



# RWS Series Datasheet

SMD | Power Safety Wirewound Resistors | Ceramic core  
Flame Retardant | Silicone Encapsulation

## ORDERING CODE - Example

New SAP Part Nr.:

<b>RWS</b>	<b>502</b>	<b>J</b>	<b>K</b>	<b>-</b>	<b>13-</b>	<b>100R</b>	<b>AA</b>
Serie	Size	Tol.	Pack-Code	TCR	Package type	R Value	Special
	502 = 5020	J = ±5%	K = Blister Tape	- Base on spec.	13- = 13 inch (Reel diameter)		AA = Standard

Historical VTM Part Nr.:

<b>RWS</b>	<b>5020</b>	<b>J</b>	<b>K</b>	<b>-</b>	<b>13</b>	<b>100R</b>
Type	Size	Tol.	K = Blister tape reel	TC	Reel diam.	R Value

## APPLICATIONS

- Computer & Peripherals
- Industrial
- Power & Energy
- Consumer & Electronics

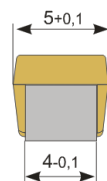
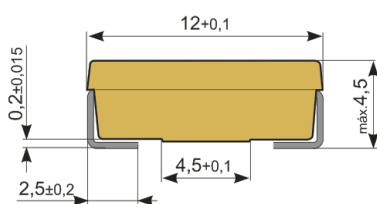
## FEATURES

- Suitable for automatic pick and place
- Best in class fail safe resistor (main voltage 230[V])
- All welded construction
- Small package size
- Molded encapsulation
- RoHs Compliant

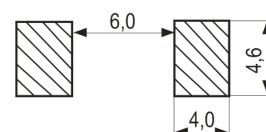
## ELECTRICAL SPECIFICATIONS

Type		RWS502	
Historical Part Number		RWS5020	
Nominal Power Rating	P <sub>25</sub>	2,2	
	P <sub>70</sub>	1,6	
Resistance Range	[Ω]	* 1R ... 100R (Other values upon request)	
E-Series (preferred)		E24 (Other upon request)	
Tolerances	±[%]	J = 5%	
Temperature Coefficient	±[10 <sup>-6</sup> K <sup>-1</sup> ]	250 <sup>+50</sup>	
Working Temperature Range	[°C]	-55 ... +200	
Thermal Resistance	[KW <sup>-1</sup> ]	100	
Max. Working Voltage	[V] <sub>RMS</sub>	$\sqrt{P_{70} \times R}$	
Dielectric Withstanding Voltage IEC115-1 clause 4.7 (1[min])	[V] <sub>RMS</sub>	1000	
Insulation Resistance IEC115-1 clause 4.6	[MΩ]	>1000	

## DIMENSIONS [mm]



### SOLDER PAD



# RWS Series Datasheet

## PERFORMANCE DATA

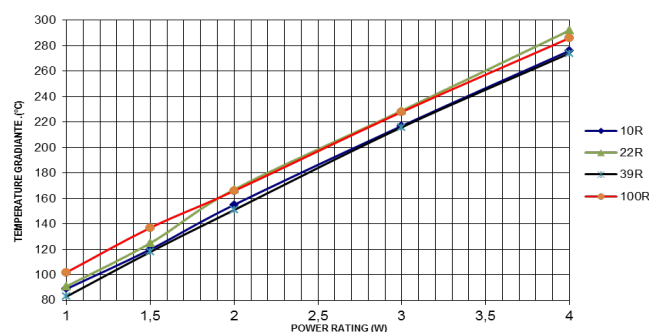
Type		<b>RWS502</b>
Historical Part Number		RWS5020
Derating Linear	[°C]	70...200 (0W)
Climatic Category		55/200/56
Endurance <i>IEC60115-1 clause 4.25</i> ( $P_{70}$ @ 70[°C], 1000[h])	±[%]	3,0
Damp Heat, Steady State <i>IEC60115-1 clause 4.24</i> (40[°C], 93[% r.h.], 56[d])	±[%]	2,0
Climatic Sequence <i>IEC60115-1 clause 4.23</i>	±[%]	1,0
Resistance to Soldering Heat <i>IEC60115-1 clause 4.18</i> (260 <sup>±5</sup> [°C], 3,5 <sup>±1</sup> [s])	±[%]	0,25
Short Time Overload <i>IEC60115-1 clause 4.13</i>	±[%]	1,0
Temperature Shock <i>IEC60115-1 clause 4.19</i>	±[%]	0,25
Board-bending Test		No interruption
Solderability <i>IEC60068-2-20</i> (245 <sup>±5</sup> [°C] 3 <sup>±0,5</sup> [s])		Solder bath method (> 95% coverage)
Marking <i>IEC60062</i>		Printed in clear (Type – Value – Tolerance)

