

## Band-Pass/Band-Reject Filters for the 450 MHz Band

### DESCRIPTION

- The BPBR 70/3... and the BRBP 70/3... are 3-cavity pass-reject filters, which pass one frequency or frequency band and reject another in immediate vicinity of the pass frequency.
- The filters are delivered in two basic models: The BPBR-types have the reject range on the high side of the pass frequency and the BRBP-types have the reject range situated on the low side of the pass frequency.
- These filter types can be used to protect a receiver against interference from a nearby transmitter. The filters are tuned to reject the interfering signal. Pass-reject-type filters are applied when the spacing between the utility signal and the interfering signal is so small, that the slope steepness of normal band-pass filters or notch filters are not sufficient enough to provide adequate rejection.
- The filters are primarily intended to pass and reject two single frequencies, but the filters can also be tuned to pass and reject several single frequencies or to having a certain pass and reject port bandwidth. In these cases, factory-tuning is recommended.
- The BPBR 70/3... and the BRBP 70/3... are both adjustable within the complete 406 - 470 MHz band. Both types can be delivered in four different versions, each dedicated to work with a certain spacing between the pass frequency and the reject frequency. See "Ordering information" below.
- The filters use full-length ¼ cavities in a compact, extruded aluminium housing. The chassis is made of passivated steel, and teflon insulation has been applied in the coaxial cables and in the connectors. The filters are black vinyl coated to prevent corrosion.
- Careful design and choice of materials ensure reliable operation over a wide temperature range.

### ORDERING

| Model                            | Product No. | Description                      |
|----------------------------------|-------------|----------------------------------|
| <b>BPBR Low Pass High Reject</b> |             |                                  |
| BPBR 70/3-5/7 N                  | 200001392   | Pass/Reject Spacing: 5 - 7 MHz   |
| BPBR 70/3-7/9 N                  | 200001740   | Pass/Reject Spacing: 7 - 9 MHz   |
| BPBR 70/3-9/13 N                 | 200001387   | Pass/Reject Spacing: 9 - 13 MHz  |
| BPBR 70/3-13/16 N                | 200001380   | Pass/Reject Spacing: 13 - 16 MHz |
| <b>BRBP Low Reject High Pass</b> |             |                                  |
| BRBP 70/3-5/7 N                  | 200001507   | Pass/Reject Spacing: 5 - 7 MHz   |
| BRBP 70/3-7/9 N                  | 200001739   | Pass/Reject Spacing: 7 - 9 MHz   |
| BRBP 70/3-9/13 N                 | 200001516   | Pass/Reject Spacing: 9 - 13 MHz  |
| BRBP 70/3-13/16 N                | 200001506   | Pass/Reject Spacing: 13 - 16 MHz |

### ORDERING INFORMATION

If pass and reject frequencies are stated when ordering, the filters are delivered factory-adjusted. Ordering example: BRBP 70/3, LOW: 443.7 MHz, HIGH: 450.3 MHz. In this case, further information is not required.

When ordering untuned filters please use the model selection table above to select the appropriate ordering designation for the desired filter type.

Special versions of the filters with spacings down to 3 MHz may be quoted on request.



