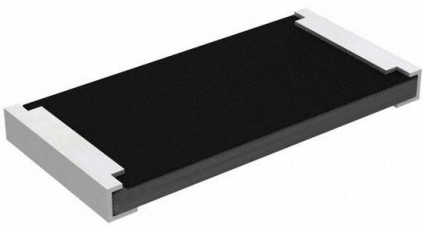


RCP2512B13R0JED Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

| | |
|------------------------------|---|
| DiGi Electronics Part Number | RCP2512B13R0JED-DG |
| Manufacturer | Vishay Dale |
| Manufacturer Product Number | RCP2512B13R0JED |
| Description | RES SMD 13 OHM 5% 3.5W 2512 |
| Detailed Description | 13 Ohms \pm 5% 3.5W Chip Resistor 2512 (6432 Metric) Moisture Resistant Thick Film |

This model RCP2512B13R0JED is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

RCP2512B13R0JED

Series:

RCP

Resistance:

13 Ohms

Power (Watts):

3.5W

Features:

Moisture Resistant

Operating Temperature:

-65°C ~ 155°C

Supplier Device Package:

2512

Height - Seated (Max):

0.025" (0.64mm)

Failure Rate:

-

Manufacturer:

Vishay Dale

Product Status:

Active

Tolerance:

±5%

Composition:

Thick Film

Temperature Coefficient:

±150ppm/°C

Package / Case:

2512 (6432 Metric)

Size / Dimension:

0.250" L x 0.124" W (6.35mm x 3.15mm)

Number of Terminations:

2

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

1 (Unlimited)

HTSUS:

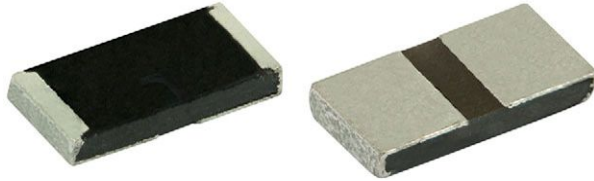
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www.vishay.com

RCP

Vishay Dale

Thick Film Chip Resistors, Industrial, High Power, Aluminum Nitride Substrate



Aluminum nitride
over 3 x more power - same size

LINKS TO ADDITIONAL RESOURCES



FEATURES

- Thick film resistive element on an aluminum nitride (AlN) substrates
- Very high thermal conductivity in a small package size
- Termination: tin / lead wraparound termination over nickel barrier. Also available with lead (Pb)-free wraparound terminations
- Capability to develop specific reliability programs designed to customer requirements
- Operating temperature range: -65 °C to +155 °C
- High frequency performance to 6 GHz
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS*
Available
HALOGEN
FREE

Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

MATERIAL SPECIFICATIONS

| | |
|-------------------|-------------------------------------|
| Resistive element | Ruthenium oxide |
| Encapsulation | Epoxy |
| Substrate | Aluminum nitride |
| Termination | Solder-coated nickel barrier |
| Solder finish | Pure tin or tin / lead solder alloy |

STANDARD ELECTRICAL SPECIFICATIONS

| GLOBAL MODEL | CASE SIZE | POWER RATING ⁽¹⁾ (Standard Board Mount) $P_{25^\circ\text{C}}$ W | POWER RATING ⁽¹⁾ (Active Temperature Control) W | MAXIMUM WORKING VOLTAGE V | RESISTANCE RANGE Ω | TOLERANCE \pm % | TEMPERATURE COEFFICIENT \pm ppm/°C |
|--------------|-----------|--|--|------------------------------|------------------------------|----------------------|---|
| RCP0505 | 0505 | 1.4 | 5.0 | $\sqrt{P \times R}$ | 10 to 2K | 1, 2, 5 | 150 |
| RCP0603 | 0603 | 1.5 | 3.9 | $\sqrt{P \times R}$ | 10 to 2K | 1, 2, 5 | 150 |
| RCP1206 | 1206 | 2.4 | 11 | $\sqrt{P \times R}$ | 10 to 2K | 1, 2, 5 | 150 |
| RCP2512 | 2512 | 3.5 | 22 | $\sqrt{P \times R}$ | 10 to 2K | 1, 2, 5 | 150 |

