Data Sheet No.: C16016

Version: V1

Date: 2024/5/21

PWWR

Silicone Cement Coating Leaded High Power Wirewound Resistor

Resistance	0.24Ω-20KΩ
Tolerance	±1%
TCR	+100ppm/K
Rated Power	16W

Applications

Precision Instrumentation

Semiconductor Testing Equipment

Medical Equipment

Capacitor Charging & Discharging

Better Solution for Sustainable High End Manufacturing

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PWWR

Silicone Cement Coating Leaded High Power Wirewound Resistor

Wide Operating Temperature Range

High Reliability, Strong Overload Capability

Introduction

PWWR series adopts two different diameter specifications of alumina ceramic cores, providing higher rated power than traditional axial wirewound through-hole resistor. High quality winding wire combined with specialized coating materials and processes enables PWWR to operate at higher temperature and have greater overload capacity.

The general axial through-hole wirewound resistor operates under rated power of up to 10W and maximum operating temperature of +270 ℃. PWWR series effectively improves the rated power and overload capacity by increasing the length and diameter of the ceramic core, while using high-quality resistive wire and insulation coating. At an ambient temperature of +70 ℃, the rated power is 13.5W and 16W, respectively, and the surface of the resistor can withstand high temperatures up to +350 ℃ and +370 ℃.

Electrical Parameters

Size	Rated Power (+70℃)	Operating Temperature	E-Series Value	TCR ppm/K	Resistance Ω	Tolerance %
PWWR0013	13.5W	-55℃~+350℃	E24	+100	0.24≤R≤20K	±1, ±2, ±5, ±10
PWWR0016	16W	-55℃~+370℃	E24	+100	0.33≤R≤20K	±1, ±2, ±5, ±10

Dimensions & Packaging

Unit:mm

Size	L	D	d	F	Packaging	Quantity Per Bulk	Net Weight
PWWR0013	49.5±0.5	9.5±0.5	0.8±0.03	30.0+3.0	Bulk	50pcs	6.5g
PWWR0016	51.5±0.5	11.5±0.5	1.0±0.03	30.0+3.0	Bulk	30pcs	13g

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PWWR

Silicone Cement Coating Leaded High Power Wirewound Resistor

Part Number Information

Example: PWWR0013J10R0K9 (PWWR 0013 ±5% 10Ω +100ppm/K Standard)

For more options of resistance, tolerance and TCR, please contact us.

Performance

Test	Test Method	Standards	Test Limits
Moisture Resistance	40±2°C. 90~95%RH for 500hours	GB/T5729 4.24	ΔR≤±(3%R+0.05Ω) No mechanical damage. Clear marking
Load Life	100% rated power. Load 90 min/ON 30 min/OFF. 500hours	GB/T5729 4.25.2	ΔR≤±(5%R±0.05Ω) No mechanical damage. Clear marking
Short Time Overload	5 times rated power, 5s	GB/T5729 4.14	ΔR≤±(2%R+0.05Ω) No mechanical damage
Vibration	10~55Hz. 1min/cycle. 1.5mm wide in the three directions. Keeping 2 hours in each direction	GB/T5729 4.22	ΔR≤±(1%R+0.05Ω) No mechanical damage
Resistance to Solder Heat	350°C for 10s (Tin Plating)	GB/T5729 4.18	ΔR≤±(1%R+0.05Ω) No mechanical damage
Solderability	275°C for 5s (Tin Plating)	GB/T5729 4.17	90% coverage min.
Terminal Strength	Axial force 20N for 10s	GB/T5729 4.16	Lead wire no breaking or no loosening of termination
Body Strength	Vertical force 40N for 30s	GB/T5729 4.15	No mechanical damage

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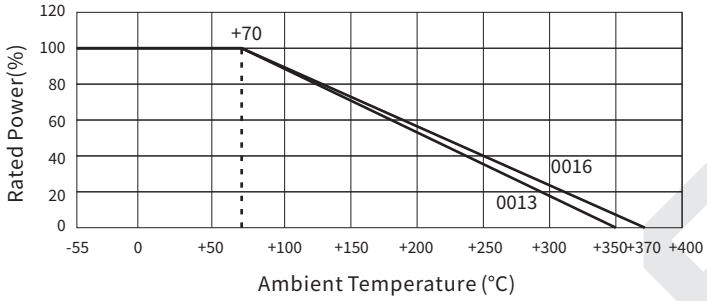
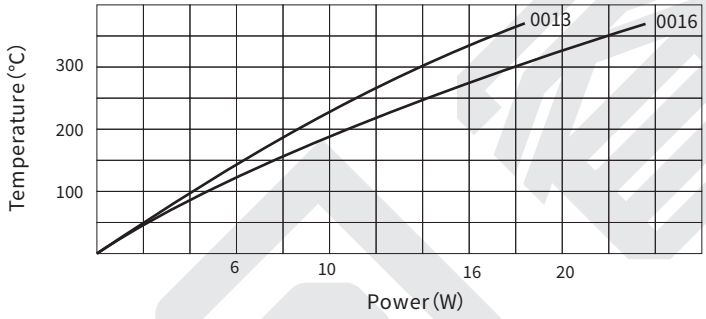
Derating Curve



Overtemperature Curve



Marking

The first line (four digits) represents brand.
The second line (fifteen digits) represents part number.
The third line (four digits) represents date code.