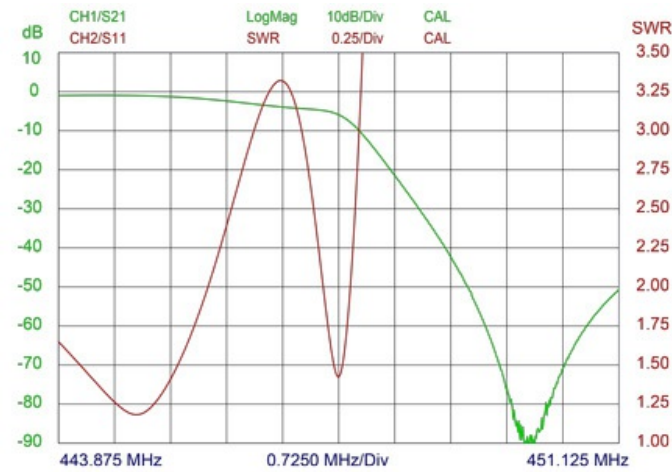
### SPECIFICATIONS

| Electrical               |                                                                                               |
|--------------------------|-----------------------------------------------------------------------------------------------|
| Model                    | BPBR 70/3 / BRBP 70/3                                                                         |
| Filter Type              | Band-pass / band-reject filter                                                                |
| Frequency                | 406 - 470 MHz                                                                                 |
| Max. Input Power         | 50 W                                                                                          |
| Pass Band Insertion Loss | Single-channel tuned: ≤ 0.7 dB<br>Multi-channel tuned, 2 MHz BW: ≤ 0.8 dB (at 10 MHz spacing) |
| Impedance                | 50 Ω                                                                                          |
| Pass-Reject Spacing      | 5 - 16 MHz (see table)                                                                        |
| Reject Attenuation       | Single-channel tuned: ≥ 80 dB<br>Multi-channel tuned, 2 MHz BW: ≥ 55 dB                       |
| VSWR                     | < 1.5:1                                                                                       |

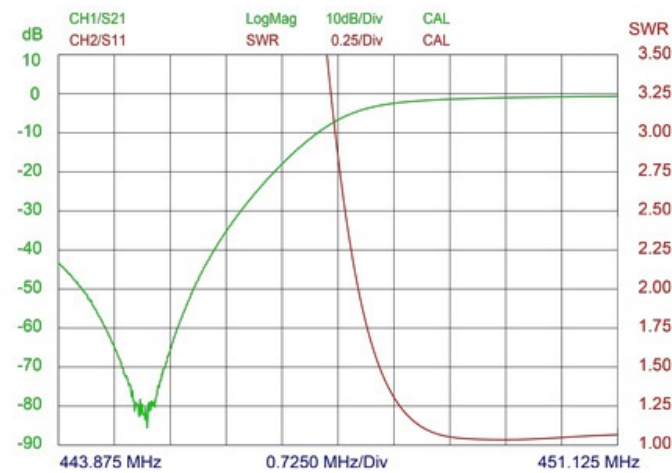
| Mechanical    |                                                              |
|---------------|--------------------------------------------------------------|
| Connection(s) | N(f), (other on request)                                     |
| Dimensions    | 225 x 77 x 33 mm / 8.83 x 3.03 x 1.30 in. (incl. connectors) |
| Weight        | Approx. 0.51 kg / 1.12 lb                                    |

| Environmental               |                     |
|-----------------------------|---------------------|
| Operating Temperature Range | -30°C to +60°C      |
| Frequency Stability         | 15 ppm/°C (approx.) |

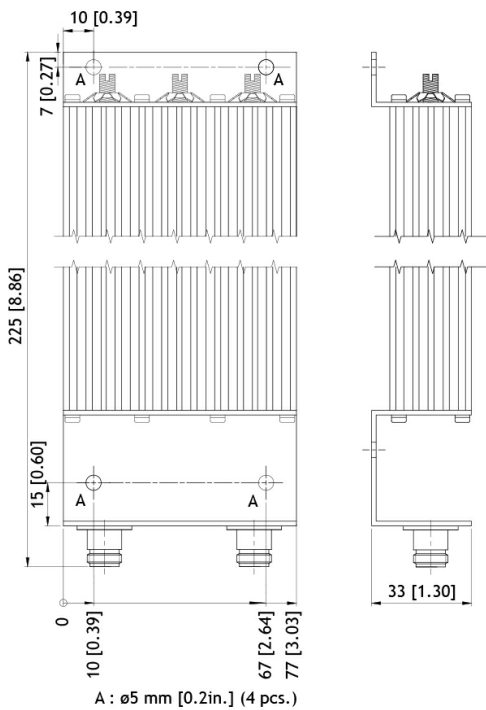
Typical response curves BPBR 70/3



Typical response curves BRBP 70/3



Mounting Details



All dimensions are given in mm [in]