



SPECIALTY RESISTOR SHORT FORM CATALOG

This listing represents standard NL Industries, Inc. Thermistor elements, probes and assemblies as well as varistor elements and assemblies. All resistance tolerances are $\pm 10\%$ unless otherwise noted.

THERMISTOR SPECIFICATIONS

Type	Zero Power Resistance (Ohms at 25° C)	Catalog No.	Nominal Diameter A (in.)	Nominal Length or Thickness B (in.)	Dissipation Constant Milliwatts Per ° C	Thermal Time Constant Seconds	Data Sheet Number
DISK	200,000	4D051	0.050	0.048	2	4.5	3220
	100,000	4D053	0.050	0.024	2	3.5	3220
	100,000	4D101	0.100	0.095	4	12	3220
	50,000	4D103	0.100	0.048	4	8	3220
	30,000	4D201	0.200	0.114	8	34	3220
	30,000	4D301	0.300	0.256	11.5	85	3220
	20,000	1D051	0.050	0.048	2	4.5	3210
	10,000	1D053	0.050	0.024	2	3.5	3210
	10,000	1D101	0.100	0.095	4	12	3211
	10,000	4D203	0.200	0.038	7.5	19	3220
	10,000	4D303	0.300	0.086	9	48	3220
	10,000	4D401	0.400	0.152	15.5	80	3220
	10,000	4D501	0.500	0.238	19	140	3220
	5,000	1D103	0.100	0.048	4	8	3211
	5,000	4D503	0.500	0.119	16.5	90	3220
	3,000	1D201	0.200	0.114	8	34	3212
	3,000	1D301	0.300	0.256	11.5	85	3213
	2,500	4D403	0.400	0.038	14	35	3220
	2,500	4D751	0.750	0.134	26	150	3217
	2,500	4D901	1.000	0.238	37	260	3219
	2,000	2D052	0.050	0.034	2	4	3210
	1,000	1D203	0.200	0.038	7.5	19	3212
	1,000	1D303	0.300	0.086	9.0	48	3213
	1,000	1D401	0.400	0.152	15.5	80	3214
	1,000	1D501	0.500	0.238	19	140	3215
	1,000	2D054	0.050	0.017	2	3	3210
	1,000	2D102	0.100	0.070	4	10	3211
	1,000	4D753	0.750	0.053	22	80	3217
	1,000	4D903	1.000	0.095	32	155	3219
	500	1D503	0.500	0.119	16.5	90	3215
	500	2D104	0.100	0.035	4	6	3211
	300	2D202	0.200	0.084	8	28	3212
	300	2D302	0.300	0.189	10.5	75	3213
	250	1D403	0.400	0.038	14	35	3214
	250	1D751	0.750	0.134	26	150	3217
	250	1D901	1.000	0.238	37	260	3219
	200	3D052	0.050	0.034	2	4	3210
	100	1D753	0.750	0.053	22	80	3217
	100	1D903	1.000	0.095	32	155	3219
	100	2D204	0.200	0.028	7.5	16	3212
	100	2D304	0.300	0.063	8.5	38	3213
	100	2D402	0.400	0.112	15.5	70	3214
	100	2D502	0.500	0.175	17.5	120	3215
	100	3D054	0.050	0.017	2	3	3210
	100	3D102	0.100	0.070	4	10	3211
	50	2D504	0.500	0.088	15.5	70	3215
	50	3D104	0.100	0.035	4	6	3211
	30	3D202	0.200	0.084	8	28	3212
	30	3D302	0.300	0.189	10.5	75	3213
	25	2D404	0.400	0.028	14	25	3214
	25	2D752	0.750	0.098	24	120	3217
	25	2D902	1.000	0.175	34	230	3219
	10	2D754	0.750	0.039	20	50	3217
	10	2D904	1.000	0.070	30	120	3219
	10	3D204	0.200	0.028	7.5	16	3212
	10	3D304	0.300	0.063	8.5	38	3213
	10	3D402	0.400	0.112	15.5	70	3214
	10	3D502	0.500	0.175	17.5	120	3215
	5	3D504	0.500	0.088	15.5	70	3215
	2.5	3D404	0.400	0.028	14	25	3214
	2.5	3D752	0.750	0.098	24	120	3217
	2.5	3D902	1.000	0.175	34	230	3219
	1.0	3D754	0.750	0.039	20	50	3217
	1.0	3D904	1.000	0.070	30	120	3219

NOTE: See back page for Thermistor outline drawings.

