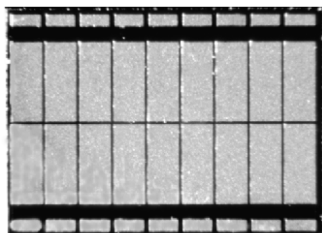


Thin Film Filter Networks



Product may not
be to scale

FEATURES

- Wire bondable
- Standard resistance range: 25 Ω and 50 Ω
- Standard capacitance range:
50 pF, 100 pF, 200 pF, 400 pF
- Resistance tolerance to 1 %
Capacitance tolerance to 5 %
- Capacitor MOS/MNOS
- Resistor material: Tantalum nitride, self-passivating
- Oxidized silicon substrate

The RCN series combines resistor and capacitor technology on a single chip to provide filtering capability together with excellent stability. Specifications below are standard but may be changed and customized for the application and are available in widebody SOIC or DIP packages.

These chips are manufactured using Vishay (EFI) sophisticated Thin Film equipment and manufacturing technology. The RCNs are 100 % electrically tested and visually inspected to MIL-STD-883.

APPLICATIONS

The RCN filter chips are used for low pass filters, RFI & EMI, CMOS digital filters, ECL terminators and power supply filters. Contact our Sales Department for any special configurations or requirements that are needed.

TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES AND COMBOS (Standard)

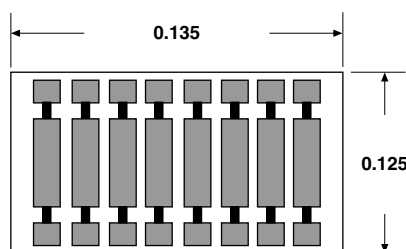
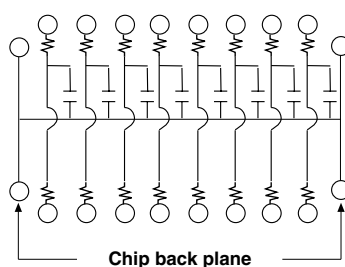
Absolute TCR = ± 100 ppm/ $^{\circ}\text{C}$

Absolute TCC = $+ 45 \pm 75$ ppm/ $^{\circ}\text{C}$

R	C	R	C
25 Ω	50 pF	50 Ω	50 pF
25 Ω	100 pF	50 Ω	100 pF
25 Ω	200 pF	50 Ω	200 pF
25 Ω	400 pF	50 Ω	400 pF

STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	
Noise, MIL-STD-202, Method 308 100 Ω - 250 k Ω < 100 Ω or > 251 k Ω	- 35 dB typ. - 20 dB typ.
Moisture Resistance, MIL-STD-202, Method 106	± 0.5 % max. $\Delta R/R$
Stability, 100 h, + 125 $^{\circ}\text{C}$, 50 mW/Res, at WVDC	± 0.5 % max. $\Delta R/R$ ± 2.0 % max. $\Delta R/R$
Operating Temperature Range	- 55 $^{\circ}\text{C}$ to + 125 $^{\circ}\text{C}$
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	± 0.1 % max. $\Delta R/R$
High Temperature Exposure, + 150 $^{\circ}\text{C}$, 1000 h	± 0.2 % max. $\Delta R/R$
Insulation Resistance	10^9 min.
Operating Voltage	25 V max.
DC Pwr Rating at - 55 $^{\circ}\text{C}$ to + 125 $^{\circ}\text{C}$ (100 V Maximum)	50 mW
5 x Rated Power Short-Time Overload, + 25 $^{\circ}\text{C}$, 5 s (100 V Maximum)	± 0.5 % max. $\Delta R/R$

DIMENSIONS in inches**SCHEMATIC****MECHANICAL SPECIFICATIONS** in inches

PARAMETER	
Chip Size	0.135 x 0.125 ± 0.005 (3.429 x 3.175 ± 0.127 mm)
Chip Thickness	0.010 ± 0.002 (0.254 ± 0.05 mm)
Chip Substrate Material	Oxidized silicon, 10 kÅ minimum SiO ₂
Resistor Material	Tantalum nitride, self-passivating
Bonding Pad Size	0.005 x 0.007 (0.127 x 0.178 mm)
Number of Pads	16 (8 x RC)
Pad Material	10 kÅ minimum aluminum
Backing	3 kÅ minimum gold

Options: Gold bonding pads 15 kÅ minimum thickness
Consult Applications Engineer

ORDERING INFORMATION

Example: 100 % visualled, 25 Ω, ± 20 %, 200 pF ± 20 %, ± 100 ppm/°C, aluminum pads, class H visual inspection

P/N:	W	RCN	200	250	A	201	M
	INSPECTION	PRODUCT	SERIES	RESISTANCE	RESISTOR	CAPACITOR	CAPACITANCE
	/PACKAGING	FAMILY		VALUE	TOLERANCE	VALUE	TOLERANCE
	W = 100 % visually inspected			Use the first 3	B = 0.01	Use the first 3	J = 5.0 %
	parts in matrix trays per			significant digits of	A = 0.1	significant digits	K = 10 %
	MIL-STD-883			the resistance	0 = 1	of the	M = 20 %
	X = Sample, commercial			and multiplier	1 = 10	capacitance and	N = 25 %
	visually inspected parts loaded in				2 = 100	multiplier	
	matrix trays (4 % AQL)						



Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.