



Bussed Resistor Network

Features

- Stable resistor network
- High speed termination network
- 15 or 23 terminating lines/package
- Saves board space and reduces assembly cost

Applications

- Parallel termination
- Pull up/pull down
- Digital pulse squaring
- Coding and decoding
- Telemetry

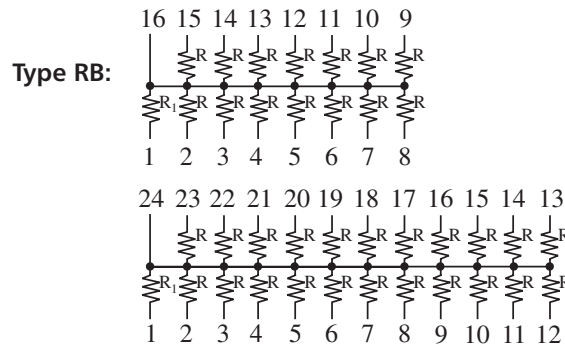
Product Description

CAMDs PRN101/111 Bussed Resistor Termination Networks offer high integration and performance in a miniature QSOP or SOIC package, which saves critical board area and provides manufacturing cost and reliability efficiencies. This part is well-suited as a general purpose replacement for all popular MLCC resistor chips and larger size thick film technology packages.

Why thin film resistor networks? A terminating resistor is used to reduce or eliminate unwanted reflections on a

transmission line or in some cases provide DC pull-up/pull-down. It can perform this function only when its resistance value is closely matched to the characteristic impedance of the transmission line. The resistors used for terminating transmission lines must be noiseless, stable, and functional at high frequencies. Unlike thin film-based resistor networks, conventional thick film resistors used for this purpose are not as stable over temperature and time, and may have functional limitations when used in high frequency applications.

SCHEMATIC CONFIGURATION



STANDARD SPECIFICATIONS

| | |
|-------------------------------|---------------------------------------|
| TCR | ±250ppm |
| TTCR* | ±5ppm |
| Operating Temperature Range | 0°C to 70°C |
| Power Rating/Resistor | 100mW for R < 1KΩ 25mW for R ≥ 1KΩ |
| Minimum Insulation Resistance | 10,000 MΩ |
| Storage Temperature | -65°C to +150°C |
| Package Power Rating | 1W, max. |

STANDARD VALUES

| R (Ω) Isolated | Code | R (Ω) Isolated | Code |
|----------------|------|----------------|------|
| 51 | 51R0 | 2.2K | 2201 |
| 56 | 56R0 | 2.7K | 2701 |
| 330 | 3300 | 4.7K | 4701 |
| 390 | 3900 | 6.8K | 6801 |
| 680 | 6800 | 10K | 1002 |
| 1K | 1001 | 20K | 2002 |
| 1.1K | 1101 | 47K | 4702 |
| 2K | 2001 | | |

NON-STANDARD SPECIFICATIONS

| | |
|------------------------|-----------|
| Absolute Tolerance (R) | ±2% , ±1% |
|------------------------|-----------|

NON-STANDARD VALUES

| | |
|------------------|------------|
| Resistance Range | 10 to 47KΩ |
|------------------|------------|



