

Rod Core Chokes (RCC)

FASTRON's Rod Core Choke series consists of the most common inductance values. These chokes are available with different core sizes, always designed as single layer coils. The inductors are able to carry AC-line voltage and offer high saturation currents as well as rated currents, up to 10A. All FASTRON RCCs are AEC-Q200 qualified with high mechanical stability. Custom designs are available upon request.

Applications Noise suppression coil for brush-collector motors, automotive, industrial, HF-filters, attenuation circuits and storage inductor in converters, switching regulators, SMPS-power supplies, and broadband filtering.

Technical Data

L – Value (rated inductance)	Measured with HP 4194A Impedance / Gain-phase Analyzer or equivalent at frequency f_L
DCR (max)	Measured at 25 °C
Rated DC Current	I based on temperature rise, determined at the point where the temperature rise does not exceed 15°C above the ambient temperature of 25°C
Operating Temperature	-55°C to 140°C (including component self-heating)
Recommended Soldering Method	Wave
Moisture Sensitivity Levels (MSL)	MSL Level 1, indicating unlimited floor life at $\leq 30^\circ\text{C}$ / 85% relative humidity
Solderability	Using lead free solder (Sn 99.9) at $260^\circ\text{C} \pm 5^\circ\text{C}$ for 5 ± 0.5 seconds, min 90% solder coverage of metallization Standard: IEC 68-2-20 (Ta)
Resistance to Soldering Heat	Resistant to $260^\circ\text{C} \pm 5^\circ\text{C}$ for 10 ± 1 seconds Standard: IEC 68-2-20 (Tb)
Resistance to Solvent	Resistant to isopropyl alcohol for 5 ± 0.5 minutes at $23^\circ\text{C} \pm 5^\circ\text{C}$ Standard: IEC 68-2-45
Climatic Test	Defined by the following standards IEC 68-2-1 for cold test: -55°C for 96 hours IEC 68-2-2 for dry heat test: $+125^\circ\text{C}$ for 96 hours IEC 60068-2-78 for humidity test: 40°C at RH 95% for 4 days
Thermal Shock Test	Temperature cycle: -55°C to $+125^\circ\text{C}$ to -55°C Max/Min temperature duration: 15 minutes Temperature transition duration: 5 minutes Cycles: 25 Standard: MIL-STD-202G
Coil on Core strength	Core withstand a two times-test pressing force of 15N for 1 minute at room temperature (25°C).

Ordering Code Example: **3RCC-1R8M-00**

3 **RCC** **1R8** **M** **00**
(Case Size)(Core Type) - (Inductance Value)(Tolerance) - (Packaging Code)

Case Size - Core diameter 3 and 3,3mm, 4mm, 5mm, 6mm
Core Type - Ferrite rod bar
Tolerances - M (20%)
Packaging Code - 00 (Loose in box)

FASTRON's Component Key Characteristics



Approved according to AEC-Q200



Approved according to AEC-Q200 with High Temperature



Suitable for High Temperature



Part is RoHS conform and Halogen free



Mechanical Shock and Vibration Proof



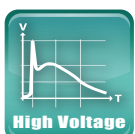
Designed for High Q-values



Exceptionally High Q-values

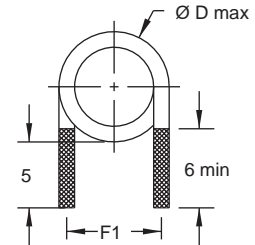
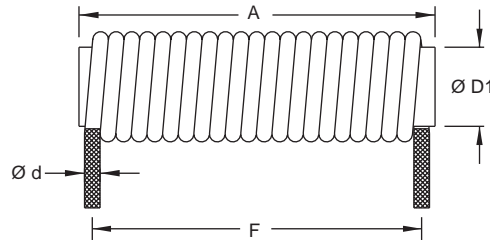


Optimized for High Currents



Optimized for High Voltages

3RCC



Single layer

Part No	Inductance L (µH)	f _L (MHz)	Tol ± (%)	DCR (Ω)	Temp. rise Δ (°C)	Rated DC Current (A)		Dimensions					
						I	I _{sat}	Ø d	Ø D1	A	Ø D max	F	F1
3RCC-1R8M-00	1.8	1	20	0.008	< 15	2.5	10.0	0.67	3.0	12	4.6	8.8	3.7
3RCC-4R7M-00	4.7	1	20	0.012	< 15	2.5	5.0	0.67	3.0	20	4.6	13.5	3.7
3RCC-7R0M-00	7.0	1	20	0.016	< 15	1.9	4.6	0.63	3.3	22	4.8	14.5	4.0
3RCC-9R0M-00	9.0	1	20	0.020	< 15	1.0	3.7	0.63	3.3	22	4.8	17.5	4.0

Core Material: Ferrite rod bar

Revision date: 04 Jul 2019

SPQ: Loose / Box 3000 [-00]

Remarks: Customized versions available upon request.

Mouser Electronics

Authorized Distributor

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Fastron:

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