THERMISTORS

Type	Zero Power Resistance (Ohms at 25° C) Tolerance ± 10%	Catalog No.	Nominal Diameter A (in.)	Nominal Length or Thickness B (in.)	Dissipation Constant Milliwatts Per ° C	Thermal Time Constant Seconds	Data Sheet Number
ROD	1,000,000	4R051	0.050	0.500	3	12	3230
	1,000,000	4R111	0.112	1.600	10	70	3231
	500,000	4R171	0.173	1.800	18	120	3233
	315,000	4R113	0.112	0.900	7	50	3231
	200,000	4R173	0.173	1.100	13	80	3233
	100,000	1R051	0.050	0.500	3	12	3230
	100,000	1R111	0.112	1.600	10	70	3231
	50,000	1R171	0.173	1.800	18	120	3233
	31,500	1R113	0.112	0.900	7	50	3231
	20,000	1R173	0.173	1.100	13	80	3233
	10,000	2R052	0.050	0.500	3	12	3230
	10,000	2R112	0.112	1.600	8	70	3231
	5,000	2R172	0.173	1.800	15	120	3233
	4,300	2R114	0.112	0.900	6	50	3231
	3,150	2R116	0.112	0.900	6	50	3231
	2,000	2R174	0.173	1.100	11	80	3233
	1,000	3R052	0.050	0.500	3	12	3230
	1,000	3R112	0.112	1.600	8	60	3231
	500	3R172	0.173	1.800	15	110	3233
	430	3R114	0.112	0.900	6	40	3231
315	3R116	0.112	0.900	6	40	3231	
200	3R174	0.173	1,100	11	80	3233	
H-SERIES	1,000,000	4H105	0.070	0.150	2	8	3248
	500,000	4H504	0.070	0.150	2	8	3248
	100,000	1H104	0.070	0.150	2	8	3248
	50,000	1H503	0.070	0.150	2	8	3248
	20,000	1H203	0.070	0.150	2	8	3248
	10,000	2H103	0.070	0.150	2	8	3248
	5,000	2H502	0.070	0.150	2	8	3248
	2,000	2H202	0.070	0.150	2	8	3248
	1,000,000	81B105	0.043		0.7	2	3267
	500,000	81B504	0.043		0.7	2	3267
150,000	81B154	0.043		0.7	2	3267	
50,000	81B503	0.043		0.7	2	3267	
15,000	81B153	0.043		0.7	2	3266	
10,000	81B103	0.043		0.7	2	3266	
2,000	81B202	0.043		0.7	2	3267	
WASHERS	4,150	4W751	0.750	0.191			3250
	3,150	4W753	0.750	0.145			3250
	1,000	4W755	0.750	0.046			3250
	415	1W751	0.750	0.191			3250
	315	1W753	0.750	0.145			3250
	100	1W755	0.750	0.046			3250
	41.5	2W752	0.750	0.140			3250
	31.5	2W754	0.750	0.106			3250
	10	2W756	0.750	0.034			3250
	4.15	3W752	0.750	0.140			3250
3.15	3W754	0.750	0.106			3250	
1.0	3W756	0.750	0.034			3250	
H-SERIES PROBE	1,000,000	9RT2G-19	0.375				3249
	500,000	9RT2G-18	0.375				3249
	100,000	9RT2G-16	0.375				3249
	50,000	9RT2G-15	0.375				3249
	20,000	9RT2G-14	0.375				3249
	10,000	9RT2G-13	0.375				3249
	5,000	9RT2G-12	0.375				3249
	2,000	9RT2G-11	0.375				3249
BEAD PROBE*	1,000,000	81G-10550	0.100		1.0	25	3266
	500,000	81G-50450	0.100		1.0	25	3266
	150,000	81G-15450	0.100		1.0	25	3266
	50,000	81G-50350	0.100		1.0	25	3266
	15,000	81G-15350	0.100		1.0	25	3266
	10,000	81G-10350	0.100		1.0	25	3266
	2,000	81G-20250	0.100		1.0	25	3266
	WASHER ASSEM.**	4,150	9RT1A-10		0.191		
4,150		9RT1C-10		0.191			3250
3,150		9RT1A-11		0.145			3250
3,150		9RT1C-11		0.145			3250
1,000		9RT1A-12		0.046			3250
1,000		9RT1C-12		0.046			3250
415		9RT1A-1		0.191			3250
415		9RT1C-1		0.191			3250
315		9RT1A-3		0.145			3250
315		9RT1C-3		0.145			3250
100		9RT1A-5		0.046			3250
100		9RT1C-5		0.046			3250
41.5		9RT1A-2		0.140			3250
41.5		9RT1C-2		0.140			3250
31.5		9RT1A-4		0.106			3250
31.5		9RT1C-4		0.106			3250
10		9RT1A-6		0.034			3250
10		9RT1C-6		0.034			3250
4.15		9RT1A-7		0.140			3250
4.15		9RT1C-7		0.140			3250
3.15	9RT1A-8		0.106			3250	
3.15	9RT1C-8		0.106			3250	
1.0	9RT1A-9		0.034			3250	
1.0	9RT1C-9		0.034			3250	

* Resistance Tolerance ± 20%

** 9RT1A Series are bolted assemblies
9RT1C Series are soldered assemblies

NOTE: See back page for Thermistor outline drawings.

