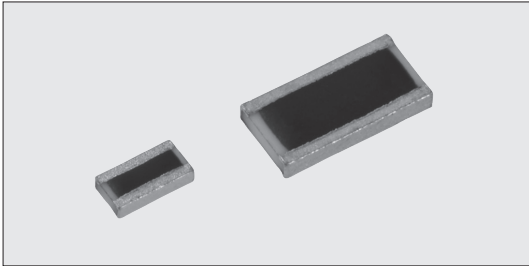
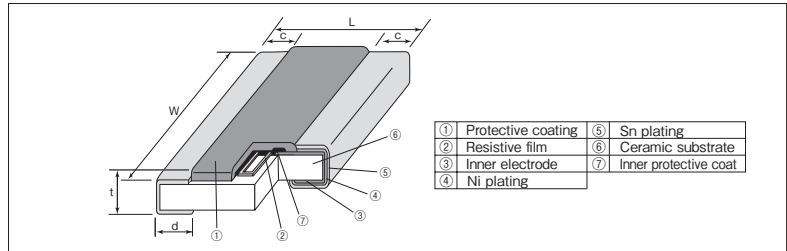


WN73H Wide Terminal Type Metal Film Flat Chip Resistors (High reliability)



Coating color : Black

Construction



Features

- SMD metal film resistors of wide terminal type.
- High precision type $\pm 0.1\%$ is also available as standard.
- High performance T.C.R. $\pm 10 \times 10^{-6}/K$ is also available as standard.
- Low current noise.
- Operating temperature range $\sim 155^\circ C$.
Rated ambient temperature : $85^\circ C$
- High reliability with ΔR of $\pm 0.1\%$ in the long-term reliability test.
- Endurance at $85^\circ C$ (1,000h) : ΔR of $\pm 0.1\%$
- Improved moisture resistance by special protective coating.
- High precision resistor solution for tough environments, especially in high reliable automotive, medical and industrial applications.
- Suitable for both flow and reflow solderings.
- Products meet EU-RoHS requirements.
- AEC-Q200 Tested.
- Sulfur resistance verified according to ASTM B 809-95.

Dimensions

Type (Inch Size Code)	Dimensions (mm)					Weight (g) (1000pcs)
	L	W	c	d	t	
1J (0306)	0.8 ± 0.1	1.6 ± 0.2	0.2 ± 0.1	0.2 ± 0.1	0.35 ± 0.1	1.48
2B (0612)	1.6 ± 0.2	3.1 ± 0.2	0.25 ± 0.1	0.3 ± 0.15	0.45 ± 0.1	7.26

Type Designation

Example

WN73H	2B	T	TD	1002	B	25
Product Code	Power Rating	Terminal Surface Material	Taping	Nominal Resistance	Resistance Tolerance	T.C.R. ($\times 10^{-6}/K$)
	1J: 0.3W 2B: 1W	T:Sn	TD: 4mm pitch paper BK: Bulk	4 digits	B: $\pm 0.1\%$ C: $\pm 0.25\%$ D: $\pm 0.5\%$	10 25 50

Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

For further information on taping, please refer to APPENDIX C on the back pages.

Applications

- Automotive electronics (Power Train, Body Control)
- Industrial equipment
- Medical equipment
- Measurement equipment

Reference Standards

IEC 60115-8
JIS C 5201-8
EIAJ RC-2133A

Ratings

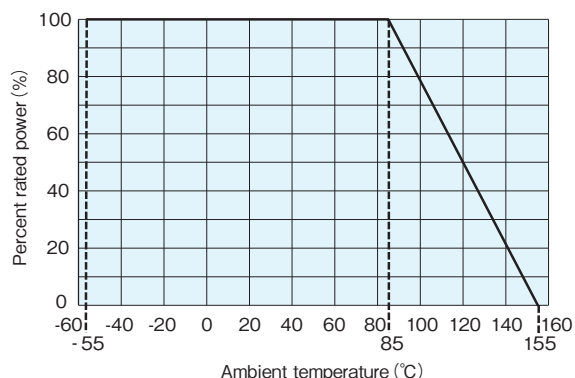
Type	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. ($\times 10^{-6}/K$)	Resistance Range (Ω) E24 · E96			Max. Working Voltage	Max. Overload Voltage	Taping & Q'ty/Reel (pcs)
					B: $\pm 0.1\%$	C: $\pm 0.25\%$	D: $\pm 0.5\%$			TD
1J	0.3W	$85^\circ C$	$125^\circ C$	± 10	100~43k	100~43k	100~43k	75V	150V	5000
				± 25	15~100k	15~100k	10~100k			
				± 50	15~100k	15~100k	10~100k			
2B	1W	$85^\circ C$	$125^\circ C$	± 10	100~100k	100~100k	100~100k	100V	200V	5000
				± 25	15~100k	15~100k	10~100k			
				± 50	15~100k	15~100k	10~100k			

