POWER METAL STRIP® RESISTORS

WSR5

Resistors - High Power, Compact Size

High-Power (5 W), Low Value (Down to 0.001 Ω), Surface-Mount, Power Metal Strip® Resistor

KEY BENEFITS

- Compact 4527 package size
- Low resistance values: from 1 mΩ to 300 mΩ
- Inductance values as low as 0.5 ηH
- Resistant to thermal and mechanical shock, extreme temperatures, humidity, and vibration
- Operating temperature range: - 65 °C to + 275 °C
- Lead (Pb)-free version is RoHS-compliant

APPLICATIONS

- Automotive systems
- Power supplies in communications base stations
- DC/DC converters

RESOURCES

- Datasheet: WSR5 - http://www.vishay.com/doc?31059
- For technical questions contact ww2bresistors@vishay.com

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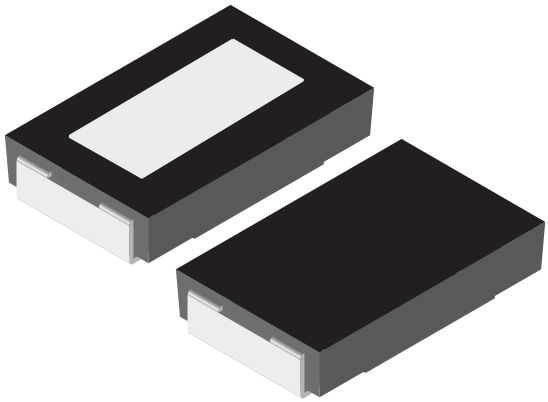
POWER METAL STRIP® RESISTORS

WSR5

INNOVATION AND TECHNOLOGY 50 years 1962-2012

High-Power (5 W), Low Value (Down to 0.001 Ω), Surface-Mount, Power Metal Strip® Resistor



FEATURES

- Molded high temperature encapsulation
- Improved thermal management incorporated into design
- Ideal for all types of current sensing, voltage division and pulse applications including switching and linear power supplies, instrumentation, power amplifiers
- Proprietary processing technique produces extremely low resistance values (down to 0.001 Ω)
- All welded construction
- Solid metal nickel-chrome or manganese-copper alloy resistive element with low TCR (< 20 ppm/°C)
- Solderable terminations
- Very low inductance 0.5 nH to 5 nH
- Excellent frequency response to 50 MHz
- Low thermal EMF (< 3 µV/°C)
- Integral heat sink not utilized for resistance values less than 0.0075 Ω
- Compliant to RoHS Directive 2002/95/EC

Pb-free Available

RoHS* COMPLIANT

GREEN (5-2008)** Available

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{70\,°C}$ W	RESISTANCE VALUE RANGE Ω		WEIGHT (typical) g/1000 pieces
			Tol. ± 0.5 %	Tol. ± 1 %	
WSR5	4527	5.0 (1)	0.01 to 0.3	0.001 to 0.3	476

Notes

- Part marking: DALE, model, value, tolerance, date code.

(1) The WSR5 is rated at 5 W with terminal temperature maintained ≤ 120 °C.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	WSR5
Temperature coefficient	ppm/°C	± 110 for 0.0075 Ω to 0.0099 Ω ± 75 for 0.01 Ω to 0.3 Ω
Dielectric withstanding voltage	V_{AC}	> 500
Insulation resistance	Ω	> 10^9
Operating temperature range	°C	- 65 to + 275
Maximum working voltage	V	$(P \times R)^{1/2}$

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: WSR5R0100FTA (preferred part numbering format)

W	S	R	5	R	0	1	0	0	F	T	A		

GLOBAL MODEL	VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
WSR5	**L** = mΩ* **R** = Decimal **5L000** = 0.005 Ω **R0100** = 0.01 Ω * use "**L**" for resistance values < 0.01 Ω	**D** = ± 0.5 % **F** = ± 1.0 % **J** = ± 5.0 %	**EA** = Lead (Pb)-free, tape/reel **EK** = Lead (Pb)-free, bulk **TA** = Tin/lead, tape/reel (R86) **BA** = Tin/lead, bulk (B43)	(Dash number) (Up to 2 digits) From **1 to 99** as applicable

Historical Part Numbering example: WSR5 0.01 Ω 1 % R86 (will continue to be accepted)

WSR5	0.01 Ω	1 %	R86
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

Revision 06-Dec-10

* Pb containing terminations are not RoHS compliant, exemptions may apply

** Please see document "Vishay Material Category Policy": www.vishay.com/doc?99902

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