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HONG KONG RESISTORS MANUFACTORY

(wholly owned by Hong Kong Resistors Manufactory International Ltd.)

AN ISO 9001:2008 CERTIFIED MANUFACTURER

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DATA SHEET

Name of Product : **WIREWOUND RESISTOR –BULK PACKING**
(SMALL SIZE)

Sales Executive : _____

Date: _____

製造 Prepared by	檢驗 Inspected by	審核 Audited by	核准 Authorized by
客戶 customer approval	客戶 customer approval	客戶 customer approval	客戶 customer approval

Spec. No. WRBPS 2015

Rev. No.: 2015 May.(1)

PRODUCT : WIREWOUND RESISTOR

TYPE : WR 100S/200S/300S/500S

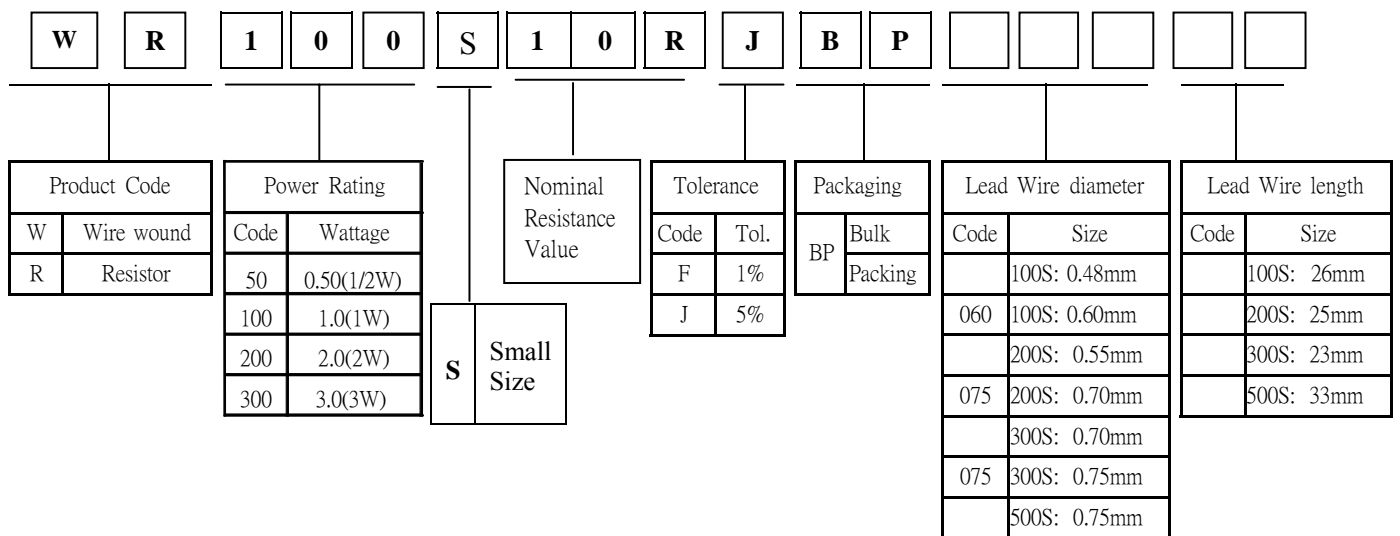
1. APPLICABLE SCOPE :

- 1.1 This specification is for use in WIREWOUND RESISTORS
- 1.2 Characteristics and specifications are according to those of :
JIS C 5202
- 1.3 RoHS and REACH compliant product

2. PART NUMBER

It is composed of description, rated wattage , nominal resistance value , tolerance and packaging.

2.1 Make Up :



2.2 Explanation :

Part Number

Description

WR 100S 10R J BP

Wire wound Resistor , 1W, small size, 10Ω , +/-5% , bulk packing,

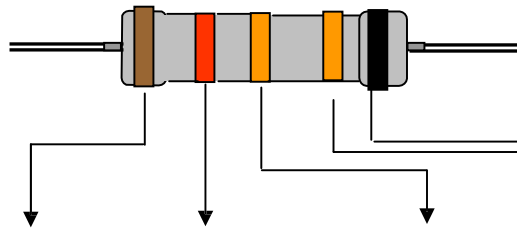
Lead Wire diameter: d=0.55mm, Lead Wire length: L=25mm.

