

Precision Resistor Suppliers

Application Note #16, 7/17/2002

We recommend the following shunt resistors. These have a high initial accuracy, and low temperature drift, and can therefore be used to accurately convert a current or resistance to voltage, which is useful when working with sensors such as RTD's and Thermistors.

Mouser Electronics

<http://www.mouser.com>, Tel 800-346-6873, Fax 817-483-0931. Mouser sells 0.1% 25ppm/C 1/4Watt resistors between 10 ohms and 1 M ohms for \$1.08 at 1 quantity and \$.72 at 100 quantity. They refer to these as "Precision Metal Film Resistors" (.1%) that are "Leaded" (wire leaded instead of surface mount). An example part would be #66-RC55-D-2.0K, which is a 1/4W, .1%, 2K ohm resistor.

Caddock Electronics

www.caddock.com, App Engineer: Tel 541-496-0700, Fax 496-0408, Sales: Tel 909-788-1700, Fax 909-369-1151

Resis. (ohms)	Initial Accuracy	Drift	Caddock Part #	Approx Cost (\$USD)			
				/1	/10	/100	/1K
0.1	1%	100ppm/C	#SR10-0.1-1%				
1.0	0.5%	50ppm/C	#MK132-1.0-0.5%				
10.0	0.1%	50ppm/C	#MK132-10-0.1%				
200	0.1%	50ppm/C	#MK132-200-0.1%	\$8.28	5.52	3.07	2.30
1K	0.025%	20ppm/C	#TN130-1K-0.025%-20	\$8.39	5.59	3.11	2.39
2K	0.025%	20ppm/C	#TN130-2K-0.025%-20	\$8.39	5.59	3.11	2.39
4.7K	0.025%	20ppm/C	#TN130-4.7K-0.025%-20	\$8.39	5.59	3.11	2.39
10K	0.025%	20ppm/C	#TN130-10K-0.025%-20	\$8.39	5.59	3.11	2.39
20K	0.025%	20ppm/C	#TN130-20K-0.025%-20	\$8.39	5.59	3.11	2.39
47K	0.025%	20ppm/C	#TN130-47K-0.025%-20	\$8.39	5.59	3.11	2.39
100K	0.025%	20ppm/C	#TN130-100K-0.025%-20	\$9.67	6.55	3.58	2.75
1M	0.025%	20ppm/C	#TN130-1M-0.025%-20				

If the -20 suffix (20ppm/C) are not in stock, ask if the -10 (10ppm/C) or -5 (5ppm/C) are in stock. Also, instead of TN130, you can substitute TN137 which has a lead spacing of 0.15 inches instead of 0.2 inches; yet is otherwise identical. Also you can substitute 0.05% (or 0.1%) initial accuracy, which is adequate for most applications, instead of 0.025%. At their web site, please see their section on "Low TC and Ultra Precision" resistors for details.

TTI Electronics

www.ttiinc.com, 2 Highwood Dr, Teewksbury, Ma 01876-1194, Tel 978-851-2000, Fax 978-851-7234

Resis. (ohms)	Initial Accuracy	Drift	Part #	Approx Cost (\$USD)
				/100
10	0.1%	50ppm/C	#RNC60H10R0 B	\$.99
xxxxy is the ohmic value, where y is # of 0's, and xxx is the 1st 3 digits.				
xxxxy	0.1%	100ppm/C	#RN60D xxxxy B	\$.20
xxxxy	0.1%	50ppm/C	#RN60C xxxxy B	\$.27
xxxxy	0.1%	25ppm/C	#RN60E xxxxy B	\$.36

At their web site, they refer to these as "Through hole thin film resistors".