

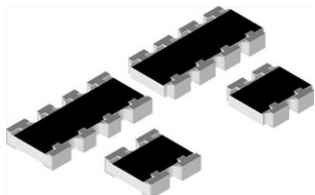


**THE DATASHEET OF
CRA06S0834K70JTA**





Thick Film Chip Resistor Array



CRA06E and CRA06S Thick Film resistor arrays are constructed on a high grade ceramic body with convex terminations. A small package enables the design of high density circuits. The single component reduces board space, component counts and assembly costs.

FEATURES

- Convex terminal array available with either scalloped corners (E version) or square corners (S version)
- Wide ohmic range: 10 Ω to 1 MΩ
- 4 or 8 terminal package with isolated resistors
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



| STANDARD ELECTRICAL SPECIFICATIONS | | | | | | | |
|---|---------|-------------------------------|--|---|----------------------|---------------------------------|-----------------|
| MODEL | CIRCUIT | POWER RATING P_{70} W | LIMITING ELEMENT VOLTAGE MAX. V_{\equiv} | TEMPERATURE COEFFICIENT \pm ppm/K | TOLERANCE \pm % | RESISTANCE RANGE Ω | SERIES |
| CRA06E CRA06S | 03 | 0.063 | 50 | 100 200 | 1 2; 5 | 10R to 1M | E24; E96 E24 |
| Zero-Ohm-Resistor: $R_{max.} = 50 \text{ m}\Omega$, $I_{max.} = 1 \text{ A}$ | | | | | | | |

| TECHNICAL SPECIFICATIONS | | |
|---|--------------------------|-------------------|
| PARAMETER | UNIT | CRA06E AND CRA06S |
| Rated dissipation at 70 °C ⁽¹⁾ | W per element | 0.063 |
| Limiting element voltage ⁽²⁾ | V_{\equiv} | 50 |
| Insulation voltage (1 min) | $V_{DC/AC \text{ PEAK}}$ | 100 |
| Category temperature range | °C | -55 to +155 |
| Insulation resistance | Ω | $> 10^9$ |

Notes

- (1) Rated voltage: $\sqrt{P \times R}$
 (2) The power dissipation on the resistor generates a temperature rise against the local ambient, depending on the heat flow support of the printed-circuit board (thermal resistance). The rates dissipation applies only if the permitted film temperature of 155 °C is not exceed

| PART NUMBER AND PRODUCT DESCRIPTION | | | | | | | | | | | | | | | | | |
|--|----------------|--------------|--|---|---|----------------------------------|----------------|---|---|---|---|---|---|---|---|--|--|
| Part Number: CRA06S08347K0JTA ⁽¹⁾ | | | | | | | | | | | | | | | | | |
| C | R | A | 0 | 6 | S | 0 | 8 | 3 | 4 | 7 | K | 0 | J | T | A | | |
| MODEL | TERMINAL STYLE | PIN | CIRCUIT | VALUE | TOLERANCE | PACKAGING ⁽²⁾ | SPECIAL | | | | | | | | | | |
| CRA06 | S E | 04 08 | 3 = 03 | R = decimal K = thousand M = million 0000 = 0 Ω jumper | F = ± 1 % G = ± 2 % J = ± 5 % Z = 0 Ω jumper | TA TC | Up to 2 digits | | | | | | | | | | |
| Product Description: CRA06S 08 03 -05 473 J RT1 e3 | | | | | | | | | | | | | | | | | |
| CRA06S | 08 | 03 | 473 | J | RT1 | e3 | | | | | | | | | | | |
| MODEL | TERMINAL COUNT | CIRCUIT TYPE | RESISTANCE VALUE | TOLERANCE | PACKAGING | LEAD (Pb)-FREE | | | | | | | | | | | |
| CRA06E CRA06S | 04 08 | 03 | 1R0 = 1 Ω 10R = 10 Ω 47K = 47 kΩ 1M0 = 1 MΩ 0R0 = jumper | F = ± 1 % G = ± 2 % J = ± 5 % Z = 0 Ω jumper | RT1 RT6 | e3 = pure tin termination finish | | | | | | | | | | | |
| First two digits (3 for 1 %) are significant. Last digit is the multiplier | | | | | | | | | | | | | | | | | |

Notes

- (1) Preferred way for ordering products is by use of the PART NUMBER
 (2) Please refer to table PACKAGING, see next page

