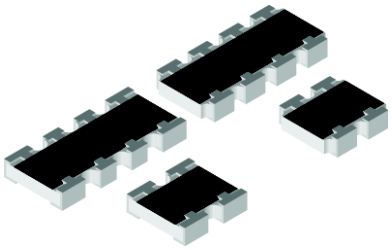
Thick Film, Resistor Array



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 1M0
- 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 $P_{70°C}$ W	CIRCUIT	LIMITING ELEMENT VOLTAGE MAX. V≅	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	E-SERIES
CRA06E	0.063	03	50	100	± 1	10R - 1M0	24 - 96
CRA06S				200	± 2; ± 5	10R - 1M0	24
Jumper: Zero-Ohm-Resistor available; R ≤ 50m Ω							

TECHNICAL SPECIFICATIONS

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

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

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	TERMINAL STYLE	PIN	CIRCUIT	VALUE	TOLERANCE	PACKING	SPECIAL
CRA06	**S** **E**	**04** **08**	**3** = 03	**R** = Decimal **K** = Thousand **M** = Million **0000** = 0Ω Jumper	**F** = ± 1% **G** = ± 2% **J** = ± 5% **Z** = 0Ω Jumper	**TA** = RT1 **TC** = RT6	up to 2 digits

PRODUCT DESCRIPTION: CRA06S 08 03 473 J RT1 e3

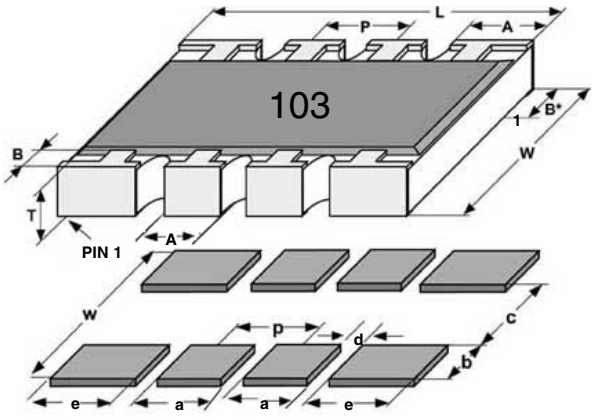
CRA06S	08	03	473	J	RT1	e3
MODEL	TERMINAL COUNT	CIRCUIT TYPE	RESISTANCE VALUE	TOLERANCE	PACKING[1]	LEAD (Pb)-FREE
CRA06S CRA06E	04 08	03	473 = 47KΩ 4702 = 47KΩ 10R0 = 10Ω 100 = 10Ω **000** = 0Ω Jumper	F = ± 1% G = ± 2% J = ± 5% Z = 0Ω Jumper	RT1 RT6	e3 = Pure Tin Termination Finish
			First two digits (three for 1 %) are significant. Last digit is the multiplier			

[1] Please refer to table PACKING, page 8.

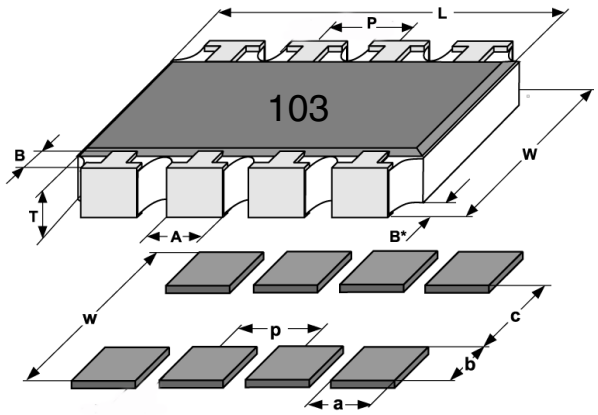
NOTE: Products can be ordered using either the Product Description or the Part Number.

DIMENSIONS

8-Terminal device S - Version



E - Version



MODEL	PIN	DIMENSIONS [in millimeters]							
	NO#	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

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

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

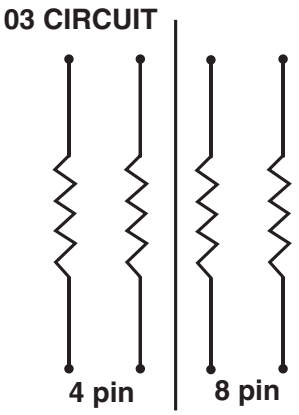
The resistors are suitable for processing on automatic SMD assembly systems. They are suitable for automatic soldering using wave and solder paste reflow. Due to the design, arrays have automatic placement capability. The resistors are Lead (Pb)-free, the pure tin plating provides compatibility with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

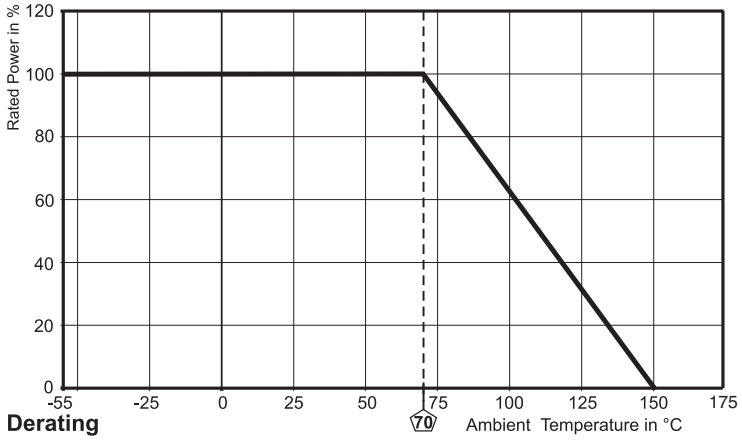
This includes full compatibility with the following directives:

- 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





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