



SYNTECH CORPORATION

LOW VALUE WIRE RESISTORS

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1. SUBJECT

This specification applies on the low value wire resistors was made by **SYNTECH** Corporation.

2. QUALITY

The resistor is manufactured by highly quality-controlled process and guaranteed high reliability.

3. STANDARD MEASURING CONDITIONS

Temperature $20\pm 2^{\circ}\text{C}$, Humidity $65\pm 5\%$. Being no doubt About the judgment, measurements can be made within the following Temperature $5\sim 35^{\circ}\text{C}$, Humidity $45\sim 85\%$.

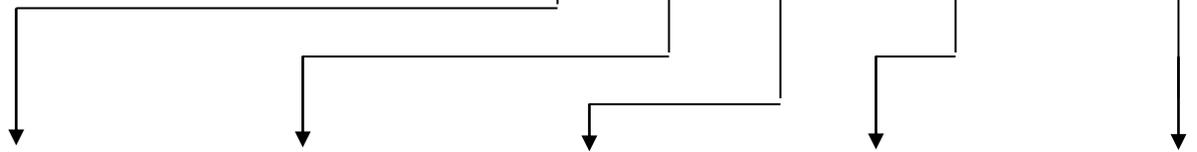
APPROVED	CHECKED	DESIGNED	REMARK	DOCUMENT NO.
Carol	May	Chen		0201010185



4. EXPLANATIONS OF ORDERING CODE

Example : DESCRIPTION : RW 1.0Ø 5% 0.02Ω MK20X06

SYNTON CODE : RW 10 J R02 MK20 X 6



Wire

Diameter

06 : 0.6 Ø
~
25 : 2.5 Ø

(Please see detail of Figure1)

TOLERANCE

F : ±1%
G : ±2%
J : ±5%
K : ±10%

RESISTANCE

VALUE

0.0025 Ω
(2.5m Ω)
~
0.1 Ω
(100m Ω)

resistance rated are available on request

Pitch

5mm~20mm
(± 1.0mm)

MK-TYPE
0.6 Ø~1.2Ø
(Please see detail of Figure2)

MB-TYPE
1.3 Ø~2.5Ø

M-TYPE
0.6 Ø~2.5Ø
(Please see detail of Figure 3&4)

Lead

Length

Forming
2.5 mm
(Min.)



5. MATERIAL

Symbol	Material	Components
CMW	Copper-Manganese wire	Cu , Mn , Ni , Fe

6. FEATURES

d (mm)	Max. rating current (A)	Resistance range (mΩ)	Operating Temp.
0.6	3.0	50 ~ 100	-40°C +200°C
0.7	4.0	20 ~ 70	
0.8	4.5	10 ~ 50	
0.9	5.0	10 ~ 40	
1.0	5.5	10 ~ 30	
1.1	6.0	6 ~ 20	
1.2	7.0	2.5 ~ 20	
1.3	7.5	5 ~ 20	
1.4	8.0	5 ~ 20	
1.5	9.0	3 ~ 20	
1.6	9.5	3 ~ 20	
1.8	11	3 ~ 10	
2.0	12	3 ~ 10	
2.3	14	3 ~ 5	
2.5	15	3 ~ 5	

**Customized resistance values are available upon request

Figure1



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7. DIMENSIONS

MK Type (0.6 Ø ~ 1.2 Ø)

