R/2R Ladder Networks

R/2R Ladder Networks are available in both DIP and SIP (Molded or Conformal) configurations.

The R/2R Ladder Network is commonly used for Digital to Analog (D/A) conversions and Analog to Digital (A/D) conversion by successive approximations. The bits of the ladder are the points at which input signals are presented to the ladder and the output terminal (OUT) is the point at which the output is taken from the R/2R ladder. This terminal (OUT) is commonly used to drive an operational amplifier. \( R_T \) (the terminating resistor) is always connected to ground.

Standard R/2R Ladder Networks have a resistance tolerance of ±2.0% (±1.0% available on all but low profile SIPs).

### Standard R/2R Ladder Networks

<table>
<thead>
<tr>
<th>Availability</th>
<th>DIP/SMD</th>
<th>SIP-CONFORMAL</th>
<th>SIP MOLDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 Pin - 7 Bit</td>
<td>6 Pin - 4 Bit</td>
<td>6 Pin - 4 Bit</td>
<td></td>
</tr>
<tr>
<td>16 Pin - 8 Bit</td>
<td>7 Pin - 5 Bit</td>
<td>8 Pin - 6 Bit</td>
<td>10 Pin - 8 Bit</td>
</tr>
<tr>
<td>8 Pin - 6 Bit</td>
<td>9 Pin - 7 Bit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Pin - 8 Bit</td>
<td>10 Pin - 8 Bit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Pin - 9 Bit</td>
<td>11 Pin - 9 Bit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Pin -10 Bit</td>
<td>12 Pin -10 Bit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Pin -12 Bit</td>
<td>14 Pin -12 Bit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Resistor Power Ratings @ 70˚ C

- Low Profile SIP & DIP .................................................... .125W
- Medium Profile SIP ........................................................ .170W
- High Profile SIP .............................................................. .200W

### How To Order R/2R Ladder Networks

Model  
(41 = Molded DIP)  
(43 = Molded SIP)  
(44 = Wide Body SMD)  
(46 = Conformal SIP)  
(48 = SMD)  

Number of Pins  
(For value of R), 2R is double this value.

- First 2 digits are significant.
- Third digit represents the number of zeros to follow.

Physical Configuration  
(R = Low Profile - Molded)  
(X = Low Profile - Conformal)  
(M = Medium Profile)  
(H = High Profile)  
(P = Medium Body SOIC)  

Electrical Configuration  
- R2R = R/2R Ladder Network