



# RWI Series Datasheet

SMD | Power Wirewound Resistors | Pulse Version | Ceramic core  
Epoxy Encapsulation

## ORDERING CODE - Example

New SAP Part Nr.:

<b>RWI</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	F = ±1% G = ±2% J = ±5%	K = Blister Tape	- Base on spec.	13- = 13 inch (Reel diameter)		AA = Standard

Historical VTM Part Nr.:

<b>RWI</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

- Automotive
- Industrial
- Power & Energy

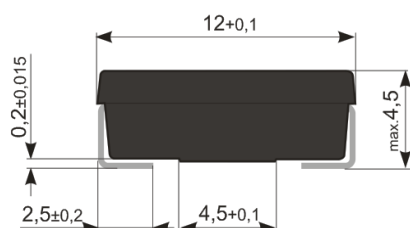
## FEATURES

- Suitable for automatic pick and place
- Best in class inrush current capability (IEC61000-4 5)
- All welded construction
- Small package size
- Molded encapsulation
- RoHs & REACH Compliant

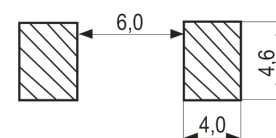
## ELECTRICAL SPECIFICATIONS

Type		<b>RWI502</b>
Historical Part Number		<b>RWI5020</b>
Nominal Power Rating	P <sub>25</sub>	3,0
	P <sub>70</sub>	2,2
Resistance Range	[Ω]	0R1 ... 220R (Other values upon request)
E-Series (preferred)		E24 (Other upon request)
Tolerances	±[%]	F = 1% ; G = 2% ; J = 5%
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



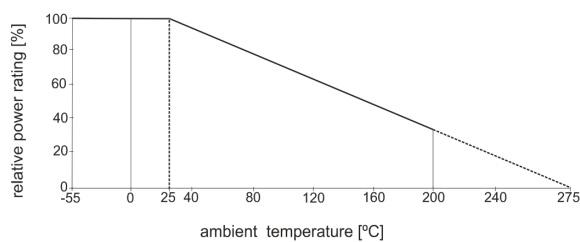
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## PERFORMANCE DATA

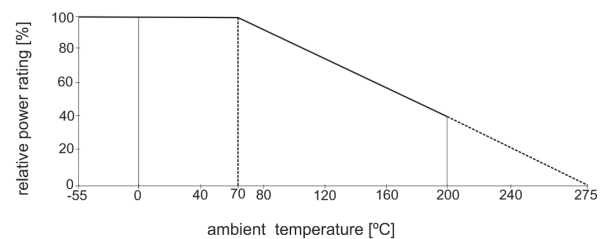
Type		<b>RWI502</b>
Historical Part Number		RWI5020
Derating Linear	[°C]	70...200 (0W)
Climatic Category		55/200/56
Surge Test IEC61000-4-5 Internal impedance 12[Ω], 10 pulses, 20[s] interval	±[%]	2,0
Endurance IEC60115-1 clause 4.25 ( $P_{70}$ , @ 70[°C], 1000[h])	±[%]	1,0
Damp Heat, Steady State IEC60115-1 clause 4.24 (40[°C], 93[% r.h.], 56[d])	±[%]	0,25
Climatic Sequence IEC60115-1 clause 4.23	±[%]	0,25
Resistance to Soldering Heat IEC60115-1 clause 4.18 (260 <sup>±5</sup> [°C], 3,5 <sup>±1</sup> [s])	±[%]	0,25
Short Time Overload IEC60115-1 clause 4.13 ( $U=5 * \sqrt{P_{10} * R}$ , 5[s])	±[%]	1,0
Rapid change of temperature IEC115-1 clause 4.19 and IEC60068-2-14 (30 [min] -55 [°C] and 30 [min] +125 [°C])	±[%]	0,25
Board-bending test		No interruption
Solderability IEC60068-2-20 (245 <sup>±5</sup> [°C] 3 <sup>±0,5</sup> [s])		Solder bath method (> 95% coverage)
Marking IEC60062		Printed in clear (Type – Value – Tolerance)