PRODUCT : WIREWOUND RESISTOR	TYPE : WR 100S/200S/300S/500S
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2.3 Color code indication

Fixed resistors of which the nominal resistance value and tolerance are indicated by color codes as per Table 1 :

TABLE - 1



COLOR	1 ST DIGIT	2 ND DIGIT	MULTIPLIER	TOLERANCE	IDENTIFICATION
BLACK	0	0	1		WIREWOUND RESISTOR
BROWN	1	1	10	F (±1%)	
RED	2	2	100		
ORANGE	3	3	1,000		
YELLOW	4	4	10,000		
GREEN	5	5	100,000		
BLUE	6	6	1000,000		
VIOLET	7	7	10,000,000		
GREY	8	8			
WHITE	9	9			
GOLD			0.1	J (±5%)	
SILVER			0.01		

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3. DIMENSIONS :

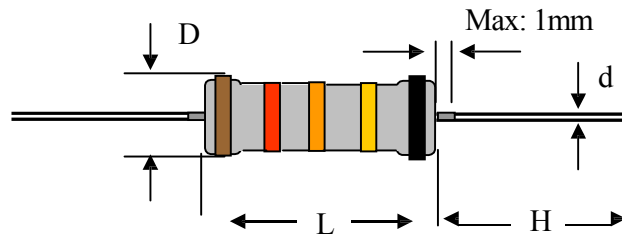


TABLE - 2

Unit : mm

TYPE	BODY		LEAD WIRE	
	L	D	H	d
WR100S	9.5±1	3.5±1	26±1	0.48 (0.60) ±0.05
WR200S	11.0±1.5	4.0±1	25±1	0.55 (0.70) ±0.05
WR300S	15.0±1.5	5.0±1	23±1	0.70 (0.75) ±0.05
WR500S	17.0±1.5	6.0±1	33±1	0.70 (0.75) ±0.05

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4. SPECIFICATIONS

TABLE - 3

DESCRIPTION	WR-100S	WR-200S	WR-300S	WR-500S
STANDARD RESISTANCE VALUE RANGE	0.1Ω -200Ω	0.1Ω - 200Ω	0.1Ω - 200Ω	0.1Ω - 200Ω
POWER RATING AT 70°C	1W	2W	3W	5W
*MAX WORKING VOLTAGE	350V	500V	500V	500V
*MAX OVERLOAD VOLTAGE	700V	1, 000V	1, 000V	1, 000V
OPERATING TEMPERATURE RANGE	-40°C~+200°C	-40°C~+200°C	-40°C~+200°C	-40°C~+200°C
TEMPERATURE COEFFICIENT	±300PPM	±300PPM	±300PPM	±300PPM
TEMPERATURE CYCLING	±(2%R+0.05Ω)	±(2%R+0.05Ω)	±(2%R+0.05Ω)	±(2%R+0.05Ω)
INSULATION RESISTANCE	MIN.1,000 MΩ	MIN.1,000 MΩ	MIN.1,000 MΩ	MIN.1,000 MΩ
HUMIDITY	±(5% R+0.05Ω)	±(5% R+0.05Ω)	±(5% R+0.05Ω)	±(5% R+0.05Ω)
SHORT-TIME OVERLOAD	±(2%R+0.05Ω)	±(2%R+0.05Ω)	±(2%R+0.05Ω)	±(2%R+0.05Ω)
SOLDERABILITY	MIN. 80% COVERED	MIN. 80% COVERED	MIN. 80% COVERED	MIN. 80% COVERED
VIBRATION	±(1% R+0.05Ω)	±(1% R+0.05Ω)	±(1% R+0.05Ω)	±(1% R+0.05Ω)
LOAD LIFE	±(5% R+0.05Ω)	±(5% R+0.05Ω)	±(5% R+0.05Ω)	±(5% R+0.05Ω)

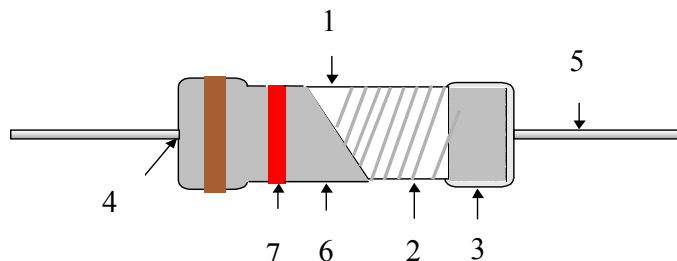
* The working voltage is calculated based on the resistance value following the formula of $V=\sqrt{P*R}$ or to its maximum extent as indicated above

* The overload voltage is calculated based on the resistance value following the formula of $V= 2.5 *\sqrt{P*R}$ or to its maximum extent as indicated above

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5. STRUCTURAL DIAGRAM



- | | |
|------------------------|---|
| (1) CORE | WHITE CERAMIC ROD |
| (2) RESISTANCE FILM | VALUED RESISTANCE WIRE |
| (3) TERMINAL | TINNED IRON CAP |
| (4) CONNECTION | ELECTRIC WELDING |
| (5) LEAD WIRE | SOLDERED OR TINNED ANNEALED COPPER WIRE |
| (6) FINISHING PAINTING | FLAMEPROOF SILICON PAINT |
| (7) INDICATION | COLOR CODE INK |