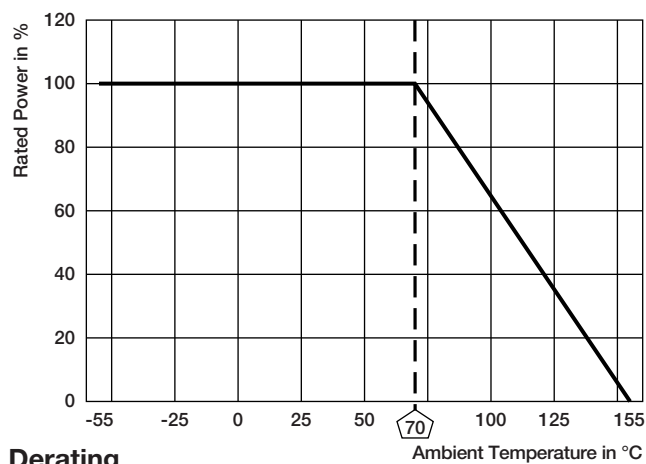
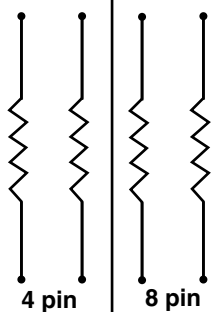


| AVAILABLE TYPES AND RANGES | | | | |
|----------------------------|----------------|---------|-------------------------|--------------|
| MODEL | TERMINAL COUNT | CIRCUIT | TEMPERATURE COEFFICIENT | TOLERANCE |
| CRA06S | 04 | 03 | ± 100 ppm/K | ± 1 % |
| | | | ± 200 ppm/K | ± 2 %; ± 5 % |
| | 08 | 03 | ± 100 ppm/K | ± 1 % |
| | | | ± 200 ppm/K | ± 2 %; ± 5 % |
| CRA06E | 08 | 03 | ± 100 ppm/K | ± 1 % |
| | | | ± 200 ppm/K | ± 2 %; ± 5 % |

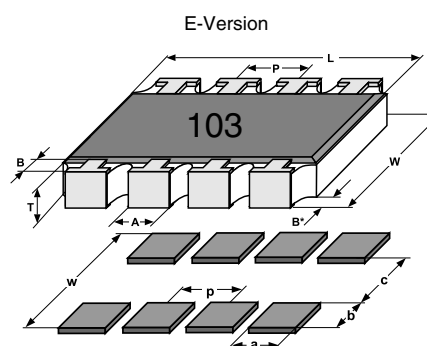
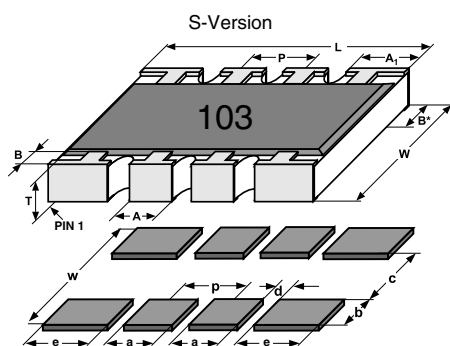
| PACKAGING | | | | | |
|-----------|------------|-------|---------------|----------------|---------------------|
| MODEL | TAPE WIDTH | PITCH | PIECES / REEL | PACKAGING CODE | |
| | | | | PAPER TAPE | |
| | | | | PART NUMBER | PRODUCT DESCRIPTION |
| CRA06 | 180 mm/7" | 4 mm | 5000 | TA | RT1 |
| | 330 mm/13" | 4 mm | 20 000 | TC | RT6 |

CIRCUIT

03 CIRCUIT



DIMENSIONS



| MODEL | PIN NO# | DIMENSIONS in millimeters | | | | | | | |
|--------|---------|---------------------------|--------|----------------|--------|--------|-------|-------|--------|
| | | L | A | A ₁ | B | B* | P | T | W |
| CRA06S | 4 | 1.6 | 0.38 | 0.61 | 0.3 | 0.3 | 0.8 | 0.5 | 1.5 |
| CRA06E | 8 | 3.2 | 0.38 | - | 0.3 | 0.3 | 0.8 | 0.5 | 1.5 |
| CRA06S | 8 | 3.2 | 0.38 | 0.61 | 0.3 | 0.3 | 0.8 | 0.5 | 1.5 |
| | TOL. | ± 0.15 | ± 0.15 | ± 0.15 | ± 0.15 | ± 0.15 | ± 0.1 | ± 0.1 | ± 0.15 |

