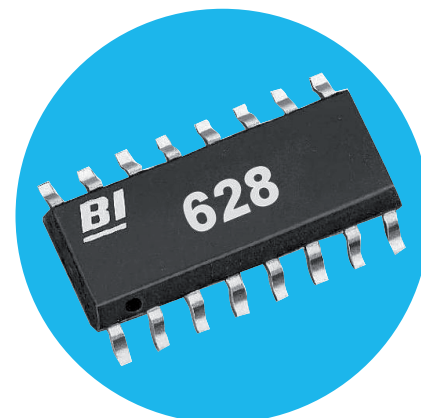


# Model 628

## Model 628 Series

- .220" Small Outline
- Dual-In-Line
- Thick Film
- Surface Mount
- Resistor Networks
- RoHS Compliant



All parts are Pb-free and comply with EU Directive 2011/65/EU (RoHS2)

## Electrical

|                                                 |                                                 |
|-------------------------------------------------|-------------------------------------------------|
| Standard Resistance Range, Ohms                 | 10 to 1Meg (Plus "0" Ohm Jumper)                |
| Standard Resistance Tolerance, at 25°C          | ±2% (<33Ω = ±1 Ohm)<br>(Optional: F Tol. = ±1%) |
| Operating Temperature Range                     | -55°C to +125°C                                 |
| Temperature Coefficient of Resistance           | ±100ppm/°C (<100Ω = ±250ppm/°C)                 |
| Temperature Coefficient of Resistance, Tracking | ±50ppm/°C                                       |
| Maximum Operating Voltage                       | 50Vdc or VPR                                    |
| Insulation Resistance                           | ≥10,000 Megohms                                 |

## Environmental

|                                                                            |                         |
|----------------------------------------------------------------------------|-------------------------|
| Thermal Shock plus Power Conditioning                                      | ΔR 0.70%                |
| Short Time Overload                                                        | ΔR 0.25%                |
| Moisture Resistance                                                        | ΔR 0.50%                |
| Mechanical Shock                                                           | ΔR 0.25%                |
| Vibration                                                                  | ΔR 0.25%                |
| Low Temperature Operation                                                  | ΔR 0.25%                |
| High Temperature Exposure                                                  | ΔR 0.50%                |
| Load Life, 2000 Hours (≤330Ω = ±0.5 Ohm)                                   | ΔR 0.50%                |
| Resistance to Solder Heat (Total Immersion in solder at 280°C for 10 sec.) | ΔR 0.25%                |
| Dielectric Withstanding Voltage                                            | 200V 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-0 Rated          |
| Storage Temperature Range                                                  | -55°C to +150°C         |

### General Note

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## Model 628 Series

## Mechanical

|                    |                      |
|--------------------|----------------------|
| Lead Material      | 96-96.5%Sn, 3.5-4%Ag |
| Lead Configuration | Gull Wing            |
| Lead Coplanarity   | ±0.002 in. (0.051mm) |
| Substrate Material | Alumina              |
| Resistor Material  | Cermet               |
| Body Material      | Epoxy                |