Illustration	Illustration	Demonstration
PWWR		RESI (Brand) PWWR0013F1R00K9 (Part Number) 2316 (Date Code. Week 16 of 2023)

Popular Part Numbers

Part Number	Power	Tolerance	Resistance	TCR
PWWR0013FR500K9	13.5W	±1%	0.5Ω	+100ppm/K
PWWR0013F1R00K9	13.5W	±1%	1Ω	+100ppm/K
PWWR0013F2R00K9	13.5W	±1%	2Ω	+100ppm/K
PWWR0013F5R00K9	13.5W	±1%	5Ω	+100ppm/K
PWWR0013F10R0K9	13.5W	±1%	10Ω	+100ppm/K
PWWR0013F20R0K9	13.5W	±1%	20Ω	+100ppm/K
PWWR0013F50R0K9	13.5W	±1%	50Ω	+100ppm/K
PWWR0013F100RK9	13.5W	±1%	100Ω	+100ppm/K
PWWR0013F1K00K9	13.5W	±1%	1KΩ	+100ppm/K
PWWR0013F2R20K9	13.5W	±1%	2.2Ω	+100ppm/K
PWWR0013F2R70K9	13.5W	±1%	2.7Ω	+100ppm/K
PWWR0013F3R00K9	13.5W	±1%	3Ω	+100ppm/K
PWWR0013F3R30K9	13.5W	±1%	3.3Ω	+100ppm/K
PWWR0013F4R00K9	13.5W	±1%	4Ω	+100ppm/K
PWWR0013F4R70K9	13.5W	±1%	4.7Ω	+100ppm/K
PWWR0013F5R60K9	13.5W	±1%	5.6Ω	+100ppm/K
PWWR0013F7R50K9	13.5W	±1%	7.5Ω	+100ppm/K
PWWR0013F15R0K9	13.5W	±1%	15Ω	+100ppm/K
PWWR0013F18R0K9	13.5W	±1%	18Ω	+100ppm/K
PWWR0013F27R0K9	13.5W	±1%	27Ω	+100ppm/K
PWWR0013F30R0K9	13.5W	±1%	30Ω	+100ppm/K
PWWR0013F33R0K9	13.5W	±1%	33Ω	+100ppm/K
PWWR0013F47R0K9	13.5W	±1%	47Ω	+100ppm/K
PWWR0013F75R0K9	13.5W	±1%	75Ω	+100ppm/K
PWWR0013F110RK9	13.5W	±1%	110Ω	+100ppm/K
PWWR0013F120RK9	13.5W	±1%	120Ω	+100ppm/K
PWWR0013F150RK9	13.5W	±1%	150Ω	+100ppm/K
PWWR0013F180RK9	13.5W	±1%	180Ω	+100ppm/K
PWWR0013F200RK9	13.5W	±1%	200Ω	+100ppm/K
PWWR0013F250RK9	13.5W	±1%	250Ω	+100ppm/K
PWWR0013F270RK9	13.5W	±1%	270Ω	+100ppm/K
PWWR0013F300RK9	13.5W	±1%	300Ω	+100ppm/K
PWWR0013F330RK9	13.5W	±1%	330Ω	+100ppm/K
PWWR0013F470RK9	13.5W	±1%	470Ω	+100ppm/K
PWWR0013F750RK9	13.5W	±1%	750Ω	+100ppm/K
PWWR0013F1K10K9	13.5W	±1%	1.1KΩ	+100ppm/K
PWWR0013F1K20K9	13.5W	±1%	1.2KΩ	+100ppm/K
PWWR0013F1K50K9	13.5W	±1%	1.5KΩ	+100ppm/K
PWWR0013F1K80K9	13.5W	±1%	1.8KΩ	+100ppm/K
PWWR0013F2K00K9	13.5W	±1%	2KΩ	+100ppm/K
PWWR0013F2K70K9	13.5W	±1%	2.7KΩ	+100ppm/K
PWWR0013F3K00K9	13.5W	±1%	3KΩ	+100ppm/K
PWWR0013F3K30K9	13.5W	±1%	3.3KΩ	+100ppm/K
PWWR0013F4K70K9	13.5W	±1%	4.7KΩ	+100ppm/K
PWWR0013F5K00K9	13.5W	±1%	5KΩ	+100ppm/K
PWWR0013F10K0K9	13.5W	±1%	10KΩ	+100ppm/K
PWWR0013F20K0K9	13.5W	±1%	20KΩ	+100ppm/K

