

### **Features**

- Resistance range: 100 ohms to 1 megohm
- SIP and DIP packages
- Surface mount and through-hole available
- RoHS compliant\* (see How to Order "Termination" option)

For information on R/2R Thick Film Networks, download Bourns' R/2R Application Note.

# **R/2R Series Thick Film Networks**

#### **Product Characteristics**

See applicable model data sheet for complete list of product characteristics.

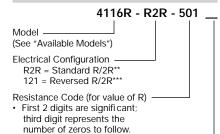
#### **Environmental Characteristics**

See applicable model data sheet for complete list of environmental characteristics.

#### **Physical Characteristics**

See applicable model data sheet for complete list of physical characteristics.

#### How To Order



• 2R is double the value of R in circuit.

#### Terminations

LF = Tin-coated (RoHS compliant version) (Model 4416P is ONLY available in the RoHS compliant version.)

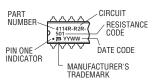
Blank = Tin/Lead

(Model 4416P is not available with tin/lead terminations.)

For Standard Values Used in Capacitors, Inductors, and Resistors, click here.

#### **Typical Part Marking**

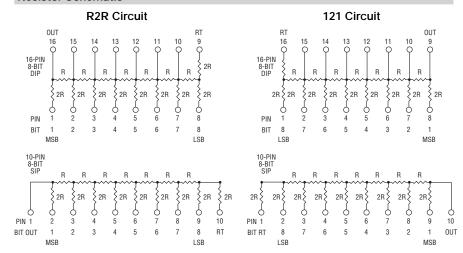
Represents total content. Layout may vary.



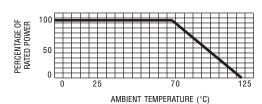
#### **Product Dimensions**

See applicable model data sheet for complete product dimensions.

### **Resistor Schematic**



### **Power Derating Curve**



#### Power Rating per Resistor

	Power per Resistor
Model	· (Watts)
4100R, 4300R, 4400P, 4600X***, 4800P	0.125
4300M, 4600M***	0.170
4300H	0.200



<sup>\*\*</sup>Standard R2R Electrical Configuration not available for Model 4600H Series.

<sup>\*\*\*</sup>Reversed R/2R Electrical Configuration not available for Model 4600H, 4600M or 4600X Series.

## **Legal Disclaimer Notice**



This legal disclaimer applies to purchasers and users of Bourns® products manufactured by or on behalf of Bourns, Inc. and its affiliates (collectively, "Bourns").

Unless otherwise expressly indicated in writing, Bourns® products and data sheets relating thereto are subject to change without notice. Users should check for and obtain the latest relevant information and verify that such information is current and complete before placing orders for Bourns® products.

The characteristics and parameters of a Bourns® product set forth in its data sheet are based on laboratory conditions, and statements regarding the suitability of products for certain types of applications are based on Bourns' knowledge of typical requirements in generic applications. The characteristics and parameters of a Bourns® product in a user application may vary from the data sheet characteristics and parameters due to (i) the combination of the Bourns® product with other components in the user's application, or (ii) the environment of the user application itself. The characteristics and parameters of a Bourns® product also can and do vary in different applications and actual performance may vary over time. Users should always verify the actual performance of the Bourns® product in their specific devices and applications, and make their own independent judgments regarding the amount of additional test margin to design into their device or application to compensate for differences between laboratory and real world conditions.

Unless Bourns has explicitly designated an individual Bourns® product as meeting the requirements of a particular industry standard (e.g., ISO/TS 16949) or a particular qualification (e.g., UL listed or recognized), Bourns is not responsible for any failure of an individual Bourns® product to meet the requirements of such industry standard or particular qualification. Users of Bourns® products are responsible for ensuring compliance with safety-related requirements and standards applicable to their devices or applications.

Bourns® products are not recommended, authorized or intended for use in nuclear, lifesaving, life-critical or life-sustaining applications, nor in any other applications where failure or malfunction may result in personal injury, death, or severe property or environmental damage. Unless expressly and specifically approved in writing by two authorized Bourns representatives on a case-by-case basis, use of any Bourns® products in such unauthorized applications might not be safe and thus is at the user's sole risk. Life-critical applications include devices identified by the U.S. Food and Drug Administration as Class III devices and generally equivalent classifications outside of the United States.