Notes

- Consult factory for availability of additional case sizes
- (1) The power rating depends on the maximum temperature of the resistive element. The temperature of the resistive element and adjacent materials will rise due to the power dissipation of the resistor. The majority of this heat/energy is dissipated by conduction through the substrate, terminations, solder joints, and printed circuit board. The maximum power rating in a particular application only applies if the temperature of the resistive element is maintained at or below 155 °C

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: RCP1206W100RGWB (preferred part numbering format)

R C P 1 2 0 6 W 1 0 0 R G W B

| GLOBAL MODEL | BOTTOM TERM. | RESISTANCE VALUE | TOLERANCE CODE | PACKAGING CODE | SPECIAL |
|--|-----------------------------|---|---|--|---|
| RCP0505 RCP0603 RCP1206 RCP2512 | W = wide B = traditional | R = Ω K = k Ω 10R0 = 10 Ω 1K30 = 1.3 k Ω | F = \pm 1 % G = \pm 2 % J = \pm 5 % | TP = tin / lead, T/R (full reel) S3 = tin / lead, T/R (1000 pieces) WB = tin / lead, tray S2 = tin / lead, T/R (500 pieces) S6 = tin / lead, T/R (300 pieces) EA = lead (Pb)-free, T/R (full reel) EB = lead (Pb)-free, T/R (1000 pieces) ET = lead (Pb)-free, tray EC = lead (Pb)-free, T/R (500 pieces) ED = lead (Pb)-free, T/R (300 pieces) | Blank = standard (dash number) (up to 3 digits) from 1 to 999 as applicable |

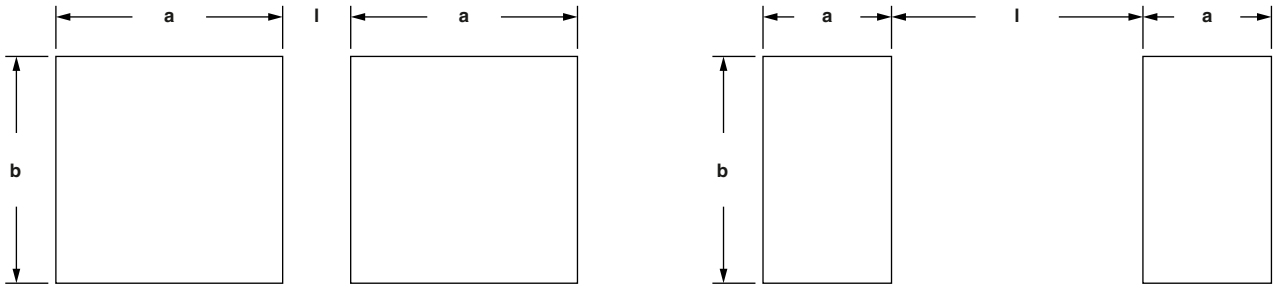
Note

- For additional information on packaging, refer to the Surface Mount Resistor Packaging document (www.vishay.com/doc?31543)



| PERFORMANCE | | |
|---------------------------------------|--------------------------------------|----------------------------------|
| TEST | CONDITIONS OF TEST | TEST RESULTS (TYPICAL TEST LOTS) |
| Resistance to soldering heat | 2 cycles; > 183 °C for 90 s to 120 s | ≤ ± 0.20 % |
| Resistance temperature characteristic | -55 °C to +125 °C | ≤ ± 120 ppm |
| Low temperature operation | -65 °C at rated voltage | ≤ ± 0.02 % |
| Short time overload | RCP0505 | 3.1 W applied for 5 s |
| | RCP0603 | 4.4 W applied for 5 s |
| | RCP1206 | 4.7 W applied for 5 s |
| | RCP2512 | 7.7 W applied for 5 s |
| High temperature exposure | +150 °C for 100 h | ≤ ± 0.10 % |
| Moisture resistance | 240 h at ≥ 80 % RH | ≤ ± 0.15 % |
| Life | 1000 h at +70 °C | ≤ ± 0.10 % |
| Solderability | J-STD-202, test B | 95 % coverage |
| Solder mounting integrity | Per MIL-PRF-55342: | |
| | RCP0505 | 1 kg force applied |
| | RCP0603 | 2 kg force applied |
| | RCP1206 | 2 kg force applied |
| | RCP2512 | 3 kg force applied |
| | | No evidence of mechanical damage |

