sup> & LM2893<sup>®</sup> chips allowing EN 50065-1:1991 to be met whilst interfacing to the mains power supply through a B5073 transformer which forms an approved barrier to EN 60065:2002.

The use of the B5073 and B5075 components in conjunction with the LM1893<sup>®</sup>/LM2893<sup>®</sup> chip provides a safe and approved method of sending and receiving signals via the mains power supply network.

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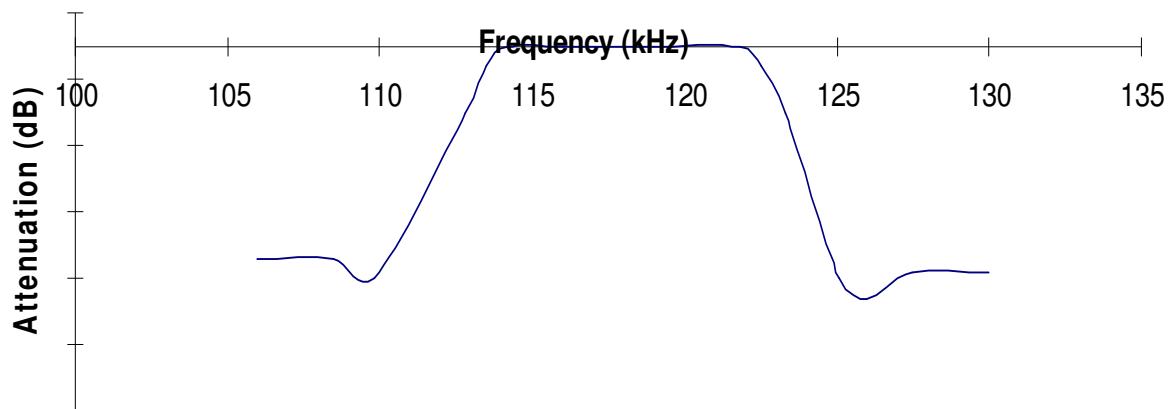
Applications include remote control, remote sensing, monitoring or metering, control of security devices and data communication.

Fig.1 shows the network used to test and setup B5075 in conjunction with B5073 to achieve the response as shown in Fig.2. The circuitry inside the dotted line is used for test setup only. The output being fed into a spectrum analyser via a high impedance probe, rather than the chip, to show the response curve.

Fig.1 ignoring the test components shows a practical interface connection to the mains power network. It should be noted that the impedance of the power supply network varies from country to country and depends upon local conditions.

Fig.2

## Typical Network Response Curve - B5073 & B5075



Actual response dependant upon circuit conditions.

This unit is tuned to 117.5kHz, although other frequencies can be catered for. The unit conforms to EN 50065-1 : 1991, and with it's centre frequency at 117.5 kHz it does not require an access protocol, as do systems over 125kHz

It is expected that these networks will provide an approvable solution to mains power supply communications worldwide, and could be adapted to other power supply systems (e.g. 400Hz)

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