Bourns expressly identifies those Bourns® standard products that are suitable for use in automotive applications on such products' data sheets in the section entitled "Applications." Unless expressly and specifically approved in writing by two authorized Bourns representatives on a case-by-case basis, use of any other Bourns® standard products in an automotive application might not be safe and thus is not recommended, authorized or intended and is at the user's sole risk. If Bourns expressly identifies a sub-category of automotive application in the data sheet for its standard products (such as infotainment or lighting), such identification means that Bourns has reviewed its standard product and has determined that if such Bourns® standard product is considered for potential use in automotive applications, it should only be used in such sub-category of automotive applications. Any reference to Bourns® standard product in the data sheet as compliant with the AEC-Q standard or "automotive grade" does not by itself mean that Bourns has approved such product for use in an automotive application.

Bourns® standard products are not tested to comply with United States Federal Aviation Administration standards generally or any other generally equivalent governmental organization standard applicable to products designed or manufactured for use in aircraft or space applications. Bourns expressly identifies Bourns® standard products that are suitable for use in aircraft or space applications on such products' data sheets in the section entitled "Applications." Unless expressly and specifically approved in writing by two authorized Bourns representatives on a case-by-case basis, use of any other Bourns® standard product in an aircraft or space application might not be safe and thus is not recommended, authorized or intended and is at the user's sole risk.

The use and level of testing applicable to Bourns® custom products shall be negotiated on a case-by-case basis by Bourns and the user for which such Bourns® custom products are specially designed. Absent a written agreement between Bourns and the user regarding the use and level of such testing, the above provisions applicable to Bourns® standard products shall also apply to such Bourns® custom products.

Users shall not sell, transfer, export or re-export any Bourns® products or technology for use in activities which involve the design, development, production, use or stockpiling of nuclear, chemical or biological weapons or missiles, nor shall they use Bourns® products or technology in any facility which engages in activities relating to such devices. The foregoing restrictions apply to all uses and applications that violate national or international prohibitions, including embargos or international regulations. Further, Bourns® products and Bourns technology and technical data may not under any circumstance be exported or re-exported to countries subject to international sanctions or embargoes. Bourns® products may not, without prior authorization from Bourns and/or the U.S. Government, be resold, transferred, or re-exported to any party not eligible to receive U.S. commodities, software, and technical data.

To the maximum extent permitted by applicable law, Bourns disclaims (i) any and all liability for special, punitive, consequential, incidental or indirect damages or lost revenues or lost profits, and (ii) any and all implied warranties, including implied warranties of fitness for particular purpose, non-infringement and merchantability.

For your convenience, copies of this Legal Disclaimer Notice with German, Spanish, Japanese, Traditional Chinese and Simplified Chinese bilingual versions are available at:

Web Page: http://www.bourns.com/legal/disclaimers-terms-and-policies

PDF: http://www.bourns.com/docs/Legal/disclaimer.pdf

# **Mouser Electronics**

**Authorized Distributor** 

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

## **Bourns:**

4610X-R2R-471 4816P-R2R-103 4116R-R2R-104 4816P-R2R-104 4610X-R2R-104 4610X-R2R-253 4611M-R2R-104 4816P-R2R-502 4816P-R2R-501 4610X-R2R-222 4310R-R2R-103 4610X-R2R-503 4610X-R2R-103 4310R-R2R-103LF 4310R-R2R-104 4310R-R2R-104LF 4310R-R2R-203LF 4610X-R2R-103LF 4116R-R2R-503LF 4116R-R2R-253LF 4310R-R2R-102LF 4310R-R2R-253LF 4607H-R2R-104LF 4610X-R2R-104LF 4610X-R2R-102LF 4610X-R2R-253LF 4816P-R2R-103LF 4610X-R2R-153 4116R-R2R-501 4610X-R2R-102 4816P-R2R-503 4116R-R2R-253 4816P-R2R-253 4610X-R2R-122 4614M-R2R-104 4116R-R2R-104LF 4608X-R2R-105LF 4116R-R2R-103LF 4308R-R2R-503LF 4610X-R2R-102LF 4610X-R2R-503LF 4816P-R2R-501LF 4610X-R2R-222LF 4816P-R2R-503LF 4310R-R2R-203 4310R-R2R-102 4310R-R2R-503LF 4310R-R2R-222 4816P-R2R-474LF 4308R-R2R-103LF 4816P-R2R-105LF 4310M-R2R-503LF 4116R-R2R-501LF 4310R-R2R-503LF 4606X-R2R-103LF 4816P-R2R-253LF 4816P-R2R-105LF 4310M-R2R-503LF 4116R-R2R-501LF 4310R-R2R-503LF 4606X-R2R-103LF 4816P-R2R-253LF 4816P-R2R-105LF 4310M-R2R-503LF 4116R-R2R-501LF 4310M-R2R-503LF 4610M-R2R-104LF