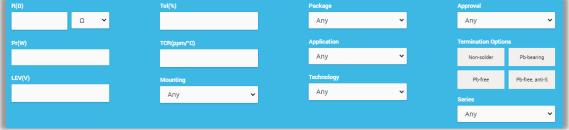# Technical Note TN009 - Parametric and Category Searching for Resistors

Introduction to the Filters

With around 1000 resistor products available, it is essential that users unfamiliar with our product range can use the website to locate appropriate parts to meet the needs of their design.

The resistor search filters are found at https://www.ttelectronics.com/products/categories/resistors/search-results/ and are shown below. You can search using a combination of parametric and category filters. Parametric filters have numerical entry and are used to search by value, rating and precision. Category filters present a drop-down selection of features which is initially set to **Any**, or for Termination Options, pushbutton selection.
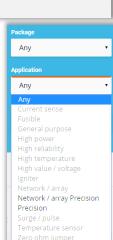

You can use any combination of filters to narrow down the selection, and you can update filter entries to refine the search. At each change the results will update automatically. In the example below, the user has found 13 SMD products offering 47kΩ at 0.01% and 5ppm/°C using TaN technology and available with Pb-bearing finish.

To change parametric entries, just overtype with a new value. To change category entries, cancel the current selection by selecting **Any**, then pick a new selection. You can also clear filters by clicking on the orange **x** beside them in the Applied Filters list, or clear all filters by clicking on **Reset**.

As filters are added, some options on the category filters become unavailable and are greyed out. To refine the search above, the user may want to filter by Application (which here relates to circuit function rather than market or end use). The only remaining options for this filter are **Network / array Precision** and **Precision**.

In addition to feature-based category filters, there is a **Series** list which gives a way for users with some knowledge of the product portfolio to get directly to products of interest.

Parametric Search Details

R(Ω) The resistance value filter allows you to enter an ohmic value with units from mΩ up to TΩ. This simply finds all products for which the entered value is within range, although actual availability of specific values is usually restricted to standard values defined by the data sheet and the technical note:
https://www.ttelectronics.com/TTElectronics/media/ProductFiles/Resistors/ApplicationNotes/TN005-EIA-Standard-Values-for-Resistors.pdf

Pr(W) & LEV(V) The ratings filters let you specify the power rating and / or the limiting element voltage (working voltage) required. These will find all products whose ratings are high enough, and includes products which are rated at up to 50% above the power or voltage requested.

Tol(%) & TCR(ppm/°C) The precision filters permit selection by the required tolerance and / or temperature coefficient of resistance. These find products where the best available precision is the same as or better than that required.

Note that some current sense products have power ratings which depend on the ohmic value, whilst some precision products have value ranges which depend on the tolerance and TCR grade. The search database does not contain this level of detail, and you should check the Electrical Data and Manufacturing Capabilities sections of the data sheet to see which combinations are actually available.

Life Cycle Status

The parametric and category search method is intended mainly for users looking for the right component to meet the needs of their new design. Whilst the results do include products at **Not Recommended for New Designs** status (clearly identified as such) they do not include products with **Obsolete** status. To find information on obsolete products you can enter a partial part number into the Product Search.