## Standard Resistance Values, Ohms

| A Circuit (Isolated Resistors)<br>Bold type represents stock standard values for 'A' Circuit |      |      |      |       |      | B Circuit (Bussed Resistors)<br>Bold type represents stock standard values for 'B' Circuit |      |      |      |       |      |
|----------------------------------------------------------------------------------------------|------|------|------|-------|------|--------------------------------------------------------------------------------------------|------|------|------|-------|------|
| Ohms                                                                                         | Code | Ohms | Code | Ohms  | Code | Ohms                                                                                       | Code | Ohms | Code | Ohms  | Code |
| 22                                                                                           | 220  | 1.2K | 122  | 39K   | 393  | 22                                                                                         | 220  | 1.2K | 122  | 39K   | 393  |
| 33                                                                                           | 330  | 1.5K | 152  | 47K   | 473  | 33                                                                                         | 330  | 1.5K | 152  | 47K   | 473  |
| 39                                                                                           | 390  | 1.8K | 182  | 56K   | 563  | 39                                                                                         | 390  | 1.8K | 182  | 56K   | 563  |
| 47                                                                                           | 470  | 2K   | 202  | 68K   | 683  | 47                                                                                         | 470  | 2K   | 202  | 68K   | 683  |
| 56                                                                                           | 560  | 2.2K | 222  | 82K   | 823  | 56                                                                                         | 560  | 2.2K | 222  | 82K   | 823  |
| 68                                                                                           | 680  | 2.7K | 272  | 100K  | 104  | 68                                                                                         | 680  | 2.7K | 272  | 100K  | 104  |
| 82                                                                                           | 820  | 3.3K | 332  | 120K  | 124  | 82                                                                                         | 820  | 3.3K | 332  | 120K  | 124  |
| 100                                                                                          | 101  | 3.9K | 392  | 150K  | 154  | 100                                                                                        | 101  | 3.9K | 392  | 150K  | 154  |
| 120                                                                                          | 121  | 4.7K | 472  | 180K  | 184  | 120                                                                                        | 121  | 4.7K | 472  | 180K  | 184  |
| 150                                                                                          | 151  | 5.6K | 562  | 220K  | 224  | 150                                                                                        | 151  | 5.6K | 562  | 220K  | 224  |
| 180                                                                                          | 181  | 6.8K | 682  | 270K  | 274  | 180                                                                                        | 181  | 6.8K | 682  | 270K  | 274  |
| 220                                                                                          | 221  | 8.2K | 822  | 330K  | 334  | 220                                                                                        | 221  | 8.2K | 822  | 330K  | 334  |
| 270                                                                                          | 271  | 10K  | 103  | 390K  | 394  | 270                                                                                        | 271  | 10K  | 103  | 390K  | 394  |
| 330                                                                                          | 331  | 12K  | 123  | 470K  | 474  | 330                                                                                        | 331  | 12K  | 123  | 470K  | 474  |
| 390                                                                                          | 391  | 15K  | 153  | 560K  | 564  | 390                                                                                        | 391  | 15K  | 153  | 560K  | 564  |
| 470                                                                                          | 471  | 18K  | 183  | 680K  | 684  | 470                                                                                        | 471  | 18K  | 183  | 680K  | 684  |
| 560                                                                                          | 561  | 20K  | 203  | 820K  | 824  | 560                                                                                        | 561  | 20K  | 203  | 820K  | 824  |
| 680                                                                                          | 681  | 22K  | 223  | 1 Meg | 105  | 680                                                                                        | 681  | 22K  | 223  | 1 Meg | 105  |
| 820                                                                                          | 821  | 27K  | 273  |       |      | 820                                                                                        | 821  | 27K  | 273  |       |      |
| 1K                                                                                           | 102  | 33K  | 333  |       |      | 1K                                                                                         | 102  | 33K  | 333  |       |      |

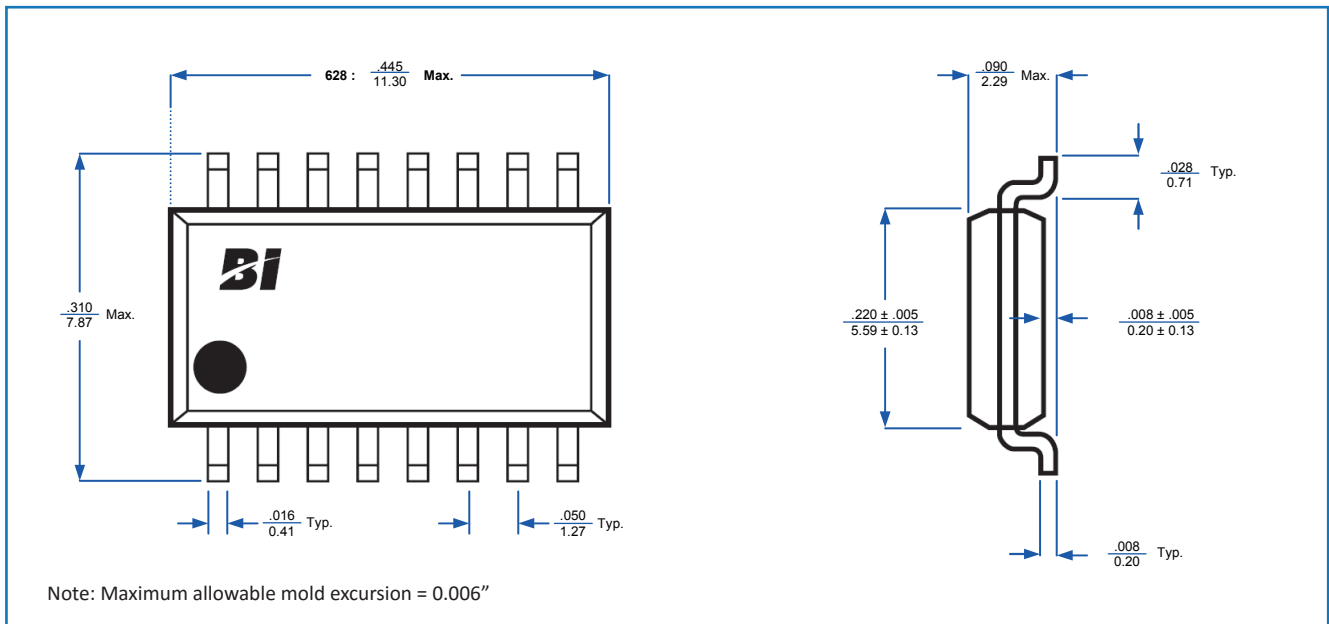
| J Circuit (Dual Terminators) |              |         |              |              |         |
|------------------------------|--------------|---------|--------------|--------------|---------|
| Ohms (R1/R2)                 | Code (R1/R2) | Marking | Ohms (R1/R2) | Code (R1/R2) | Marking |
| 120/120                      | 121/121      | 45      | 330/470      | 331/471      | 10      |
| 150/150                      | 151/151      | 40      | 390/390      | 391/391      | 42      |
| 180/300                      | 181/301      | 31      | 470/470      | 471/471      | 43      |
| 220/220                      | 221/221      | 39      | 1K/3.3K      | 102/332      | 35      |
| 220/330                      | 221/331      | 08      | 3K/6.2K      | 302/662      | 13      |
| 270/270                      | 221/331      | 41      | 6.8K/22K     | 682/223      | 29      |
| 330/390                      | 331/391      | 09      | -            | -            | -       |

