

耐衝擊貼片電阻

PWCR Series
Puls Withstanding Chip Resistor

FEATURE

- ◆ High Power Rating 0.125W to 1.5W
- ◆ Low TCR $\pm 100, \pm 200$ PPM/°C
- ◆ Tolerance From: $\pm 0.5\%$, $\pm 1\%$, $\pm 2\%$, $\pm 3\%$, $\pm 5\%$.
- ◆ Resistance Values From 10Ω to 20MΩ .
- ◆ Excellent Puls Withstanding Performance.
- ◆ Improved Parking Volage Rating
- ◆ Standard Package Sizes of 0805,1206,2010,2512.

FIGURE



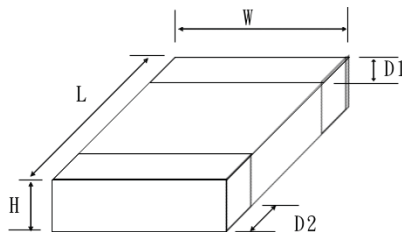
ORDERING INFORMATION

Example: R-PWCR12JF100R

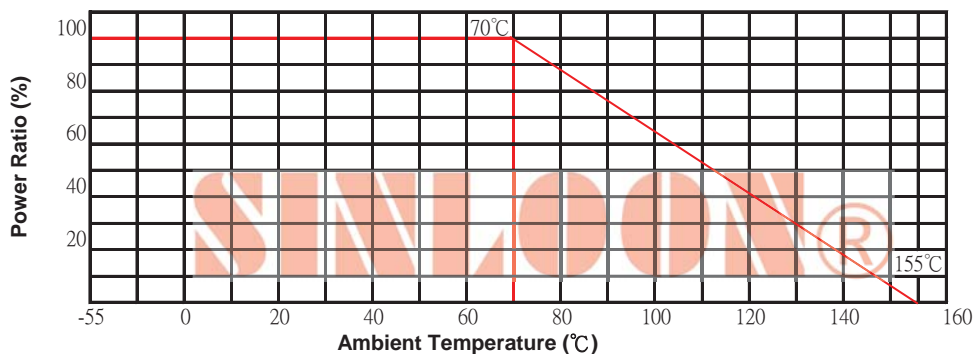
Power	Power Code	Type	Size	Tolerance	TCR(°C)	Resistance	Packing	Body Marking	
1/8W	W	W-PWCR05	0805	F = $\pm 5\%$	D= ± 50 ppm	10R=10R0	5K Reel	E96 Code	
1/4W	V	V-PWCR05	805	H = $\pm 3\%$	E= ± 100 ppm	100R=1000	5K Reel	10Ω	1009
1/3W	K	K-PWCR06	1206	G = $\pm 1\%$	F= ± 200 ppm	1K = 1001	5K Reel	100 Ω	1000
1/2W	U	U-PWCR06	1206	F = $\pm 1\%$		10K = 1002	5K Reel	1K Ω	1001
3/4W	T	T-PWCR10	2010	D = $\pm 0.5\%$		100K=1003	5K Reel	10K Ω	1002
1W	Q	Q-PWCR10	2010				4K Reel	100K Ω	1003
1.5W	R	R-PWCR12	2512			1M=1-004	4K Reel		

DIMENSION

Power	Type	Size	L	W	H	D1	D2	Weight/Kpcs(g)
1/8W	W-PWCR05	0805	2.00 ± 0.20	1.25 ± 0.15	0.50 ± 0.15	0.35 ± 0.15	0.35 ± 0.15	~4.37
1/4W	V-PWCR05	805	2.00 ± 0.20	1.25 ± 0.15	0.50 ± 0.15	0.35 ± 0.15	0.35 ± 0.15	~4.37
1/3W	K-PWCR06	1206	3.20 ± 0.20	1.60 ± 0.20	0.55 ± 0.15	0.45 ± 0.20	0.45 ± 0.20	~8.95
1/2W	U-PWCR06	1206	3.20 ± 0.20	1.60 ± 0.20	0.55 ± 0.15	0.45 ± 0.20	0.45 ± 0.20	~8.95
3/4W	T-PWCR10	2010	5.00 ± 0.20	2.50 ± 0.20	0.55 ± 0.10	0.60 ± 0.20	0.60 ± 0.20	~24.24
1W	Q-PWCR10	2010	5.00 ± 0.20	2.50 ± 0.20	0.55 ± 0.10	0.60 ± 0.20	0.60 ± 0.20	~24.24
1.5W	R-PWCR12	2512	6.30 ± 0.20	3.20 ± 0.20	0.55 ± 0.10	0.60 ± 0.20	0.60 ± 0.20	~39.45



POWER DERATING CURVE



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



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Electrical Characteristics Specifications

Power Rating at 70°C	Type	Size	Max. Operating Voltage	Resistance Range	TCR (ppm/°C)	Resistance Tolerance	Operating Temperature Range
1/8W	W-PWCR05	0805	150V	10Ω ~ 299Ω	±200	±0.5% ±1% ±2% ±3% ±5%	~55 ~ 155°C
				300Ω ~ 20MΩ	±100		
1/3W	K-PWCR06	1206	200V	10Ω ~ 299Ω	±200		
				300Ω ~ 20MΩ	±100		
3/4W	T-PWCR10	2010	400V	10Ω ~ <20Ω	±200		
				>20Ω ~ 20MΩ	±100		
1.5W	S-PWCR12	2512	500V	10Ω ~ <20Ω	±200		
				>20Ω ~ 20MΩ	±100		

* Operating Voltage = $\sqrt{P \cdot R}$ or Max. operating voltage listed above, Whichever is lower.

