

# MODELS 898, 899

## Dual-In-Line

## Thick Film

## Resistor Networks



### ELECTRICAL

|                                                |                                                    |
|------------------------------------------------|----------------------------------------------------|
| Standard Resistance Range, Ohms *              | 10 to 10Meg                                        |
| Standard Resistance Tolerance, at 25°C         | ±2% (<33 Ohms = ±2 Ohms)<br>Optional: ±1% (F Tol.) |
| Operating Temperature Range                    | -55°C to +125°C                                    |
| Temperature Coefficient of Resistance          | ±100ppm/°C (<100 Ohms = ±250ppm/°C)                |
| Temperature Coefficient of Resistance Tracking | ±50ppm/°C                                          |
| Maximum Operating Voltage                      | 100Vdc or $\sqrt{\text{PR}}$                       |
| Insulation Resistance                          | ≥10,000 Megohms                                    |

### ENVIRONMENTAL (PER MIL-R-83401)

|                                                                 |                         |
|-----------------------------------------------------------------|-------------------------|
| Thermal Shock plus Power Conditioning                           | ΔR 0.70%                |
| Short Time Overload                                             | ΔR 0.50%                |
| Terminal Strength                                               | ΔR 0.25%                |
| Moisture Resistance                                             | ΔR 0.50%                |
| Mechanical Shock                                                | ΔR 0.25%                |
| Vibration                                                       | ΔR 0.25%                |
| Low Temperature Storage                                         | ΔR 0.25%                |
| High Temperature Exposure                                       | ΔR 0.50%                |
| Load Life, 1,000 Hours                                          | ΔR 1.00%                |
| Resistance to Solder Heat (Per MIL-STD-202, Method 210, Cond.B) | ΔR 0.25%                |
| Dielectric Withstanding Voltage                                 | 200V rms for 1 minute   |
| Temperature Exposure, Maximum                                   | 215°C for 3 minutes     |
| Marking Permanency                                              | MIL-STD-202, Method 215 |
| Lead Solderability                                              | MIL-STD-202, Method 208 |
| Flammability                                                    | UL-94V-O Rated          |
| Storage Temperature Range                                       | -55°C to +125°C         |

\* Plus "0 Ohm" jumper

Specifications subject to change without notice.

**MECHANICAL**

|                    |                                        |
|--------------------|----------------------------------------|
| Lead Material      | Copper Alloy, 60/40 Tin-Lead (Plating) |
| Substrate Material | Alumina                                |
| Resistor Material  | Cermet                                 |

**APPLICABLE DOCUMENTS**

|                                                                           |
|---------------------------------------------------------------------------|
| MIL-R-83401 — Resistor Networks, Fixed, Film, General Specifications      |
| MIL-STD-105 — Sampling Procedures and Tables for Inspection by Attributes |
| MIL-STD-202 — Test Methods for Electronic and Electrical Component Parts  |

**STANDARD RESISTANCE VALUES, OHMS****-3 Circuit (Isolated Resistors) & -1 Circuits (Bussed Resistors)**

|     |      |      |      |
|-----|------|------|------|
| 22  | 390  | 5.6K | 100K |
| 27  | 470  | 6.8K | 120K |
| 33  | 510  | 8.2K | 150K |
| 39  | 560  | 10K  | 180K |
| 47  | 680  | 12K  | 200K |
| 51  | 820  | 15K  | 220K |
| 56  | 1K   | 18K  | 270K |
| 68  | 1.2K | 20K  | 330K |
| 82  | 1.5K | 22K  | 390K |
| 100 | 1.8K | 27K  | 470K |
| 120 | 2K   | 33K  | 510K |
| 150 | 2.2K | 39K  | 560K |
| 180 | 2.7K | 47K  | 680K |
| 200 | 3.3K | 51K  | 820K |
| 220 | 3.9K | 56K  | 1Meg |
| 270 | 4.7K | 68K  |      |
| 330 | 5.1K | 82K  |      |

**-5 Circuit (Dual Terminators)**

| R1/R2   | R1/R2   | R1/R2   | R1/R2   |
|---------|---------|---------|---------|
| 180/390 | 220/330 | 330/470 | 3K/6.2K |
| 220/270 | 330/390 | 330/680 |         |

**POWER DISSIPATION, WATTS AT 70°C**

| ——Resistor (Per Circuit)—— |         |      |      |      |
|----------------------------|---------|------|------|------|
| Model                      | Package | -1   | -3   | -5   |
| 898                        | 2.0     | .125 | .250 | .125 |
| 899                        | 1.8     | .125 | .250 | .125 |

