

防腐蝕高精密貼片電阻

APR Series
Anti-Corrosive Thin Film Precision Chip Resistor

FEATURE

- ◆ Special Passivated NiCr Film for Anti-Acid and Anti-Damp
- ◆ Very Tight Tolerance from $\pm 0.1\%$
- ◆ Extremely Low TCR from $\pm 25 \text{ PPM}/^\circ\text{C}$
- ◆ Wide R-Value Range

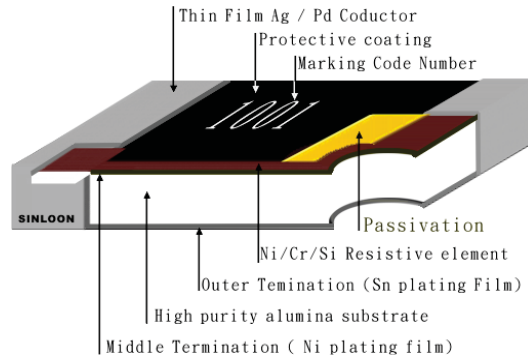
FIGURE



Applications

- ◆ Automotive
- ◆ High-end Computer
- ◆ Industrial Equipment
- ◆ Automatic Equipment Controller
- ◆ Medical Equipment
- ◆ Telecommunication Device
- ◆ High-end Multimedia Electronics

CONSTRUCTION



ORDERING INFORMATION

Example: APR05DN1001

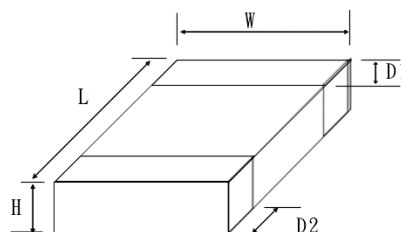
Power	Size	Type	Tolerance	TCR($^\circ\text{C}$)	Resistance	Packing
1/16W	0402	APR02	F = $\pm 1\%$	S = $\pm 5 \text{ ppm}$	1R = 1R00	10K Reel
1/16W	0603	APR03	D = $\pm 0.5\%$	B = $\pm 10 \text{ ppm}$	10R = 10R0	5K Reel
1/10W	0805	APR05	C = $\pm 0.25\%$	N = $\pm 15 \text{ ppm}$	100R = 100R	5K Reel
1/8W	1206	APR06	B = $\pm 0.1\%$	C = $\pm 25 \text{ ppm}$	1K = 1001	5K Reel
1/4W	2012	APR10	T = $\pm 0.01\%$	D = $\pm 50 \text{ ppm}$	10K = 1002	5K Reel
1/2W	2512	APR12		E = $\pm 100 \text{ ppm}$	100K = 1003	4K Reel
					1M = 1004	

Body Marking



DIMENSION

Power	Size	Type	L	W	H	D1	D2
1/16W	0402	APR02	1.00 \pm 0.05	0.50 \pm 0.05	0.30 \pm 0.05	0.20 \pm 0.10	0.20 \pm 0.10
1/16W	0603	APR03	1.55 \pm 0.10	0.80 \pm 0.10	0.45 \pm 0.10	0.30 \pm 0.20	0.30 \pm 0.20
1/10W	0805	APR05	2.00 \pm 0.15	1.25 \pm 0.15	0.55 \pm 0.10	0.30 \pm 0.20	0.40 \pm 0.25
1/8W	1206	APR06	3.05 \pm 0.15	1.55 \pm 0.15	0.55 \pm 0.10	0.42 \pm 0.20	0.35 \pm 0.25
1/4W	2012	APR10	4.90 \pm 0.15	2.40 \pm 0.15	0.55 \pm 0.10	0.60 \pm 0.30	0.50 \pm 0.25
1/2W	2512	APR12	6.30 \pm 0.15	3.10 \pm 0.15	0.55 \pm 0.10	0.60 \pm 0.30	0.50 \pm 0.25



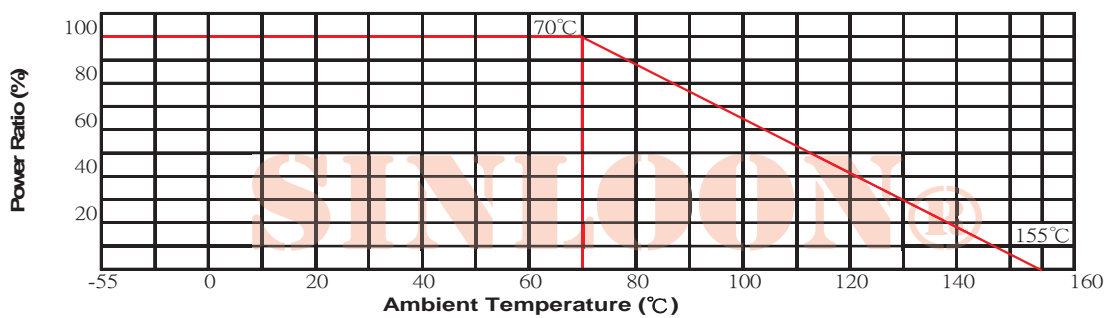
防腐蝕高精密貼片電阻

APR Series
Anti-Corrosive Thin Film Precision Chip Resistor

GENERAL ELECTRICAL SPECIFICATION

Type	Size	Power	Maximum Voltage		T.C.R. (ppm/°C)	Resistance (Ω)	Tolerance	Operating Temp.Range
			Working	Overload				
1/16W	0402	APR02	25V	50V	±25 ±50	25Ω~25KΩ	B,C,D,F.	-55°C ~ +155°C
1/16W	0603	APR03	50V	100V	±25 ±50	25Ω~200KΩ	B,C,D,F.	
1/10W	0805	APR05	100V	200V	±25 ±50	25Ω~400KΩ	B,C,D,F.	
1/8W	1206	APR06	150V	300V	±25 ±50	25Ω~500KΩ	B,C,D,F.	
1/4W	2012	APR10	150V	300V	±25 ±50	25Ω~600KΩ	B,C,D,F.	
1/2W	2512	APR12	150V	300V	±25 ±50	25Ω~600KΩ	B,C,D,F.	

