

Technical Data Sheet

Polymer Resistor RS121xx Series

Application

RS121xx Series polymer resistors are screen-printable, carbon composition, resistive coatings that offer an economical approach for the production of stable resistors in consumer electronic applications. They are designed for use on FR-4, Kapton®, ceramic or other suitable substrates and can be cured in a well-ventilated box oven.

Polymer Resistor RS121xx Series is formulated and processed to be RoHS compliant.

Typical Formulation Properties

Rheology: Thixotropic, screen printable paste

Viscosity: 80 ± 20 Pa.s at 25.5 ± 0.5 °C when measured using a Brookfield RVT, 10 rpm, No. 7 spindle.

Colour: Black

Storage and Shelf Life: This product should be stored in tightly sealed containers at 20 - 25 °C, in a dry place away from direct sunlight. The shelf life of a factory sealed container is a minimum 6 months from date of shipment when properly stored.

Typical Process Parameters

Thinning: This paste is formulated at the appropriate viscosity for the intended application. Thinner 402 may be used to replace solvent loss.

Printing: A 200 mesh stainless steel screen with ~12 µm thick emulsion is recommended.

Drying Time (at 125 °C): 10 - 15 min

Curing Conditions:

Box Oven: 150 °C in a well-ventilated oven for 2 h.

Cured Thickness: 18 ± 2 µm

Substrate for Calibration: FR-4

Termination Conductor: 1109-S

Note: Depending on the substrate used, RS121xx Series materials may be cured at higher temperatures or longer times such as 200 °C for two hours. This will improve rotational life in potentiometer applications and stability at elevated temperatures or on exposure to humidity. In order to achieve the best stability, the curing temperature should be approximately 100 °C higher than the operational temperature.

Typical Properties:

Typical Resistor properties		
	Resistance	Resistance Tolerance
RS12111	10 Ω/sq.	±25%
RS12112	100 Ω/sq.	±25%
RS12113	1 kΩ/sq.	±25%
RS12114	10 kΩ/sq.	±25%
RS12115	100 kΩ/sq.	±25%
RS12116	1 MΩ/sq.	±25%



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