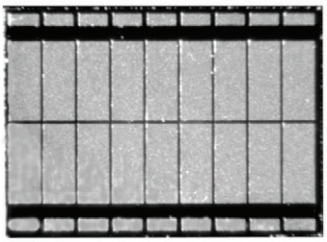
Wire Bondable Thin Film Filter Resistor Networks



Product may not be to scale

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.

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
- Chip size: 0.135" x 0.125"
- Case: 1210
- Resistor material: Tantalum nitride, self-passivating
- Oxidized silicon substrate
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

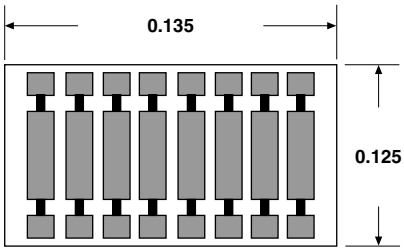
APPLICATIONS

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

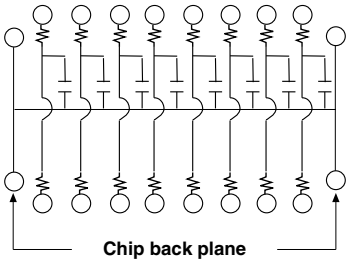
TEMPERATURE COEFFICIENT OF RESISTANCE, VALUES, AND TOLERANCES		
PARAMETER	**VALUE**	**UNIT**
Total Resistance Range	25, 50	Ω
Standard Capacitance Range	50, 100, 200, 400	pF
Standard Tolerances	± 0.01, ± 0.1, ± 1	%
TCR	± 100	ppm/°C
Absolute TCC	+ 45 ± 75	ppm/°C

STANDARD ELECTRICAL SPECIFICATIONS		
PARAMETER	**VALUE**	**UNIT**
Noise, MIL-STD-202, Method 308 100 Ω to 250 kΩ < 100 Ω or > 251 kΩ	 -35 typ. -20 typ.	dB
Moisture Resistance, MIL-STD-202, Method 106	± 0.5 max. Δ*R*/*R*	%
Stability, 100 h, +125 °C, 50 mW/Res, at W_{VDC}	± 0.5 max. Δ*R*/*R* ± 2.0 max. Δ*R*/*R*	%
Operating Temperature Range	-55 to +125	°C
Thermal Shock, MIL-STD-202, Method 107, Test Condition F	± 0.1 max. Δ*R*/*R*	%
High Temperature Exposure, +150 °C, 1000 h	± 0.2 max. Δ*R*/*R*	%
Insulation Resistance	10^9 min.	
Operating Voltage	25 max.	V
DC Power Rating at -55 °C to +125 °C (100 V max.)	0.05	W
5 x Rated Power Short-Time Overload, +25 °C, 5 s (100 V max.)	± 0.5 max. Δ*R*/*R*	%

DIMENSIONS in inches



SCHEMATIC



MECHANICAL SPECIFICATIONS	
PARAMETER	**VALUE**
Chip Size	0.135" x 0.125" ± 0.005" (3.429 mm x 3.175 mm ± 0.127 mm)
Chip Thickness	0.010" ± 0.002" (0.254 mm ± 0.05 mm)
Chip Substrate Material	Oxidized silicon, 10 kÅ minimum SiO2
Resistor Material	Tantalum nitride, self-passivating
Bonding Pad Size	0.005" x 0.007" (0.127 mm 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

GLOBAL PART NUMBER INFORMATION

Custom Global Part Number: RCN-124-1521 WS

Custom Global Part Number Description: Custom Resistor / Capacitor Network

R	C	N	-	X	X	X	-	X	X	X	X	X	X

MODEL

VEFI ASSINGED NUMBER

PACK CODE

WS = waffle pack, 100 min. 1 mult
ST = diced on tape

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