## General Note

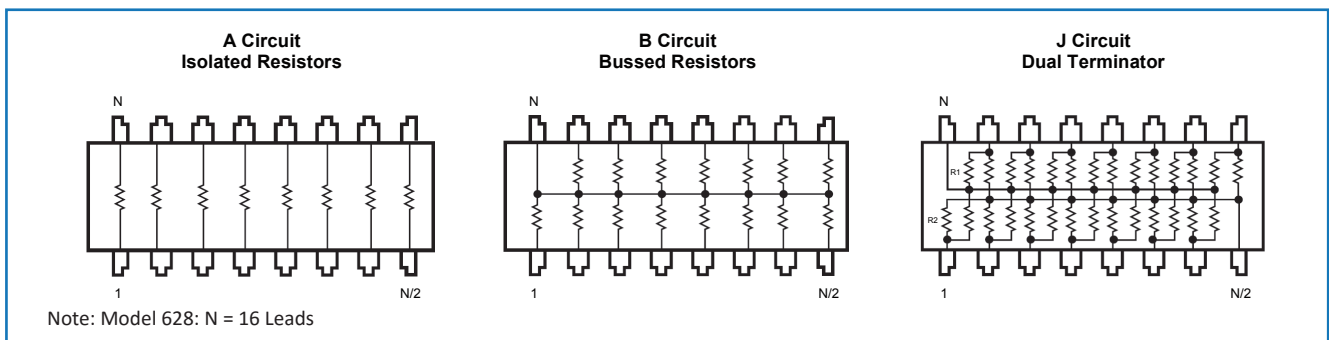
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## Model 628 Series

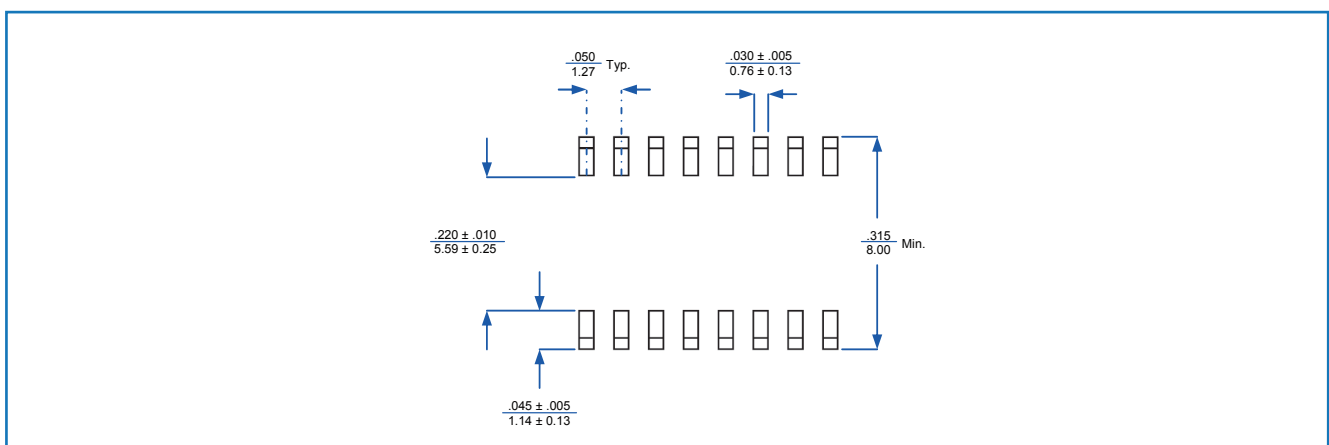
## Outline Dimensions (Inch/mm)