* Overload Voltage = $2.5 \cdot \sqrt{P \cdot R}$ or Max. overload voltage listed above, Whichever is lower.

High Power Rating Electrical Specifications

Power Rating at 70°C	Type	Size	Max. Operating Voltage	Resistance Range	TCR (ppm/°C)	Resistance Tolerance	Operating Temperature Range
1/4W	V-PWCR05	0805	150V	10Ω ~ 299Ω	±200	±0.5% ±1% ±2% ±3% ±5%	~55 ~ 155°C
				300Ω ~ 20MΩ	±100		
1/2W	U-PWCR06	1206	200V	10Ω ~ 100Ω	±100		
1W	Q-PWCR10	2010	400V	1KΩ ~ 10KΩ	±100		

Environmental Characteristics

Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Specification	±25/-55/+25/+125/+25°C
Short Time Overload	±0.5%	RCWV*2.5 or Max. overload voltage for 5 seconds.
Insulation Resistance	>100MΩ	Apply 100VDC for 1 minute.
Endurance	±1%	70±2°C, Max.working voltage. for 1000 hrs with 1.5 hrs "ON" and 0.5hrs "OFF".
Damp Heat With Load	±0.5%	40±2°C, 90-95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5hrs "OFF".
Dry Heat	±0.5%	at +155°C for 1000 hrs.
Bending Strength	As Specification	Beading amplitude 3mm for seconds.
Solderability	95% min. coverage	245±5°C for 3 seconds.
Resistance to Soldering Heat	±0.5%	260±5°C for 10 seconds.
Dielectric Withstand Voltage	As Specification	Apply Max. overload voltage for 1 minute.
Thermal Shock	±0.5%	-55°C ~ +150°C, 100 cycles.
Low Temperature Operation	±0.5%	1 hour, -65°C followed by 45 minutes of RCWV.

◆ Reference Standards: MIL-STD-202, JIS-C 5201-1

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



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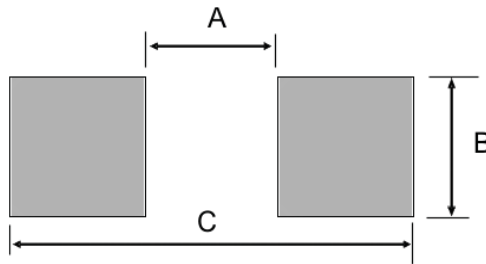
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RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)

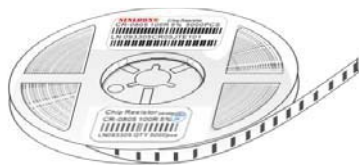
Unit: mm

Type	W-PWCR005	V-PWCR005	K-PWCR06	U-PWCR06	T-PWCR10	Q-PWCR10	S-PWCR12
	0805	0805	1206	1206	2010	2010	2512
A	1.20	1.20	2.00	2.00	3.80	3.80	3.80
B	1.30	1.30	1.60	1.60	2.80	2.80	3.50
C	2.60	2.60	3.80	3.80	5.60	5.60	7.00

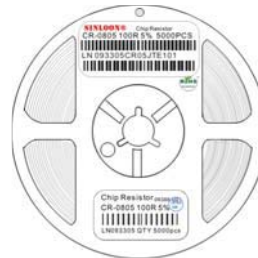


PACKAGE SPECIFICATION

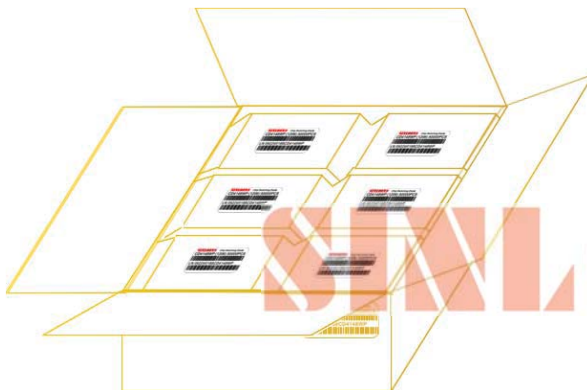
Power	Type	Size	Quantity(ea)			  品質承諾標誌 QUALITY COMMITMENT
			Paper Reel Tape	In Box	Carton	
1/8W	W-PWCR05	0805	5,000 Pcs 7" Reel	50K pcs	600K pcs	
1/4W	V-PWCR05	0805	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/3W	K-PWCR06	1206	5,000 Pcs 7" Reel	50K pcs	300K pcs	
1/2W	U-PWCR06	1206	5,000 Pcs 7" Reel	50K pcs	300K pcs	
3/4W	T-PWCR10	2010	4,000 Pcs 7" Reel	40K pcs	240K pcs	
1W	Q-PWCR10	2010	4,000 Pcs 7" Reel	40K pcs	240K pcs	
1.5W	R-PWCR12	2512	4,000 Pcs 7" Reel	40K pcs	240K pcs	



Paper Reel Tape



Reel Tape Label



Carton Pack



In Box