## FUSE CHARACTERISTICS

New Part Nr.	<b>RWS502</b>	<b>Note:</b> The special construction off resistance values >10R results in an immediate interruption (<1s, 200[ms] typical), when mains voltage (120/230[V] <sub>RMS</sub> ) is applied. No flames, no explosion. After fusing, the resistance value is 100K.
Historical Part Nr.	RWS5020	
Resistance Range	<b>*1R ... 100R</b>	* The interruption mechanism for resistance values <10R and resistance values >max. range is not clearly defined, also for other voltage. Need to be tested in the final application

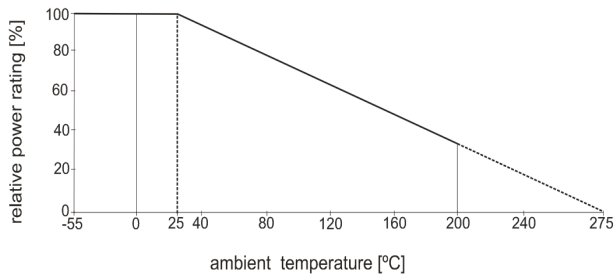
## PERFORMANCE GRAPHS

Temperature Rise

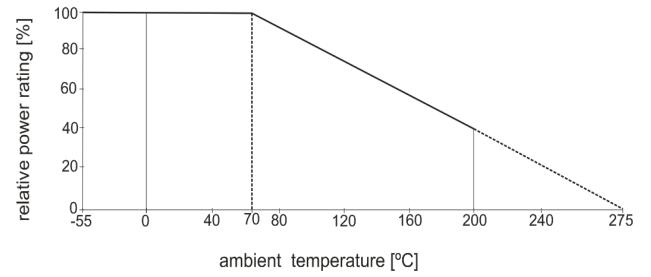


# RWS Series Datasheet

Derating – P<sub>25</sub>

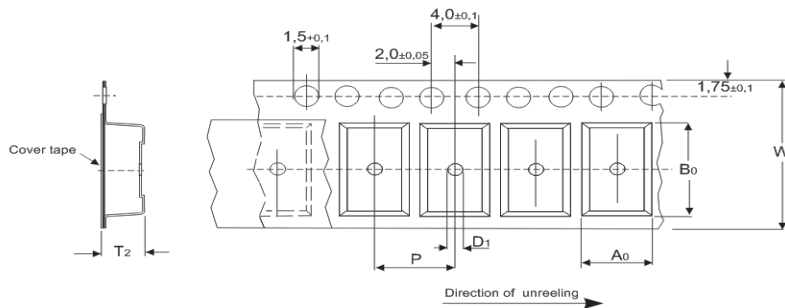


Derating – P<sub>70</sub>

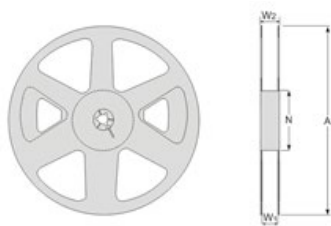


## PACKAGING

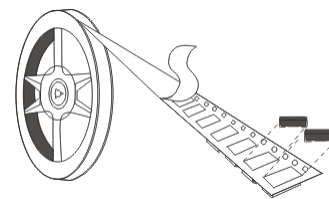
The standard packaging for RWS , dimensions below.



Type	A0	B0	W	D1	P	T2
RWS502	5,4	12,4	24	1,5	8	5



Type	W1	W2	N	A
RWS502	25,4	29,5	90	330



Type	Packaging	Pieces
RWS502	13(inch) Blister tape	1500

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[RW5S0FA470RJET](#) [RW7S0FB4K70JET](#) [RW7S0FB4K70FET](#) [RWS5 33R J B](#) [RWS1 50R F B](#) [PWR4318W1001JE](#) [PWR2010WR500FE](#)  
[QL0000J0100200](#) [QL0000J0220200](#) [QL0000J0470100](#) [QL0000J047J100](#) [QL0025J0102000](#) [QL0025J0470000](#) [QL0050J0100000](#)  
[QL0050J0362000](#) [QL0080J0470000](#) [R100W-10R](#) [R100W-22R](#) [R100W-4R7](#) [R200W-220R](#) [R200W-47R](#) [R50W-10R](#) [R50W-22R](#) [R50W-](#)  
[2R2](#) [R80W-10K](#) [R80W-47R](#) [SMW5R36JT](#) [SMW5R24JT](#) [SMW591RJT](#) [SMW52R4JT](#) [SMW513RJT](#) [SMW562RJT](#) [SMW5240RJT](#)  
[SMW51R6JT](#) [JW08](#) [RTS-01-100-100R-5-5/A](#) [RTS-01-100-10K-5-5/A](#) [RTS-01-100-10R-5-5/A](#) [RTS-01-100-15R-5-5/A](#) [RTS-01-100-1K-5-](#)  
[5/A](#) [RTS-01-100-220R-5-5/A](#) [RTS-01-100-33R-5-5/A](#)