Non-Inductive Film Resistors

BACKGROUND INFORMATION

These resistors, manufactured using a patented film type construction, have been designed specifically to minimise the self-inductance inherent to a small extent in all such components. In the most demanding audio applications, they can offer improvements in sound quality by reducing the extremely low-level, but nonetheless audible distortion, which may be generated by the inductance of conventional resistors. With power ratings as high as 5W, their use in loudspeaker crossover assemblies, to improve sound quality, becomes a feasible proposition.

The use of these Non-Inductive Resistors in high quality transistor based audio amplifers has been shown to produce a 'softer', 'sweeter' sound - comparable in some respects with the characteristic sound of valve designs.

They may also be used to advantage in audio instrumentation, and other applications where extremely low levels of distortion are necessary. The reduction of switching spikes in power supplies and controllers by using Non-Inductive Resistors can sometimes allow expensive bipolar power transistors or similarly costly components to be designed out of the circuits offering considerable savings in manufacture.

CAUTION

The use and specifications of these Non-Inductive Resistors are broadly similar to those discussed for the ceramic encased wirewound variety - although it should be noted that their construction renders them rather less rugged than their ceramic counterparts in the case of severe and/or long-term overload.

Non-Inductive Film Resistors (NIR)

Power Rating (W)	Resistance Range (Ω)	Tolerance (%)	Size (mm) d x L x dØ x s
0.25	0.1 - 200K	± 1 / 2 / 5	2.5 x 6.5 x 0.6 x 26
0.5	0.1 - 200K	± 1 / 2 / 5	3.0 x 10 x 0.6 x 26
1	0.1 - 200K	± 1 / 2 / 5	4.5 x 11 x 0.6 x 35
2	0.1 - 200K	± 1 / 2 / 5	5.0 x 16 x 0.8 x 35
5	0.1 - 200K	± 1 / 2 / 5	8.5 x 25 x 0.8 x 35

Temperature Coefficient : ± 50 / ± 100 / ± 200 ppm/ºC (specify when ordering)

Resistance Deviation from Nominal :

Short-Term Overload ($2.5 \times \sqrt{W \times R}$) : ±1% (typical), ±2% (max)

Load Life (1,000 hrs) : <±1% (typical), <±2% (max)

Working Temperature Range : -55º to +155ºC.