| DIMENSIONS in inches (millimeters) | | | | | |
|------------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | | |
| GLOBAL MODEL | A (LENGTH) | B (WIDTH) | C (HEIGHT) | D (TOP TERM) | E (BOTTOM TERM) |
| RCP0505W | 0.055 ± 0.005 (1.40 ± 0.13) | 0.050 ± 0.005 (1.27 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) | 0.010 ± 0.005 (0.25 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) |
| RCP0505B | 0.055 ± 0.005 (1.40 ± 0.13) | 0.050 ± 0.005 (1.27 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) | 0.010 ± 0.005 (0.25 ± 0.13) | 0.015 ± 0.005 (0.38 ± 0.13) |
| RCP0603W | 0.063 ± 0.005 (1.60 ± 0.13) | 0.032 ± 0.005 (0.81 ± 0.13) | 0.018 ± 0.005 (0.46 ± 0.13) | 0.012 ± 0.005 (0.30 ± 0.13) | 0.023 ± 0.005 (0.58 ± 0.13) |
| RCP0603B | 0.063 ± 0.005 (1.60 ± 0.13) | 0.032 ± 0.005 (0.81 ± 0.13) | 0.018 ± 0.005 (0.46 ± 0.13) | 0.012 ± 0.005 (0.30 ± 0.13) | 0.015 ± 0.005 (0.38 ± 0.13) |
| RCP1206W | 0.122 ± 0.005 (3.10 ± 0.13) | 0.060 ± 0.005 (1.52 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) | 0.015 ± 0.005 (0.38 ± 0.13) | 0.048 ± 0.005 (1.22 ± 0.13) |
| RCP1206B | 0.122 ± 0.005 (3.10 ± 0.13) | 0.060 ± 0.005 (1.52 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) | 0.015 ± 0.005 (0.38 ± 0.13) | 0.015 ± 0.005 (0.38 ± 0.13) |
| RCP2512W | 0.250 ± 0.005 (6.35 ± 0.13) | 0.124 ± 0.005 (3.15 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) | 0.113 ± 0.005 (2.87 ± 0.13) |
| RCP2512B | 0.250 ± 0.005 (6.35 ± 0.13) | 0.124 ± 0.005 (3.15 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) | 0.020 ± 0.005 (0.51 ± 0.13) |


RECOMMENDED SOLDER PAD DIMENSIONS in inches (millimeters)


WIDE BOTTOM TERMINAL (W)

TRADITIONAL TERMINAL (B)

| GLOBAL MODEL | a (LENGTH) | b (WIDTH) | l (SPACING) |
|--------------|-----------------|-----------------|-----------------|
| RCP0505W | 0.040 (1.02) | 0.055 (1.40) | 0.015 (0.38) |
| RCP0505B | 0.035 (0.89) | 0.055 (1.40) | 0.025 (0.64) |
| RCP0603W | 0.043 (1.09) | 0.037 (0.94) | 0.018 (0.46) |
| RCP0603B | 0.035 (0.89) | 0.037 (0.94) | 0.033 (0.84) |
| RCP1206W | 0.068 (1.73) | 0.066 (1.68) | 0.018 (0.46) |
| RCP1206B | 0.037 (0.94) | 0.066 (1.68) | 0.081 (2.06) |
| RCP2512W | 0.133 (3.38) | 0.129 (3.28) | 0.024 (0.61) |
| RCP2512B | 0.040 (1.02) | 0.129 (3.28) | 0.210 (5.33) |



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