POWER DERATING CURVE



In case resistors operating ambient temperature in excess of the temperature range -55°C ~+155°C power ratio will be derated in accordance with the figure as shown on the right.

BELIABILITY TEST

ITEM	SPECIFICATION		TEST METHOD
	(0402)	(0603~2512)	
Short Time Overload	≤±0.1%	≤±0.02%	RCWV *2.5 or overloading voltage, 2 seconds.
Humidity (Steady State)	≤±0.05%	≤±0.05%	MIL-STD-202F method 103B 40°C , 90-95% RH, WCWV 1.5 hours [ON] , 0.5 hours [OFF], Total 1000~1048 hours.
Resistance to Drt Heat	≤±0.05%	≤±0.05%	JIS-C-5202-7.2 1000 HOURS ~ +155°C without load.
Thermal Shock	≤±0.1%	≤±0.02%	MIL-STD-202F Method 107G -55°C ~ 150°C, 100 cycles
Load Life	≤±0.25%	≤±0.05%	MIL-STD-202F Method 108A RCWV,70°C ,1.5hours [ON],0.5 hours [OFF]. Total 1000~1048 hours.
Resistance to Soldering	≤±0.1%	≤±0.02%	MIL-STD-202F Method 210E 260±5 °C, 10±1 seconds
Solderability	95% min coverage		MIL-STD-202F Method 208H 245±5 °C, 2±0.5 (sec)

* Storage Temperature: 25±3°C; Humidity <80% RH.



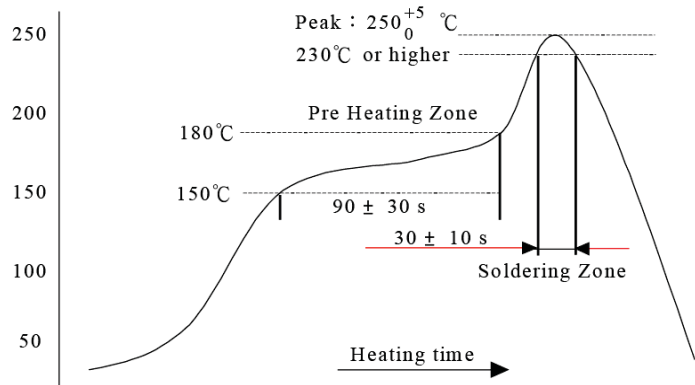
VOLTAGE RATING OR CURRENT RATING

Resistance Range: $\geq 1\Omega$

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:

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

SOLDERING PROFILE



SINLOON®



品質承諾標誌
Quality Commitment

防腐蝕高精密貼片電阻

APR Series

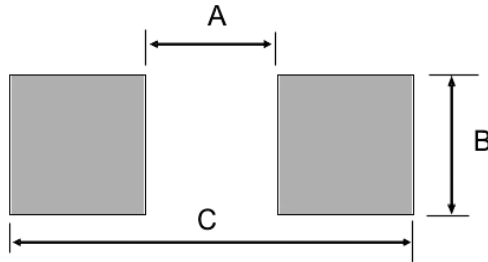
Anti-Corrosive Thin Film Precision Chip Resistor

RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)



THIN FILM PRECISION CHIP RESISTORS

Unit: mm

Type	APR02	APR03	APR05	APR06	APR10	APR25
Dim.	0402	0603	0805	1206	1210	2512
A	0.60	0.80	1.10	2.10	3.60	4.90
B	0.70	1.00	1.40	1.20	1.40	1.60
C	1.10	2.10	2.10	2.30	2.80	3.40



PACKAGE SPECIFICATION

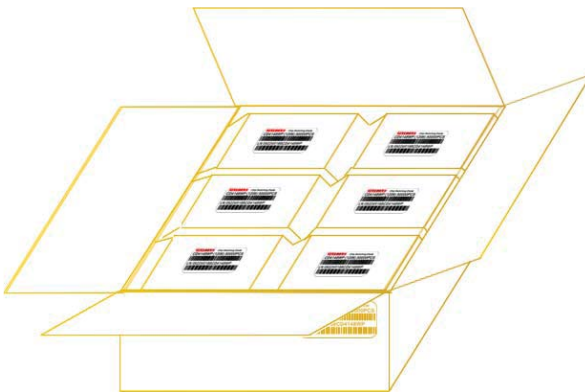
Power	Size	Type	Quantity(ea)			  品質承諾標誌 QUALITY COMMITMENT
			Paper Reel Tape	In Box	Carton	
1/16W	0402	APR02	10,000 Pcs 7" Reel	100K pcs	600K pcs	
1/16W	0603	APR03	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/10W	0805	APR05	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/8W	1206	APR06	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/4W	2012	APR10	4,000 Pcs 7" Reel	40K pcs	240K pcs	
1/2W	2512	APR12	4,000 Pcs 7" Reel	40K pcs	240K pcs	



Paper Reel Tape



Reel Tape Label



Carton Pack



In Box