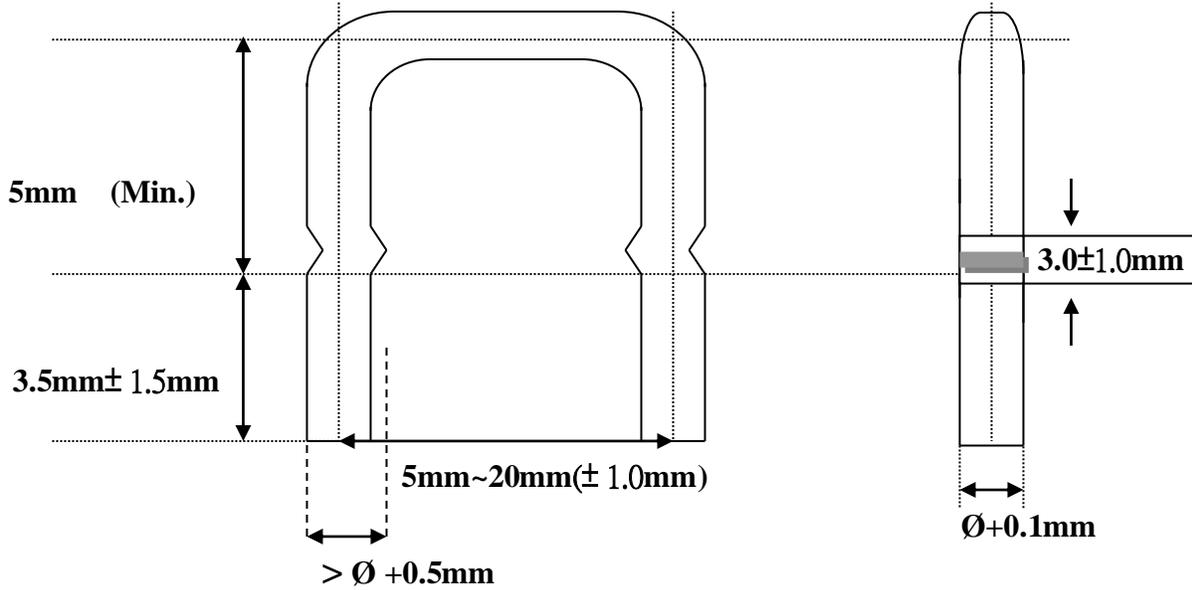


Figure2

MB Type (1.3 Ø ~ 2.5 Ø)

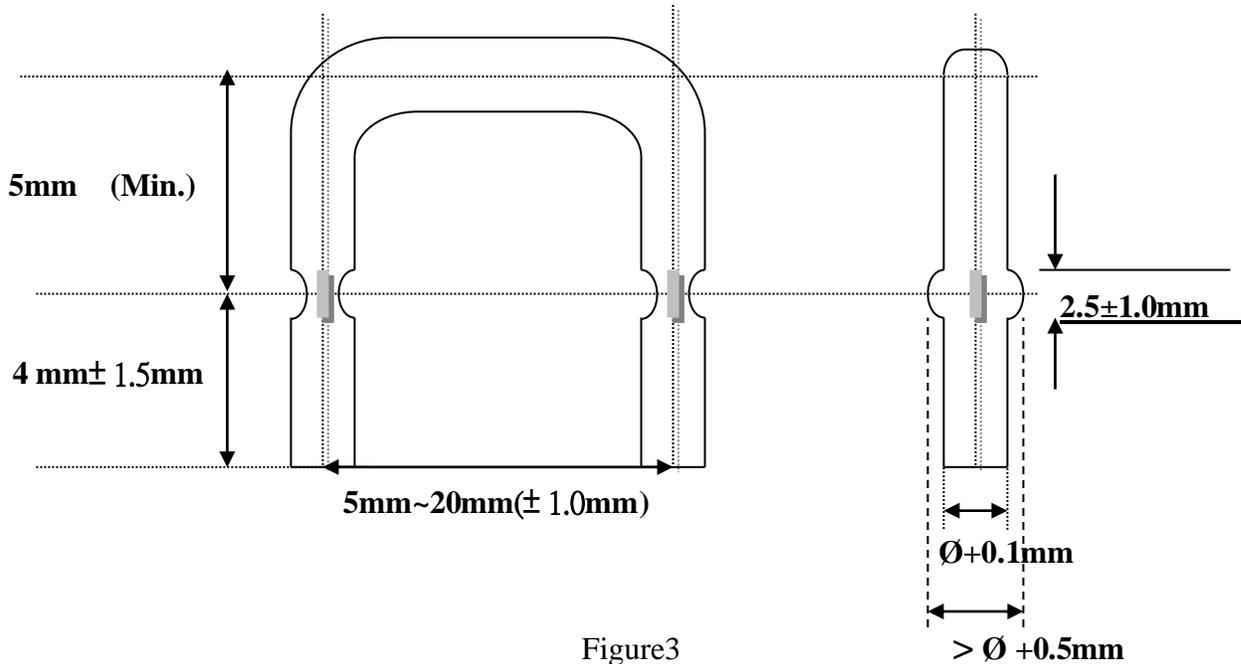


Figure3



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M Type (0.6 Ø ~ 2.5 Ø)