| STANDARD PART ORDERING INFORMATION | | | | | |
|------------------------------------|---------|-------------|----------------------|------------------|----------------|
| Package | Package | | Ordering Part Number | | |
| R Code | Pins | Style | Tubes | Tape & Reel | Part Marking |
| 51R0 | 16 | Narrow SOIC | PRN10116N51R0J/T | PRN10116N51R0J/R | PRN10116N51R0J |
| 56R0 | 16 | Narrow SOIC | PRN10116N56R0J/T | PRN10116N56R0J/R | PRN10116N56R0J |
| 3300 | 16 | Narrow SOIC | PRN10116N3300J/T | PRN10116N3300J/R | PRN10116N3300J |
| 3900 | 16 | Narrow SOIC | PRN10116N3900J/T | PRN10116N3900J/R | PRN10116N3900J |
| 6800 | 16 | Narrow SOIC | PRN10116N6800J/T | PRN10116N6800J/R | PRN10116N6800J |
| 1001 | 16 | Narrow SOIC | PRN10116N1001J/T | PRN10116N1001J/R | PRN10116N1001J |
| 1101 | 16 | Narrow SOIC | PRN10116N1101J/T | PRN10116N1101J/R | PRN10116N1101J |
| 2001 | 16 | Narrow SOIC | PRN10116N2001J/T | PRN10116N2001J/R | PRN10116N2001J |
| 2201 | 16 | Narrow SOIC | PRN10116N2201J/T | PRN10116N2201J/R | PRN10116N2201J |
| 2701 | 16 | Narrow SOIC | PRN10116N2701J/T | PRN10116N2701J/R | PRN10116N2701J |
| 4701 | 16 | Narrow SOIC | PRN10116N4701J/T | PRN10116N4701J/R | PRN10116N4701J |
| 6801 | 16 | Narrow SOIC | PRN10116N6801J/T | PRN10116N6801J/R | PRN10116N6801J |
| 1002 | 16 | Narrow SOIC | PRN10116N1002J/T | PRN10116N1002J/R | PRN10116N1002J |
| 2002 | 16 | Narrow SOIC | PRN10116N2002J/T | PRN10116N2002J/R | PRN10116N2002J |
| 4702 | 16 | Narrow SOIC | PRN10116N4702J/T | PRN10116N4702J/R | PRN10116N4702J |
| 51R0 | 16 | QSOP | PRN1111651R0J/T | PRN1111651R0J/R | PRN1111651R0J |
| 56R0 | 16 | QSOP | PRN1111656R0J/T | PRN1111656R0J/R | PRN1111656R0J |
| 3300 | 16 | QSOP | PRN111163300J/T | PRN111163300J/R | PRN111163300J |
| 3900 | 16 | QSOP | PRN111163900J/T | PRN111163900J/R | PRN111163900J |
| 6800 | 16 | QSOP | PRN111166800J/T | PRN111166800J/R | PRN111166800J |
| 1001 | 16 | QSOP | PRN111161001J/T | PRN111161001J/R | PRN111161001J |
| 1101 | 16 | QSOP | PRN111161101J/T | PRN111161101J/R | PRN111161101J |
| 2001 | 16 | QSOP | PRN111162001J/T | PRN111162001J/R | PRN111162001J |
| 2201 | 16 | QSOP | PRN111162201J/T | PRN111162201J/R | PRN111162201J |
| 2701 | 16 | QSOP | PRN111162701J/T | PRN111162701J/R | PRN111162701J |
| 4701 | 16 | QSOP | PRN111164701J/T | PRN111164701J/R | PRN111164701J |
| 6801 | 16 | QSOP | PRN111166801J/T | PRN111166801J/R | PRN111166801J |
| 1002 | 16 | QSOP | PRN111161002J/T | PRN111161002J/R | PRN111161002J |
| 2002 | 16 | QSOP | PRN111162002J/T | PRN111162002J/R | PRN111162002J |
| 4702 | 16 | QSOP | PRN111164702J/T | PRN111164702J/R | PRN111164702J |
| 51R0 | 24 | QSOP | PRN1112451R0J/T | PRN1112451R0J/R | PRN1112451R0J |
| 56R0 | 24 | QSOP | PRN1112456R0J/T | PRN1112456R0J/R | PRN1112456R0J |
| 3300 | 24 | QSOP | PRN111243300J/T | PRN111243300J/R | PRN111243300J |
| 3900 | 24 | QSOP | PRN111243900J/T | PRN111243900J/R | PRN111243900J |
| 6800 | 24 | QSOP | PRN111246800J/T | PRN111246800J/R | PRN111246800J |
| 1001 | 24 | QSOP | PRN111241001J/T | PRN111241001J/R | PRN111241001J |
| 1101 | 24 | QSOP | PRN111241101J/T | PRN111241101J/R | PRN111241101J |
| 2001 | 24 | QSOP | PRN111242001J/T | PRN111242001J/R | PRN111242001J |



| STANDARD PART ORDERING INFORMATION (CONTINUED) | | | | | |
|--|---------|-------|----------------------|-----------------|---------------|
| Package | Package | | Ordering Part Number | | |
| R Code | Pins | Style | Tubes | Tape & Reel | Part Marking |
| 2201 | 24 | QSOP | PRN111242201J/T | PRN111242201J/R | PRN111242201J |
| 2701 | 24 | QSOP | PRN111242701J/T | PRN111242701J/R | PRN111242701J |
| 4701 | 24 | QSOP | PRN111244701J/T | PRN111244701J/R | PRN111244701J |
| 6801 | 24 | QSOP | PRN111246801J/T | PRN111246801J/R | PRN111246801J |
| 1002 | 24 | QSOP | PRN111241002J/T | PRN111241002J/R | PRN111241002J |
| 2002 | 24 | QSOP | PRN111242002J/T | PRN111242002J/R | PRN111242002J |
| 4702 | 24 | QSOP | PRN111244702J/T | PRN111244702J/R | PRN111244702J |

| NON-STANDARD PART ORDERING INFORMATION | | | |
|--|-------------|--|-----------|
| PRN100 (Example) | 16 | XXXX | T |
| Part Series | Pin Count | Value Code | Tolerance |
| PRN101 -SOIC | 16 =16-pins | First 3 digits are significant value. (R indicates decimal point) Fourth digit represents number of zeroes to follow. | J = ±5% |
| PRN111-QSOP | 16 =16-pins | | G = ±2% |
| | 24 =24-pins | | F = ±1% |

California Micro Devices can develop a fully customized solution which embodies the configuration shown in this data sheet or modified to suit specific application requirements. Very precise TCR, TCR tracking and resistor tolerances, and resistor-to-resistor ratio matching can also be provided. A Non-Recurring Engineering (NRE) charge will apply for all fully customized requirements and a minimum order/lot will be required.

Please direct your detailed circuit configuration and specification requirements to your local CAMD representative or to the factory for a quotation.