VARISTOR OUTLINE DRAWINGS

(Dimensions in Inches)

ASSEMBLIES

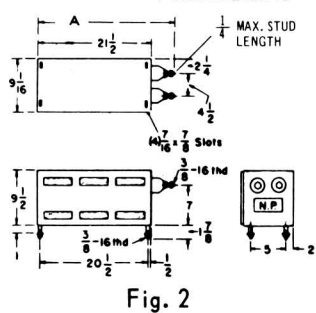


Fig. 2

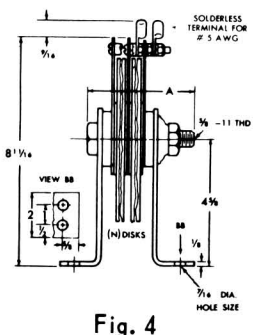


Fig. 4

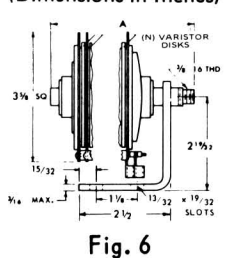


Fig. 6

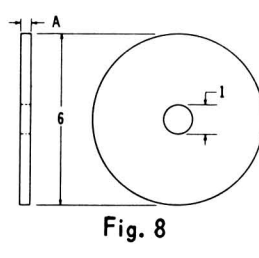


Fig. 8

ELEMENTS

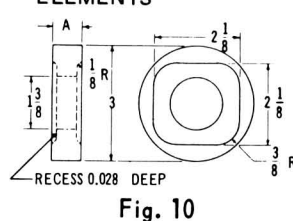


Fig. 10

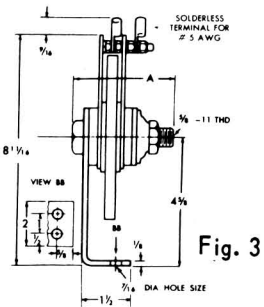


Fig. 3

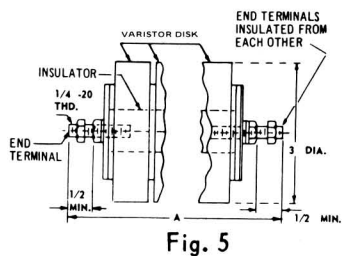


Fig. 5

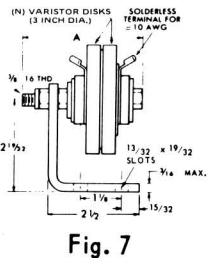


Fig. 7

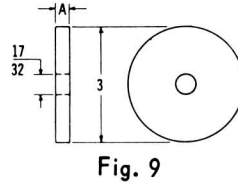


Fig. 9

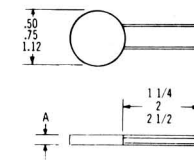


Fig. 11

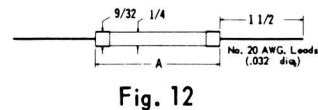


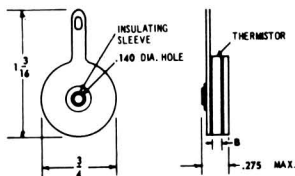
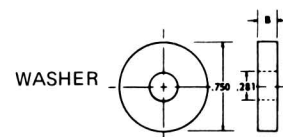
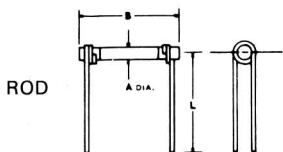
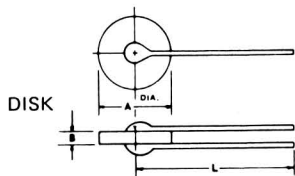
Fig. 12

NOTE: Most bracket mounted assemblies also available for stud mounting.

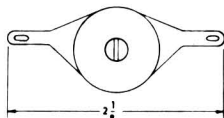
These may be purchased as panel-mount assemblies, at the same prices, by substituting C for A in Order Number. Panel-Mount assemblies not available from distributors.

THERMISTOR OUTLINE DRAWINGS

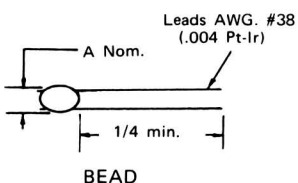
(Dimensions in inches)



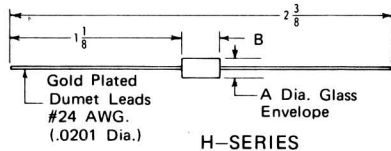
SOLDERED ASSEMBLY



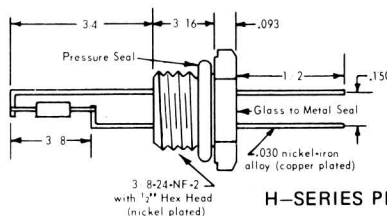
BOLTED ASSEMBLY



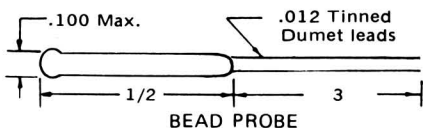
BEAD



H-SERIES



H-SERIES PROBE



BEAD PROBE

ELECTRONICS DEPARTMENT



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P. O. BOX 420 • WYCKOFF'S MILLS ROAD • PHONE 609 448-3200
HIGHTSTOWN, NEW JERSEY 08520