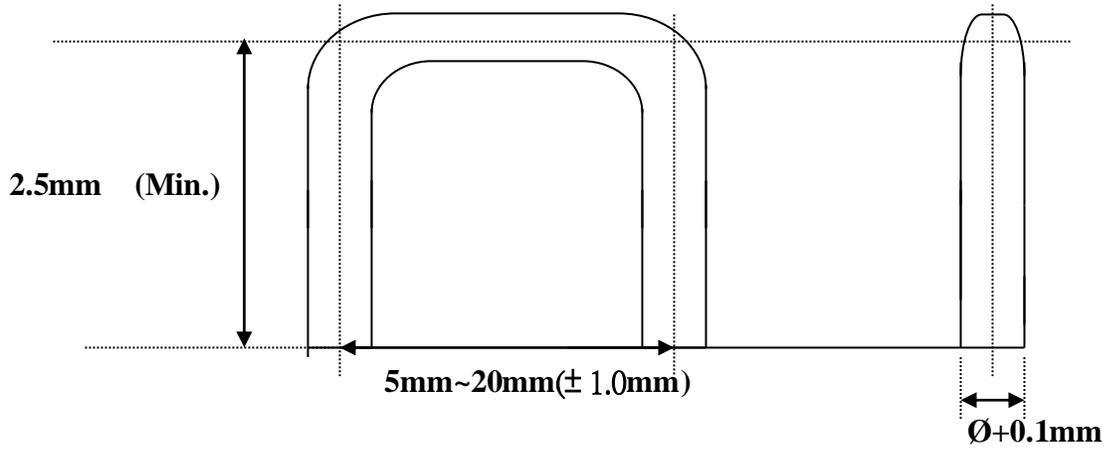


Figure4



8. PERFORMANCE SPECIFICATIONS

Item	Performance	Test methods (Conform to JIS C 5201)
Resistance and Tolerance	Over 2.5m ohm $\pm 5\%$ (J) Below 2.5m ohm $\pm 10\%$ (K)	Comply with 4.5
Temperature coefficient	Copper-Man ganese Wire $\pm 100\text{PPM}/^\circ\text{C}$	Comply with 4.8 R_0 : Resistance value at room temp. (T_0). R_1 : Resistance value at room temp. plus 100°C (T_1).
Short time overload	within $\pm 2\%$ No evidence of mechanical damage.	Comply with 4.13 Rated voltage X 2.5 times, 5s
Terminal strength	No evidence of mechanical damage.	Wire dimension over 1.0mm 5kg/10sec. Wire dimension below 0.8mm 2kg/10sec.
Resistance to soldering heat	within $\pm 1\%$ No evidence of mechanical damage.	$260 \pm 5^\circ\text{C}$, $3.5 \pm 0.5\text{s}$ After test leave for 3hours.
Solderability	Covered with new solder by 95% at least.	Test temperature of solder: $235 \pm 5^\circ\text{C}$ Dipping time in solder: $3 \pm 0.5\text{s}$
Temperature cycle	within $\pm 1\%$ No evidence of mechanical damage.	Low side : $-40 \pm 3^\circ\text{C}/30\text{min}$, Room temp. : 10 to 15min High side : $200 \pm 2^\circ\text{C}/30\text{min}$, Room temp. : 10 to 15min 5 cycles
Load life in humidity	within $\pm 5\%$	$40 \pm 2^\circ\text{C}$, 90 to 95%RH, 1000hours Rated voltage (90 min ON, 30 min OFF)
Load life	within $\pm 5\%$	$70 \pm 2^\circ\text{C}$, 1000hours Rated voltage (90 min ON, 30 min OFF)

Figure5