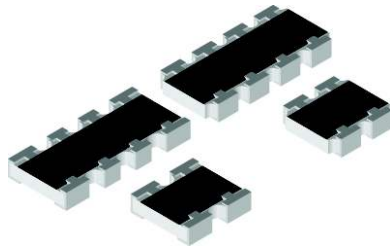


Thick Film, Resistor Array



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: 10R to 1M Ω
- 4 or 8 terminal package with isolated resistors
- Lead (Pb)-free solder contacts on Ni barrier layer
- Pure tin plating provides compatibility with Lead (Pb)-free and lead containing soldering processes
- Compatible with "Restriction of the use of Hazardous Substances" (RoHS) directive 2002/95/EC (issue 2004)
- Operating temperature range of - 55°C to + 150°C



STANDARD ELECTRICAL SPECIFICATIONS							
MODEL	POWER RATING $P_{70^{\circ}\text{C}}$ W	CIRCUIT	LIMITING ELEMENT VOLTAGE MAX. V_{\cong}	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	E-SERIES
CRA06E	0.063	03	50	100	± 1	10R - 1M0	24 - 96
CRA06S				200	$\pm 2; \pm 5$	10R - 1M0	24

Jumper: Zero-Ohm-Resistor available; $R \leq 50\text{m}\Omega$

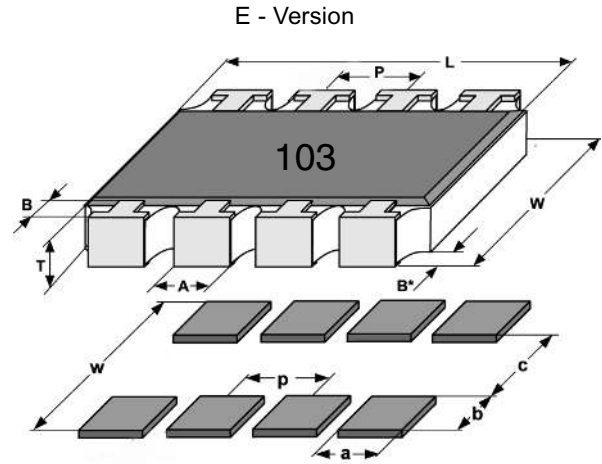
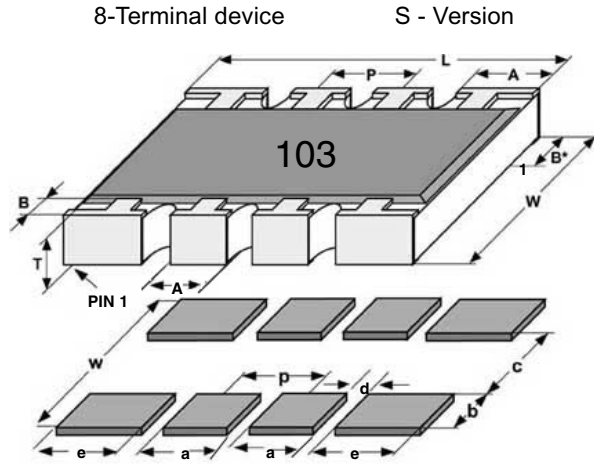
TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	CRA06E & S 03 CIRCUIT
Rated Dissipation at 70°C	W	0.063
Limiting Element Voltage ¹⁾	V_{\cong}	50
Insulation Voltage (1min)	$V_{dc/ac\ peak}$	100
Category Temperature Range	°C	- 55 to + 150
Insulation Resistance	Ω	$> 10^{10}$

1) Rated voltage: $\sqrt{P \cdot R}$

PART NUMBER AND PRODUCT DESCRIPTION							
PART NUMBER: CRA06S08310K0JTA							
C	R	A	0	6	S	0	8
3	1	0	K	0	J	T	A
MODEL CRA06	TERMINAL STYLE S E	PIN 04 08	CIRCUIT 3 = 03	VALUE R = Decimal K = Thousand M = Million 0000 = 0 Ω Jumper	TOLERANCE F = $\pm 1\%$ G = $\pm 2\%$ J = $\pm 5\%$ Z = 0 Ω Jumper	PACKING TA = RT1 TC = RT6	SPECIAL up to 2 digits
PRODUCT DESCRIPTION: CRA06S 08 03 473 J RT1 e3							
CRA06S	08	03	473	J	RT1	e3	
MODEL CRA06S CRA06E	TERMINAL COUNT 04 08	CIRCUIT TYPE 03	RESISTANCE VALUE 473 = 47K Ω 4702 = 47K Ω 10R0 = 10 Ω 100 = 10 Ω 000 = 0 Ω Jumper	TOLERANCE F = $\pm 1\%$ G = $\pm 2\%$ J = $\pm 5\%$ Z = 0 Ω Jumper	PACKING ¹⁾ RT1 RT6	LEAD (Pb)-FREE e3 = Pure Tin Termination Finish	
First two digits (three for 1 %) are significant. Last digit is the multiplier							
¹⁾ Please refer to table PACKING, page 8.							