TABLE - 4

RATED RESISTANCE VALUE	MAX. TESTING VOLTAGE
	1W / 2W / 3W / 5W
$0.1\Omega \leq R < 10\Omega$	0.3
$10\Omega \leq R < 100\Omega$	1
$100\Omega \leq R < 1K\Omega$	3

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6. CHARACTERISTICS

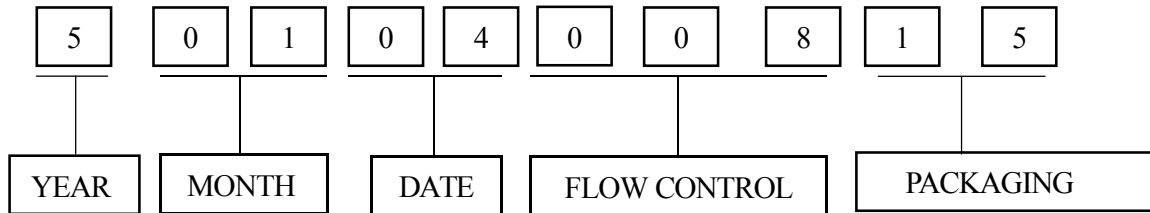
TABLE – 5

DC RESISTANCE VALUE	TEST METHOD MIL-STD-202 ITEM 303	VOLTAGE AS TABLE -4. TEMPERATURE 25 \pm 2°C. AQL 0.25%.
VOLTAGE WITHSTAND	TEST METHOD MIL-STD-202 ITEM 301	V-BLOCK METHOD. VOLTAGE AS TABLE -3 \times 1.42 , 1 MIN. AQL 1%.
SHORT TIME OVERLOAD	TEST METHOD JIS C 5202 ITEM 5.5	RATED VOLTAGE \times 2.5 TIMES OR MAX.WORKINGVOLTAGE \times 2 TIMES. ABOVE TEST 5 SEC. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN \pm (2%R+0.05 Ω).
TERMINAL STRENGTH	TEST METHOD MIL-STD-202 ITEM 211	TENSILE STRENGTH : 1KG TENSIONAL STRENGTH : 180°, 2 CYCLES. BENDING STRENGTH : 0.5KG, 2 TIMES. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN \pm (0.5%R+0.05 Ω).
SOLDERABILITY OF TERMINAL	TEST METHOD MIL-STD-202 ITEM 210	260 \pm 5°C 10 \pm 1SEC. AFTER TESTING, LEAVE FOR 3 HOURS. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN \pm (1%R+0.05 Ω).
TEMPERATURE CYCLE	TEST METHOD MIL-STD-202 ITEM 107	LOW SIDE TEMPERATURE : -55°C \pm 3°C 30MIN. ROOM TEMPERATURE : 10-15MIN. HIGH SIDE TEMPERATURE : +125°C \pm 3°C 30MIN. ROOM TEMPERATURE : 10-15MIN. ABOVE TEST 5 CYCLES AFTER LAST CYCLE, LEAVE FOR 1-3 HOURS. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN \pm (2%R+0.05 Ω).
VIBRATION WITHSTAND	TEST METHOD MIL-STD-202 ITEM 204	X, Y, Z-EACH DIRECTION 2 HOURS. AMPLITUDE 0.75MM. RANGE : 10HZ ~ 500HZ. THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN \pm (1%R+0.05 Ω).
LOAD LIFE	TEST METHOD MIL-STD-202 ITEM 108	70 \pm 2°C. 1000 HOURS RATED VOLTAGE (1.5 HOURS ON, 0.5 HOUR OFF). THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN \pm (5%R+0.05 Ω).
RESISTANCE TEMPERATURE COEFFICIENT	TEST METHOD MIL-STD-202 ITEM 304	THE RESISTANCE VALUE CHANGE RATE SHALL BE AS TABLE – 3.
LOAD LIFE IN HUMIDITY	TEST METHOD MIL-STD-202 ITEM 103	THE RESISTANCE VALUE CHANGE RATE SHALL BE WITHIN \pm (5%R+0.05 Ω).

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7. LOT NO. (Coding System)



8. PACKING DATA

TABLE – 6

TYPE	PER BAG	PER BOX	PER CARTON	INNER BOX			EXPORT CARTON		
				L	W	H	L	W	H
WR50	500PCS	5,000PCS	50,000PCS	/	/	/	280mm	280mm	260mm
WR100	500PCS	4,000PCS	40,000PCS	/	/	/	310mm	295mm	245mm
WR200	250PCS	2,000PCS	20,000PCS	/	/	/	280mm	280mm	260mm
WR300	100PCS	1,000PCS	10,000PCS	/	/	/	280mm	280mm	260mm

