

□ FEATURE

- ◆ AEC-Q200 rev. D compliant
- ◆ Reduction of assembly costs matching with placement machines
- ◆ Reliability high quality and fast delivery
- ◆ Isolated and bussed circuits
- ◆ RoHS compliant version available
- ◆ Leadless surface mount construction

□ Application

- ◆ Entertainment: Stereo, TV tuners, Tape recorder.
- ◆ Appliance: Air conditioner, Refrigerator
- ◆ Computer & relative products: Main board, PDA.
- ◆ Communication equipment: Cell phone, Fax machine
- ◆ Power equipment: Power supply, illumination equipment.
- ◆ Measuring instrument: Electric meter, Navigation equipment.

□ ORDERING INFORMATION

Example: ASA022R10RJF (0402 2R/4pin 10R ±5% 200ppm)

Power	Size	Type	Resistance		Tolerance	TCR/ppm	Packing	Resistance Marking
			E24	E96				
1/16W	0402 (2R)	ASA022R	1R = 1R00	1R = 1R00	F = ±1% J = ±5%	E = ±100 F = ±200 G = ±300	10K Reel	1R0 (1Ω)
1/16W	0402 (4R)	ASA024R	10R=10R0	10R=10R0			10K Reel	100 (10Ω)
1/10W	0603 (4R)	ASA034R	100R=101	100R=1000			5K Reel	101 (100Ω)
1/16W	0402 (2R)	ASA022E	1K = 102	1K = 1001			10K Reel	102 (1KΩ)
1/16W	0402 (4R)	ASA024E	10K = 103	10K = 1002			10K Reel	103 (10KΩ)
1/4W	1206 (4R)	ASA064R	100K=104	100K=1003			5K Reel	104 (100KΩ)
			1M =105	1M =1004				105 (1MΩ)

* Marking: See Page 4, Fig-6

□ RATINGS

Type	Size	Power	Rate Current of Jumper	Max. Working Voltage	Max. Over Load Voltage	Resistance Range (Ω)	TCR (ppm) °C	Resistance Tolerance (%)	Jumper Max
1/16W	0402 (2R)	ASA022R	1A	25V	50V	1R~9R9 10R~1M	0~400 ±300	F=±1% J=±5%	<50m
1/16W	0402 (4R)	ASA024R	1A	25V	50V	1R~9R9 10R~1M	0~400 ±300		
1/10W	0603 (4R)	ASA034R	1A	25V	100V	1R~9R9 10R~1M	0~400 ±200		
1/16W	0402 (2R)	ASA022E	1A	25V	50V	1R~9R9 10R~1M	0~400 ±200		
1/16W	0402 (4R)	ASA024E	1A	25V	50V	1R~9R9 10R~1M	0~400 ±200		
1/4W	1206 (4R)	ASA064R	2A	200V	400V	1R~9R9 10R~1M	0~400 ±200		

Operating Temperature (°C) -55°C ~ 155°C

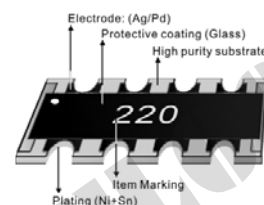
Others data not in the specification of data, please contact us.

如果你要求的規格不在本規格書裡請與我們聯絡。

□ Circuit Resistance

Power	Size	Type	Resistor/Pin
1/16W	0402 (2R)	ASA022R	2R/4P
1/16W	0402 (4R)	ASA024R	4R/8P
1/10W	0603 (4R)	ASA034R	4R/8P
1/16W	0402 (2R)	ASA022E	2R/4P
1/16W	0402 (4R)	ASA024E	4R/8P
1/4W	1206 (4R)	ASA064R	4R/8P

□ CONSTRUCTION

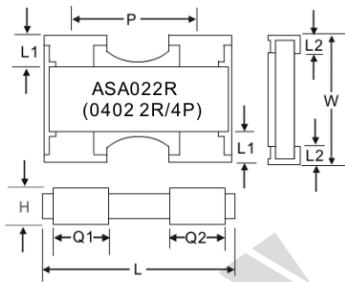


□ DIMENSION

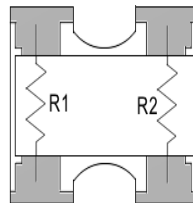
Unit: mm

Type	Size	L	W	H	L ₁	L ₂	P	Q	Figure
ASA022R	0402	1.0±0.1	1.0±0.1	0.33±0.05	0.15±0.05	0.25±0.05	0.67±0.10	0.34±0.1	Fig-1
ASA022E	0402	1.0±0.1	1.0±0.1	0.31±0.05	0.25±0.05	0.25±0.05	0.5±0.10	0.34±0.1	Fig-2