NOTE: Products can be ordered using either the Product Description or the Part Number.

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

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

DESCRIPTION

Production is strictly controlled and follows a set of instructions established for reproducibility. A thick film layer is deposited on a high grade ceramic substrate. The resistor elements are covered by a protective coating designed for electrical, mechanical and climatic protection. The wrap around terminations receive a final pure tin on nickel plating.

The result of the determined production is verified by an extensive testing procedure. Only accepted products are laid directly into the paper tape in accordance with **EIA 481**.

ASSEMBLY

The resistors are suitable for processing on automatic SMD assembly systems. They are suitable for automatic soldering using wave and solder paste reflow. Due to the design, arrays have automatic placement capability. The resistors are Lead (Pb)-free, the pure tin plating provides compatibility with Lead (Pb)-free and Lead-containing soldering processes. All products comply with the CEFIC-EECA-EICTA list of legal restrictions on hazardous substances.

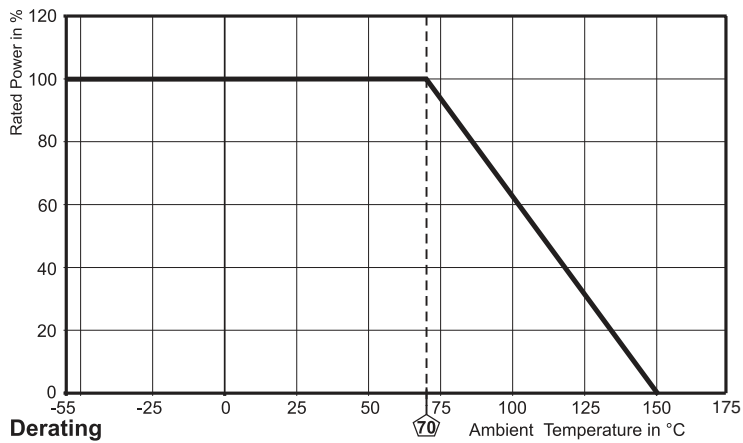
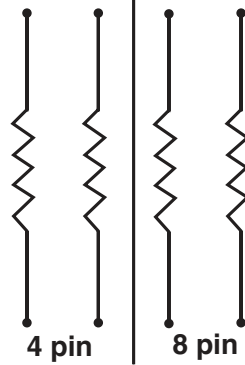
This includes full compatibility with the following directives:

- 2000/53/EC End of Vehicle Life Directive (ELV)
- 2000/53/EC Annex II to End of Vehicle Life Directive (ELV II)
- 2002/95/EC Restriction of the use of Hazardous Substances Directive (RoHS)
- 2002/96/EC Waste Electrical and Electronic Equipment Directive (WEEE)

Solderability is specified for 2 years after production or re-qualification. The permitted storage time is 20 years.

CIRCUIT

03 CIRCUIT



PACKING					
MODEL	TAPE WIDTH	DIAMETER	PIECES	PITCH	PACKING CODE
					PAPER
CRA06	8 mm	180 mm/7"	5 000	4 mm	RT1
	8 mm	330 mm/13"	20 000	4 mm	RT6



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST RESULTS
Endurance Test at 70°C per EIA 575	1000 hour at 70°C, 1.5 hours "ON", 0.5 hours "OFF"	± 1.0 %
Overload per EIA 575	Short time overload 2.5 x rated continuous working voltage for 5 seconds. Not to exceed 2 x max operating voltage	± 0.5 %
Thermal Shock	per EIA 575-3.5	± 0.5 %
Moisture Resistance	per EIA 575-3.10	± 1.0 %
Resistance to Soldering Heat EIA 575	10 seconds at 260°C solder bath temperature	± 2.0 %
High Temperature Exposure	per EIA 575-3.7	± 1.0 %
Low Temperature Operations	per EIA-575-3.6	± 0.5 %
Solderability & Leaching	EIA 575-3.12	95 % Coverage