## Schematics



## Solder Pad Layout (Inch/mm)



## General Note

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Model 628 Series

Typical Part Marking

**Part Number:**

628A330

628A331

628J221/331

**Part Marking:**

8A330

8A331

8J08

Manufacturer's Trademark

Date Code

Part Marking

Lead #1 Indicator

Power Dissipation, Watts At 70°C

| — Resistor (Per Circuit) — |         |      |      |      |
|----------------------------|---------|------|------|------|
| Model                      | Package | A    | B    | J    |
| 628                        | 1.28    | 0.32 | 0.16 | 0.16 |

Packaging

|           |                                                                                                                            |                              |  |
|-----------|----------------------------------------------------------------------------------------------------------------------------|------------------------------|--|
| Standard: | Tape & Reel<br>Conforms to requirements of EIA-481.<br>All units orientated with lead #1 to the left of direction of feed. |                              |  |
| Tape      | Width =                                                                                                                    | 24mm                         |  |
|           | Pocket =                                                                                                                   | Embossed Plastic, Antistatic |  |
|           | Pitch =                                                                                                                    | 12mm                         |  |
| Reel:     | Diameter =                                                                                                                 | 13" (300mm) Maximum          |  |
|           | Capacity =                                                                                                                 | 2,000 Units                  |  |
| Option:   | Magazines<br>Conforms to EIA and JEDEC standards.<br>All units orientated with lead #1 to the same side.                   |                              |  |
| Magazine: | Magazine: Capacity =                                                                                                       | 50 Units                     |  |

General Note

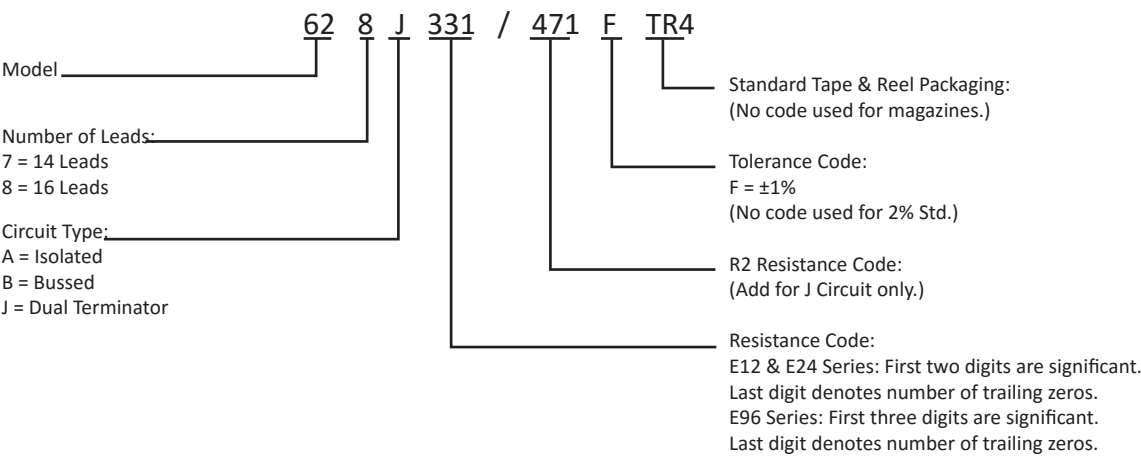
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Model 628 Series

Applicable Documents

|                                                                                                          |
|----------------------------------------------------------------------------------------------------------|
| MIL-R-914 - Resistor Networks, Fixed, Film, Surface Mount Established Reliability General Specifications |
| MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes                                |
| MIL-STD-202 - Test Methods for Electronics and Electrical Component Parts                                |
| EIA-481 - Carrier Taping of Surface Mount Components for Automatic Handling                              |
| EIA-PDP-100 - SOGN-0002 Outline Dimensions                                                               |

Ordering Information



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