

Precision Resistor Networks

APPLICATIONS

- Implantable Medical Devices
- Cellular Telephones
- Avionics
- Satellites



Thin film resistors manufactured with chromium silicon provide a smaller solution for applications where space is at a premium; laser trimmed high precision resistors are available as standard values or custom arrays with tolerance <1%.

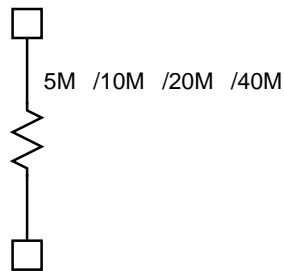
FEATURES AND BENEFITS

Small Size	Precision thin film resistors with 2500 Ω /sq provide high value resistors in a small area.
High Value Resistors	5M, 10M, 20M and 40M Ω resistors available as standard products.
Network of Resistors	Standard resistor networks including voltage divider 1000:1, bussed resistors (100k Ω each) and a resistor with variable value of 10K Ω – 1.1M Ω , by different pinouts. Custom network solutions also available.
High Precision	Resistors are laser trimmed with tolerance <1%.
High Quality	Manufactured on solid state semiconductor process line providing high stability and repeatability with demonstrated reliability.
Assembly	Surface mount dual-line package, surface mount ballgrid or die form are optional.
Temperature Coefficients	Less than 300 ppm/ $^{\circ}$ C temperature tracking of <2 ppm/ $^{\circ}$ C.

PRECISION RESISTOR NETWORKS

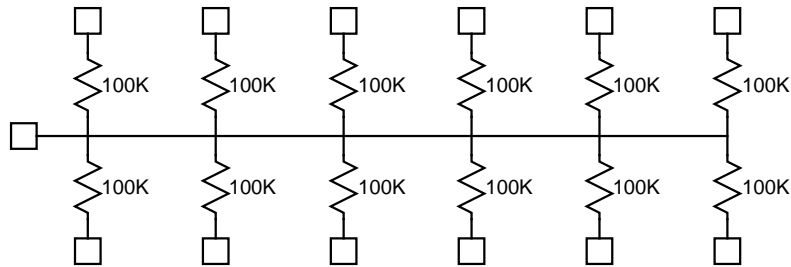
DISCRETE RESISTORS

Discrete Resistor



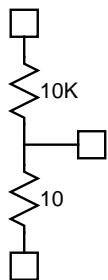
$I_{max} = 165\mu A$

Bussed Resistor Network



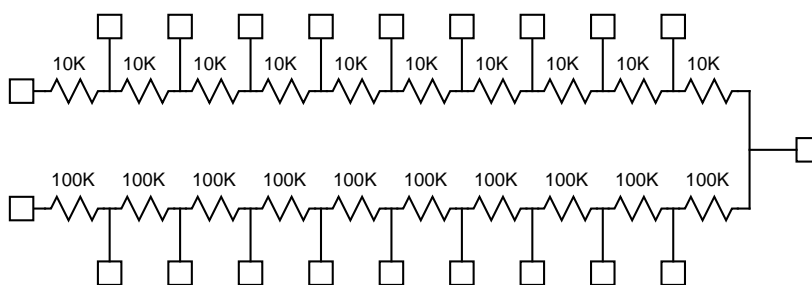
$I_{max} = 495\mu A$

Voltage Divider



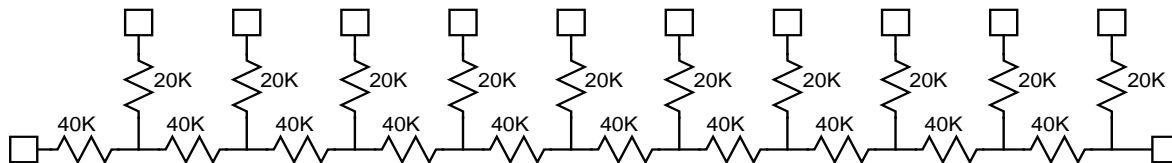
$I_{max} = 495\mu A$

Multiple Bond Pads Resistor 10KΩ to 1.1MΩ



$I_{max} = 495\mu A$

R2R Ladder Resistor Network



$I_{max} = 495\mu A$

SPECIFICATIONS

Material	CrSi
Sheet resistance	2500Ω/sq
Operating temperature	-55 to 150°C
Max current	165μA to 1.6mA
Temperature coefficient TCR	< ±300 ppm/°C
Tolerance	<1%

ORDERING INFORMATION

Part #	Resistance Value
TFR05M	5M
TFR10M	10M
TFR20M	20M
TFR40M	40M
TFRBUS	See above
TFRDIVIDER	See above
TFRMULTI	See above
TFRLADDER	See above

Honeywell reserves the right to make changes to any products or technology herein to improve reliability, function or design. Honeywell does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights nor the rights of others.

Honeywell

Solid State Electronics Center
12001 State Highway 55
Plymouth, MN 55441
<http://www.ssec.honeywell.com>