Operating Temperature Range : $-55^\circ C \sim +155^\circ C$

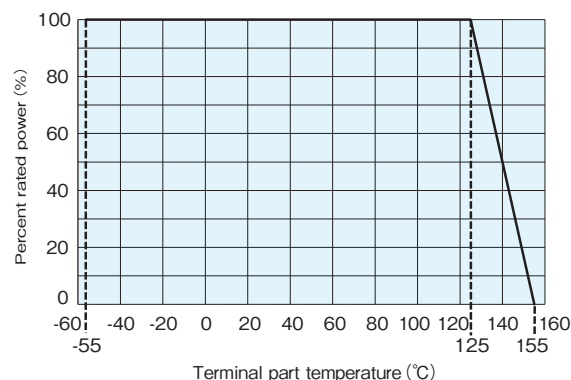
Rated voltage = $\sqrt{\text{Power Rating} \times \text{Resistance value}}$ or Max. working voltage, whichever is lower.

If any questions arise whether to use the "Rated Ambient Temperature" or the "Rated Terminal Part Temperature" in your usage conditions, please give priority to the "Rated Terminal Part Temperature". For more details, please refer to "Introduction of the derating curves based on the terminal part temperature" on the beginning of our catalog.

Derating Curve



For resistors operated at an ambient temperature of 85°C or higher, the power shall be derated in accordance with the above derating curve.



When the terminal part temperature of the resistor exceeds the rated terminal part temperature shown above, the power shall be derated according to the derating curve.

※Please refer to "Introduction of the derating curves based on the terminal part temperature" on the beginning of our catalog before use.

Performance

Test Items	Performance Requirements $\Delta R \pm (\% + 0.05 \Omega)$		Test Methods
	Limit	Typical	
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/-55°C, +25°C/+155°C
Overload (Short time)	0.1	0.03	Rated voltage × 2.0 or Max. overload., whichever is less, for 5s
Resistance to soldering heat	0.1	0.03	260°C±5°C, 10s±1s
Rapid change of temperature	0.1 ^{※2}	0.03	-55°C (30min.)/+155°C (30min.) 1000cycles
Moisture resistance	0.1 ^{※2}	0.04	85°C±2°C, 85%±5%RH, 1000h 1.5h ON/0.5h OFF cycle
"Endurance at 85°C or rated terminal part temperature"	0.1 ^{※2}	0.04	85°C±2°C or rated terminal part temperature ±2°C 1000h 1.5h ON/0.5h OFF cycle
High temperature exposure	0.1 ^{※2}	0.04	+155°C, 1000h

※2 Depends on resistance value.

Precautions for Use

- The properly and electrostatically measured taping materials are used for the components, but attention should be paid to the fact that there is some danger the parts absorb on the top tapes to cause a failure in the mounting and the parts are destructed by static electricity (1J, 2B: 1kV and more at Human Body Model 100pF, 1.5kΩ) to change the resistance in the conditions of an excessive dryness or after the parts are given vibration for a long time as they are packaged on the tapes. Similarly, care should be given not to apply the excessive static electricity when mounting on the boards.
- Ionic impurities such as flux etc. that are attached to these products or those mounted onto a PCB, negatively affect their moisture resistance, corrosion resistance, etc. The flux may contain ionic substances like chlorine, acid, etc. while perspiration and saliva include ionic impurities like sodium (Na⁺), chlorine (Cl⁻) etc. Therefore these kinds of ionic substances may induce electrical corrosion when they invade into the products. Either thorough washing or using RMA solder and flux are necessary since lead free solder contains ionic substances. Washing process is needed, before putting on moisture proof material in order to prevent electrical corrosion.
- When heat-resistant masking tapes are attached to the chip resistors at the time of mounting and then detached, there is a possibility of exfoliation of the top electrodes. It is known that the heat applied in the mounting process will enhance the adhesion strength of the tape adhesive so please avoid the use. If the use of masking tapes are unavoidable, then please be sure not to attach the tape adhesives directly on the products.

When high-pressure shower cleaning is implemented, there is a possibility of exfoliation of the top electrodes caused by the water pressure stress so please avoid the implementation.

If the implementation is unavoidable, then please evaluate the products beforehand.