Fig-1



Equivalent Circuit Diagram
ASA022R

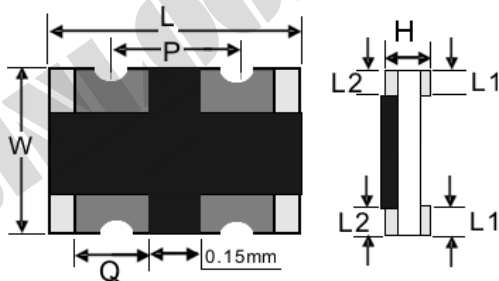


Isolated: R1=R2

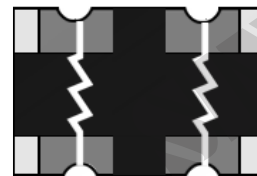
Figure



Fig-2



Equivalent Circuit Diagram
ASA022E



Figure



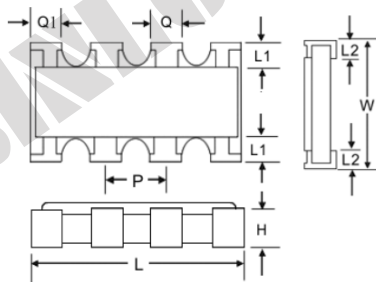
- ◆ CRA024R (0402 4R8 Pin 024R)
- ◆ CRA034R (0603 4R8 Pin 034R)

□ DIMENSION

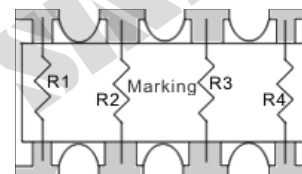
Unit: mm

Type	Size	L	W	H	L ₁	L ₂	P	Q	Q ₁
ASA024R	0402	2.0±0.1	1.0±0.1	0.40±0.05	0.20±0.05	0.2±0.05	0.5±0.10	0.30±0.1	0.43±0.1
ASA034R	0603	3.2±0.15	1.6±0.15	0.5±0.04	0.35±0.05	0.3±0.05	0.8±0.1	0.50±0.1	0.60±0.1
ASA064R	1206	5.0±0.25	3.0±0.2	0.5±0.15	0.5±0.15	1.3±0.15	0.9±0.1	0.90±0.1	0.60±0.1

Fig-3



Equivalent Circuit Diagram
ASA034R Top view Marking code number
ASA064R Top view Marking code number

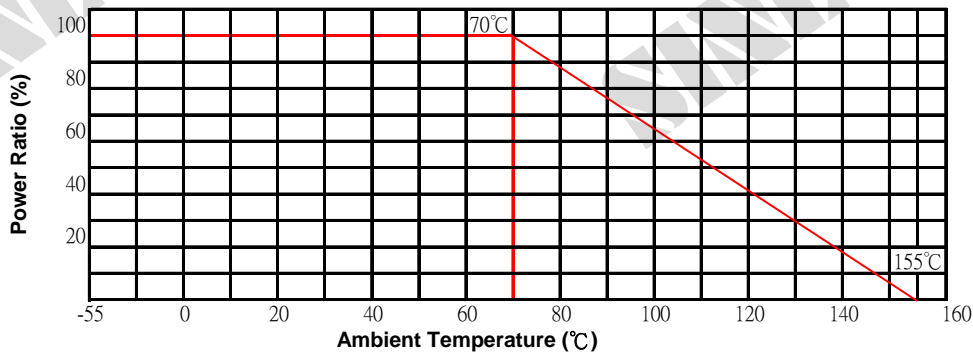


Isolated: R1=R2=R3=R4

Figure



POWER CURVE



* Power rating or current rating is in the case based on continuous full-load at ambient temperature of 70°C for operation at ambient temperature in excess of 70°C, the load should be dreed in accordance with figure of dating Curve

Voltage Rating of Current Rating

Resistance Range: $\geq 1\Omega$ $E = \sqrt{R \times P}$ P=Power rating(W) R=Nominal resistance(Ω)

Rated Voltage: The resistor shall have a DC continuous working voltage or a RMS AC continuous working voltage at commercial-line frequency and wave form corresponding to the power rating, as determined formula as following:

$E = \text{Rated voltage}(V)$ $E = \sqrt{R \times P}$ P=Power rating(W) R=Nominal resistance(Ω)

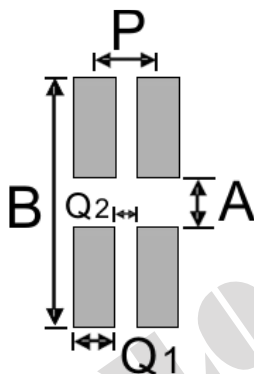
Operation and Storage Temperature

	Min	Max
Operation Temperatur	-55°C	70°C
Storage Temperature	20°C	30°C
Storage Humidity	30%	70%

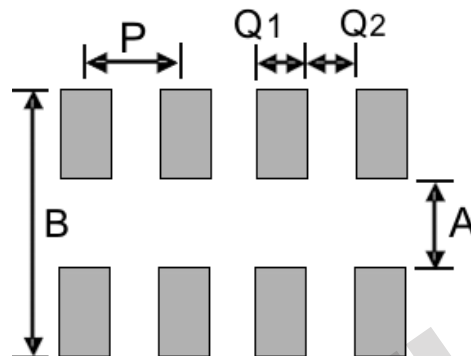
RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)

Type	CRA022R	CRA024R	CRA024C	CRA034R	CRA022C	CRA064R	CAR028R
Dim.	0402	0402	0402	0603	0402	1206	0402
A	0.50	0.50	0.50	1.00	0.50	2.00	3.1
B	2.00	2.00	2.00	2.60	2.00	4.75	2.6
P	0.67	0.50	0.50	0.80	0.50	1.30	0.3
Q1	0.33	0.28	0.28	0.40	0.33	0.90	0.4
Q2	0.34	0.22	0.22	0.40	0.17	0.375	0.4

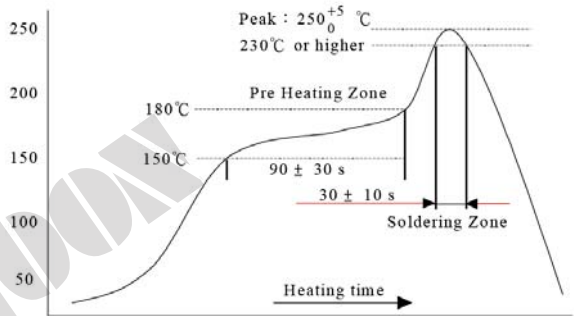
CRA022R CRA022C



CRA024R CRA024C CRA034R CRA064R



□ Test Procedures and Requirements

Test Item	Procedue	Requirement	Test Method
Temperature Coefficient of Resistance	-55°C ~ +155°C, 20°C is the reference temperature	Refer to Rating	JIS C 5201-1 clause 4.8
Short Time Overload	General: 2.5 time RCWV or Max. Overload voltage for 5 seconds. Hifh Power: 2.5 times RCWV of Mac. Overload voltage for 2 seconds.	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(2.0\% + 0.1\Omega)$	JIS C 5201-1 clause
IR Reflow	 <p>The graph shows a temperature profile for IR reflow. The y-axis is temperature in °C (50 to 250) and the x-axis is heating time. Key points include: Pre Heating Zone (150°C to 180°C), a dwell at 180°C for 90 ± 30 s, a peak at 250⁺⁵₀ °C (230°C or higher), and a Soldering Zone (30 ± 10 s) at the peak.</p>	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(1.0\% + 0.05\Omega)$	SONY SS-00254
Leaching	260±5°C for 30 seconds	>95% Coverage	SONY SS-00254-9
Soldering Heat	260±5°C for 10 seconds	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(1.0\% + 0.05\Omega)$	JIS C 5201-2 clause
Temperature Cycling	-55°C to +155°C 5 cycles	0.10%,0.50%,1% : $\pm(0.1\%+0.05\Omega)$ 2%,5%: $\pm(0.1\%+0.01\Omega)$	JIS C 5201-2 clause
Electric Iron	Preheating temperature : 350±5°C Electric iron preheating time: 3+1/-0 second	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(1.0\% + 0.05\Omega)$	SONY SS-00254-5
Resistance Solcent	The tested resistor be immersed into isproply alcohol of 20 ~ 25°C for 60 secs. Then the resistor is left in the room for 48 hours.	$\pm 1 = \pm(1.0\% + 0.05\Omega)$ $\pm 5 = \pm(1.0\% + 0.05\Omega)$	JIS C 5201-1 clause
Load life in Humidity	40±2°C, 90-95% R.H. or Max. working voltage for 1000 h with 1.5 hrs "ON" and 0.5 hrs "OFF"	0.10%,0.50%,1% : $\pm(0.1\%+0.05\Omega)$ 2%,5%: $\pm(2\%+0.05\Omega)$	JIS C 5201-1 clause
Load life (Endurance)	70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"	0.10%,0.50%,1% : $\pm(0.1\%+0.05\Omega)$ 2%,5%: $\pm(2\%+0.05\Omega)$	JIS C 5201-1 clause
Insulation Resistance	Max. Overload voltage for 1 mimute	≥ 10G Ω	JIS C 5201-1 clause 4.6