| REFLOW SOLDER PAD DIMENSIONS in millimeters | | | | | | | | |
|---|------|-----|-----|------|-----|------|------|------|
| MODEL | PINS | c | w | d | p | a | b | e |
| CRA06S | 4 | 0.8 | 3.1 | 0.36 | | 0.44 | 1.15 | |
| CRA06E CRA06S | 8 | 0.8 | 3.1 | 0.36 | 0.8 | 0.44 | 1.15 | 0.63 |



| TEST PROCEDURES AND REQUIREMENTS | | | |
|---|--|--|--------------------------------|
| EN 60115-1 | | | |
| TEST (clause) | CONDITIONS OF TEST | REQUIREMENTS PERMISSIBLE CHANGE ($\Delta R/R$) ⁽¹⁾ | |
| | | STABILITY CLASS 1 OR BETTER | STABILITY CLASS 2 OR BETTER |
| | Stability for product types: CRA06E / CRA06S | 10 Ω to 1 M Ω | 10 Ω to 1 M Ω |
| Resistance (4.5) | - | $\pm 1 \%$ | $\pm 2 \%$; $\pm 5 \%$ |
| Temperature coefficient (4.8.4.2) | (20 / -55 / 20) °C and (20 / 125 / 20) °C | ± 100 ppm/K | ± 200 ppm/K |
| Overload (4.13) | $U = 2.5 \times (P_{70} \times R)^{1/2}$ $\leq 2 \times U_{max.}$; 0,5 s | $\pm (0.25 \% R + 0.05 \Omega)$ | $\pm (0.5 \% R + 0.05 \Omega)$ |
| Solderability (4.17.5) ⁽²⁾ | Aging 4 h at 155 °C, dry heat solder bath method; 235 °C; 2 s visual examination | Good tinning ($\geq 95 \%$ covered) no visible damage | |
| Resistance to soldering heat (4.18.2) | Solder bath method; (260 \pm 5) °C; (10 \pm 1) s | $\pm (0.25 \% R + 0.05 \Omega)$ | $\pm (0.5 \% R + 0.05 \Omega)$ |
| Rapid change of temperature (4.19) | 30 min at LCT = -55 °C; 30 min at UCT = 125 °C; 5 cycles | $\pm (0.25 \% R + 0.05 \Omega)$ | $\pm (0.5 \% R + 0.05 \Omega)$ |
| Damp heat, steady state (4.24) | (40 \pm 2) °C; 56 days; (93 \pm 3) % RH | $\pm (1 \% R + 0.05 \Omega)$ | $\pm (2 \% R + 0.1 \Omega)$ |
| Climatic sequence (4.23) | 16 h at UCT = 125 °C; 1 cycle at 55 °C; 2 h at LCT = -55 °C; 1 h/1 kPa at 15 °C to 35 °C; 5 cycles at 55 °C $U = (P_{70} \times R)^{1/2}$ $U = U_{max.}$; whichever is less severe | $\pm (1 \% R + 0.05 \Omega)$ | $\pm (2 \% R + 0.1 \Omega)$ |
| Endurance at 70 °C (4.25.1) | $U = (P_{70} \times R)^{1/2}$ $U = U_{max.}$; whichever is less severe 1.5 h ON; 0.5 h OFF; 70 °C; 1000 h | $\pm (1 \% R + 0.05 \Omega)$ | $\pm (2 \% R + 0.1 \Omega)$ |
| Extended endurance (4.25.1.8) | Duration extended to 8000 h | $\pm (2 \% R + 0.1 \Omega)$ | $\pm (4 \% R + 0.1 \Omega)$ |
| Endurance at upper category temperature (4.25.3) | UCT = 125 °C; 1000 h | $\pm (1 \% R + 0.05 \Omega)$ | $\pm (2 \% R + 0.1 \Omega)$ |

Notes

(1) Figures are given for a single element

(2) Solderability is specified for 2 years after production or requalification. Permitted storage time is 20 years

| APPLICABLE SPECIFICATIONS | |
|---------------------------|--|
| • EN 60115-1 | Generic specification |
| • EN 140400 | Sectional specification |
| • EN 140401-802 | Detail specification |
| • IEC 60068-2-X | Variety of environmental test procedures |
| • EIA 481 | Packaging of SMD components |



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

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 in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

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

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View CRA06S0834K70JTA on WIN SOURCE](#)

 [Vishay Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management