## OUTLINE DIMENSIONS (Inch/mm)



## SCHEMATICS

-3 Circuit - Isolated Resistors



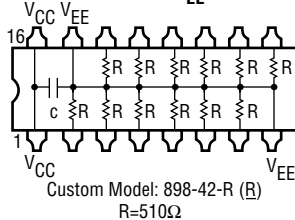
-1 Circuit - Bussed Resistors



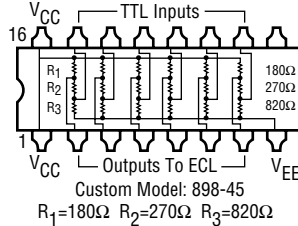
-5 Circuit - Dual Terminator



-42 Circuit - 5.2V ( $V_{EE}$ ) Pull-Down

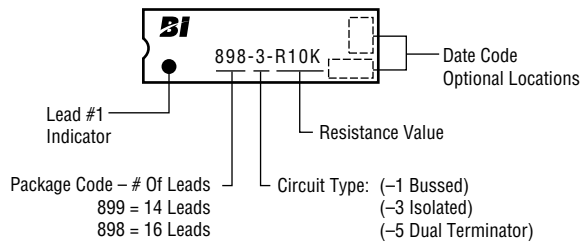


-45 Circuit - TTL to ECL Translator



Note: Model 899: N = 114 Leads, Model 898: N = 16 Leads.  
Custom circuits are available. Consult Factory.

## TYPICAL PART MARKING



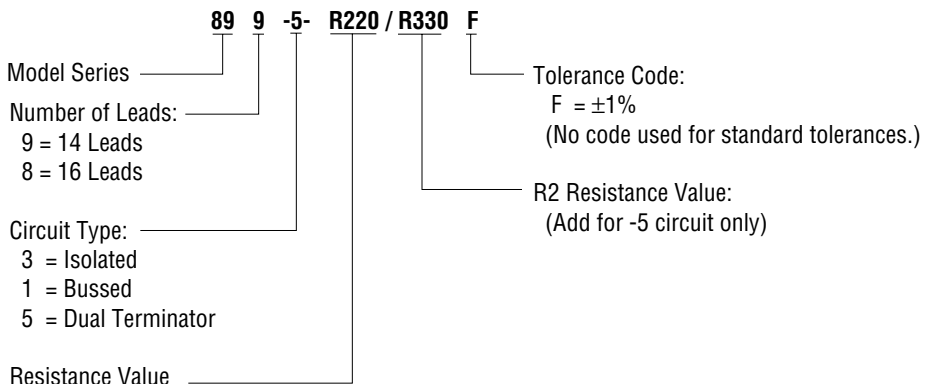
## PACKAGING

### Standard: Magazines

All Units oriented with lead #1 to the same side.

|           |          |   |                    |
|-----------|----------|---|--------------------|
| Magazine: | Material | = | Antistatic Plastic |
|           | Capacity | = | 25 Units           |

## ORDERING INFORMATION



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## TT electronics:

[898-1-R1K](#) [898-3-R100](#) [898-3-R27](#) [898-3-R2K](#) [898-3-R4.7K](#) [898-3-R470K](#) [899-1-R100K](#) [899-1-R22K](#) [898-1-R1.2K](#) [898-1-R1.5K](#) [898-1-R1.8K](#) [898-1-R100](#) [898-1-R100K](#) [898-1-R10K](#) [898-1-R10KLF](#) [898-1-R120](#) [898-1-R120K](#) [898-1-R12K](#) [898-1-R150](#) [898-1-R150K](#) [898-1-R15K](#) [898-1-R180](#) [898-1-R180K](#) [898-1-R18K](#) [898-1-R1MEG](#) [898-1-R2.2K](#) [898-1-R2.7K](#) [898-1-R200](#) [898-1-R200K](#) [898-1-R20K](#) [898-1-R22](#) [898-1-R220](#) [898-1-R220K](#) [898-1-R22K](#) [898-1-R27](#) [898-1-R270](#) [898-1-R270K](#) [898-1-R27K](#) [898-1-R2K](#) [898-1-R3.3K](#) [898-1-R3.9K](#) [898-1-R33](#) [898-1-R330](#) [898-1-R330K](#) [898-1-R33K](#) [898-1-R39](#) [898-1-R390](#) [898-1-R390K](#) [898-1-R39K](#) [898-1-R4.7K](#) [898-1-R47](#) [898-1-R470](#) [898-1-R470K](#) [898-1-R47K](#) [898-1-R5.1K](#) [898-1-R5.6K](#) [898-1-R51](#) [898-1-R510](#) [898-1-R510K](#) [898-1-R51K](#) [898-1-R56](#) [898-1-R560](#) [898-1-R560K](#) [898-1-R56K](#) [898-1-R6.8K](#) [898-1-R68](#) [898-1-R680](#) [898-1-R680K](#) [898-1-R68K](#) [898-1-R8.2K](#) [898-1-R82](#) [898-1-R820](#) [898-1-R820K](#) [898-1-R82K](#) [898-3-R1.2K](#) [898-3-R1.5K](#) [898-3-R1.8K](#) [898-3-R100K](#) [898-3-R10KLF](#) [898-3-R120](#) [898-3-R120K](#) [898-3-R12K](#) [898-3-R150](#) [898-3-R150K](#) [898-3-R15K](#) [898-3-R180](#) [898-3-R180K](#) [898-3-R18K](#) [898-3-R1K](#) [898-3-R1MEG](#) [898-3-R2.2K](#) [898-3-R2.7K](#) [898-3-R200](#) [898-3-R200K](#) [898-3-R20K](#) [898-3-R22](#) [898-3-R220](#) [898-3-R220K](#) [898-3-R270](#) [898-3-R270K](#)