

OB SERIES

VIDEO OVERSAMPLING SMD FILTERS

- Surface mount compatible
- Flat or Sinx/x versions
- Small size, low cost
- Luminance and Chrominance versions

With reduced analogue filter costs resulting from oversampling techniques, there is an increased need for manufacturing facilities to avoid the large production costs associated with the presently available through-hole packages. The Faraday OB range of oversampling filters can be used in surface mount assembly lines allowing vacuum pick up and reflow.

This range of analogue filters has been designed for use in conjunction with a half band interpolating/decimating filter such as the TRW2242 or with the many encoder chips available which employ digital filtering and an output D to A converter. This type of digital filtering has good attenuation between the frequencies of $F_s/4$ and $3F_s/4$ where F_s is the Master Clock rate. When the normal clock rate of 27 MHz is used for the luminance channel the signal can be expected to have insignificant energy between 6.75 MHz and 20.25 MHz.

In order to preserve the integrity of the signal these filters have a good amplitude and group delay characteristics in the passband which meet requirements of CCIR601 but due to the above considerations do not have significant attenuation below 21 MHz.

| <i>Order code</i> | OBYSA | OBYFA | OBCSA | OBCFA |
|------------------------------------|-------------|-------------|-------------|-------------|
| <i>Filter Shape</i> | Lowpass | Lowpass | Lowpass | Lowpass |
| <i>Impedance</i> | 75 Ω | 75 Ω | 75 Ω | 75 Ω |
| <i>Sinx/x correction</i> | Yes | No | Yes | No |
| <i>Sampling Freq.</i> | 27.0 MHz | 27.0 MHz | 13.5 MHz | 13.5 MHz |
| <i>End of Passband</i> | 5.75 MHz | 5.75 MHz | 2.75 MHz | 2.75 MHz |
| <i>Amp. ripple to 5.5 MHz</i> | < 0.05 dB | < 0.05 dB | < 0.05 dB | < 0.05 dB |
| <i>to 5.75 MHz</i> | < 0.1 dB | < 0.1 dB | < 0.1 dB | < 0.1 dB |
| <i>G.D. ripple</i> | < 6 ns | < 6 ns | < 12 ns | < 12 ns |
| <i>Start of stopband</i> | 21.5 MHz | 21.5 MHz | 10.75 MHz | 10.75 MHz |
| <i>Stopband atten. wrt 100 kHz</i> | > 40 dB | > 40 dB | > 40 dB | > 40 dB |
| <i>Delay time nom. at 200 kHz</i> | 55 ns | 58 ns | 110 ns | 116 ns |
| <i>Package</i> | DR00181B | DR00181B | DR00181B | DR00181B |



Third Angle Projection

12.06 (0.475) Nom.

7.62 (0.3) Nom.

2.2 (0.08) Nom.

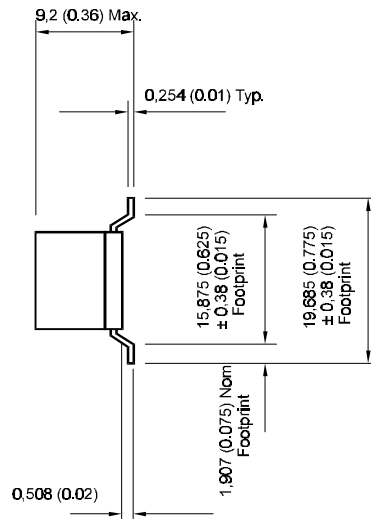
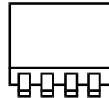
13.33 (0.525) Nom.

2.54 (0.1) Typ

0.6 (0.024) Typ Footprint

8 7 6 5

1 2 3 4



All other pins = Ground.



| | | |
|--------------------|--------------------|----------------|
| Change Note No; | Drawn: B A Knapper | Auth: P Dutton |
| 541 | Date: 28/10/98 | Date: 16/11/98 |

FILTER ASSY OUTLINE

DR00181B