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ASA Series
Anti-sulfur Chip Resistor Array

□ **Package**

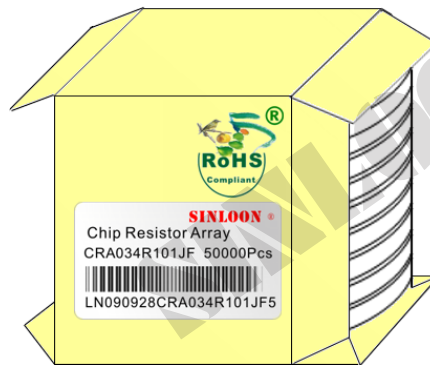
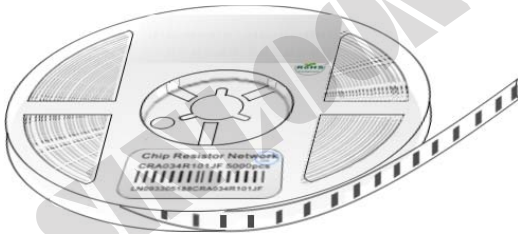
Power	Size	Type	Resistor Pin	Reel Size	Quantity		
					Reel/Pcs	Inner Box	Carton
1/16W	0402 (2R)	ASA022R	2R/4P	170mm (7")	10K	100K	600K
1/16W	0402 (4R)	ASA024R	4R/8P		10K	100K	600K
1/10W	0603 (4R)	ASA034R	4R/8P		5K	50K	300K
1/16W	0402 (2R)	ASA022E	2R/4P		10K	100K	600K
1/16W	0402 (4R)	ASA024E	4R/8P		10K	100K	600K
1/4W	1206 (4R)	ASA064R	4R/8P		5K	50K	300K

Plastic Reel

Quantity: 5K Reel / 7"
10K Reel / 7"

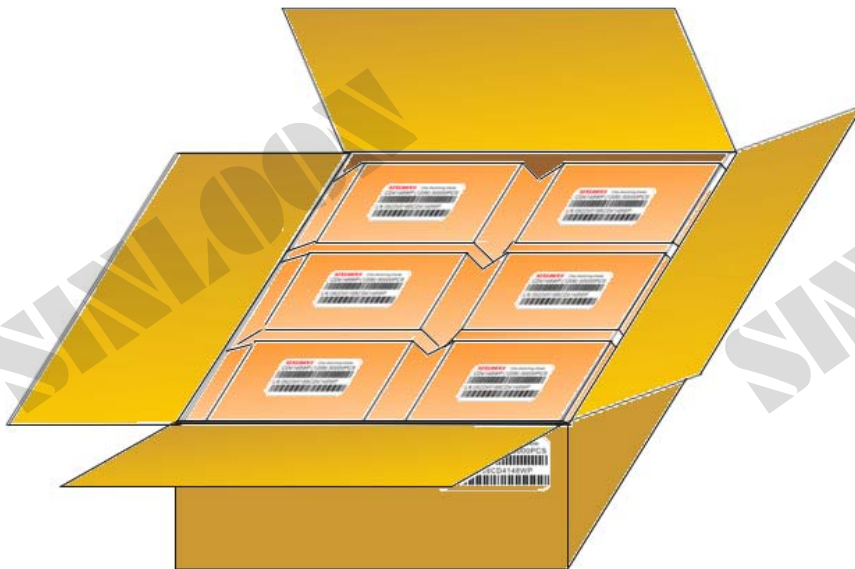
Inner Box.

Quantity: 50K Pcs / Box
100K Pcs / Box



Carton

Quantity: See Package



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