Popular Part Numbers

Part Number	Power	Tolerance	Resistance	TCR
PWWR0016FR500K9	16W	±1%	0.5Ω	+100ppm/K
PWWR0016F1R00K9	16W	±1%	1Ω	+100ppm/K
PWWR0016F2R00K9	16W	±1%	2Ω	+100ppm/K
PWWR0016F5R00K9	16W	±1%	5Ω	+100ppm/K
PWWR0016F10R0K9	16W	±1%	10Ω	+100ppm/K
PWWR0016F20R0K9	16W	±1%	20Ω	+100ppm/K
PWWR0016F50R0K9	16W	±1%	50Ω	+100ppm/K
PWWR0016F100RK9	16W	±1%	100Ω	+100ppm/K
PWWR0016F1K00K9	16W	±1%	1KΩ	+100ppm/K
PWWR0016F2R20K9	16W	±1%	2.2Ω	+100ppm/K
PWWR0016F2R70K9	16W	±1%	2.7Ω	+100ppm/K
PWWR0016F3R00K9	16W	±1%	3Ω	+100ppm/K
PWWR0016F3R30K9	16W	±1%	3.3Ω	+100ppm/K
PWWR0016F4R00K9	16W	±1%	4Ω	+100ppm/K
PWWR0016F4R70K9	16W	±1%	4.7Ω	+100ppm/K
PWWR0016F5R60K9	16W	±1%	5.6Ω	+100ppm/K
PWWR0016F7R50K9	16W	±1%	7.5Ω	+100ppm/K
PWWR0016F15R0K9	16W	±1%	15Ω	+100ppm/K
PWWR0016F18R0K9	16W	±1%	18Ω	+100ppm/K
PWWR0016F27R0K9	16W	±1%	27Ω	+100ppm/K
PWWR0016F30R0K9	16W	±1%	30Ω	+100ppm/K
PWWR0016F33R0K9	16W	±1%	33Ω	+100ppm/K
PWWR0016F47R0K9	16W	±1%	47Ω	+100ppm/K
PWWR0016F75R0K9	16W	±1%	75Ω	+100ppm/K
PWWR0016F110RK9	16W	±1%	110Ω	+100ppm/K
PWWR0016F120RK9	16W	±1%	120Ω	+100ppm/K
PWWR0016F150RK9	16W	±1%	150Ω	+100ppm/K
PWWR0016F180RK9	16W	±1%	180Ω	+100ppm/K
PWWR0016F200RK9	16W	±1%	200Ω	+100ppm/K
PWWR0016F250RK9	16W	±1%	250Ω	+100ppm/K
PWWR0016F270RK9	16W	±1%	270Ω	+100ppm/K
PWWR0016F300RK9	16W	±1%	300Ω	+100ppm/K
PWWR0016F330RK9	16W	±1%	330Ω	+100ppm/K
PWWR0016F470RK9	16W	±1%	470Ω	+100ppm/K
PWWR0016F750RK9	16W	±1%	750Ω	+100ppm/K
PWWR0016F1K10K9	16W	±1%	1.1KΩ	+100ppm/K
PWWR0016F1K20K9	16W	±1%	1.2KΩ	+100ppm/K
PWWR0016F1K50K9	16W	±1%	1.5KΩ	+100ppm/K
PWWR0016F1K80K9	16W	±1%	1.8KΩ	+100ppm/K
PWWR0016F2K00K9	16W	±1%	2KΩ	+100ppm/K
PWWR0016F2K70K9	16W	±1%	2.7KΩ	+100ppm/K
PWWR0016F3K00K9	16W	±1%	3KΩ	+100ppm/K
PWWR0016F3K30K9	16W	±1%	3.3KΩ	+100ppm/K
PWWR0016F4K70K9	16W	±1%	4.7KΩ	+100ppm/K
PWWR0016F5K00K9	16W	±1%	5KΩ	+100ppm/K
PWWR0016F10K0K9	16W	±1%	10KΩ	+100ppm/K
PWWR0016F20K0K9	16W	±1%	20KΩ	+100ppm/K

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Revision

Version	Revised Content	Date	Approver
V0	Initial Issue	2023/04/27	LFY
V1	Revise the derating curve	2024/5/21	LFY

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