## PERFORMANCE GRAPHS

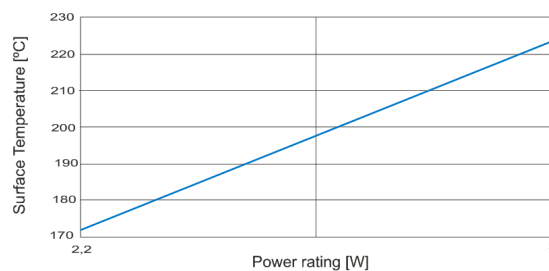
Derating – P<sub>25</sub>



Derating – P<sub>70</sub>



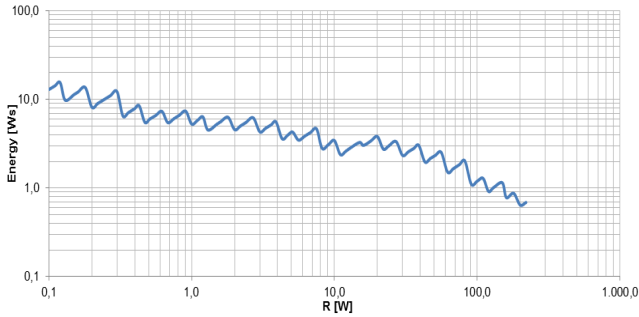
Temperature Rise



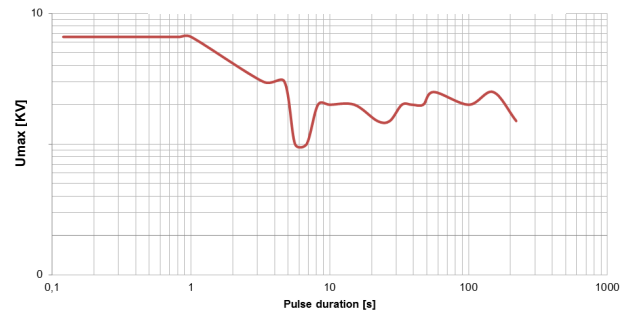
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## PULSE PERFORMANCE

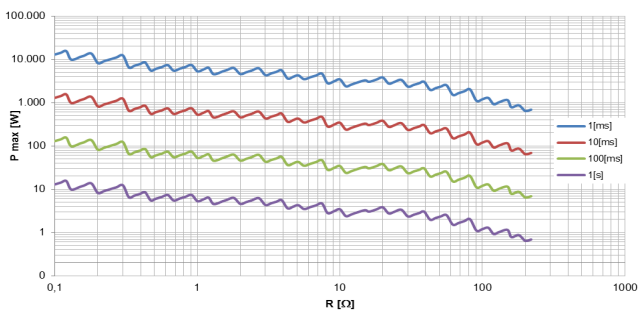
Energy Capability Graph (based on a wire temperature)



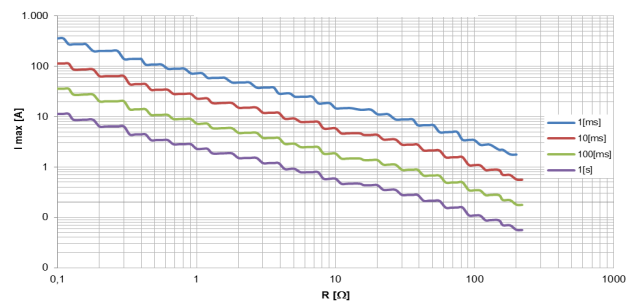
Maximum Pulse Voltage (IEC61000-4-5)



Maximum Pulse Power

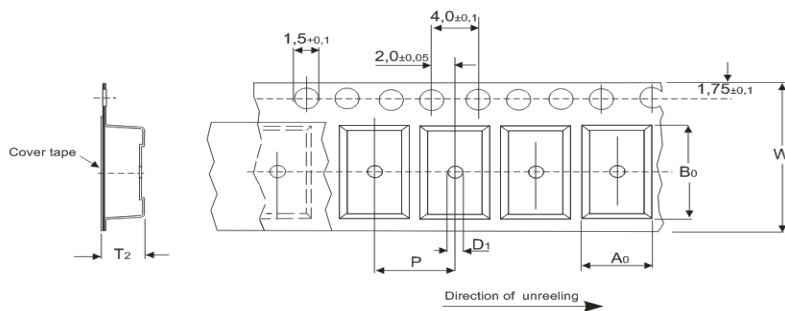


Maximum Pulse Current

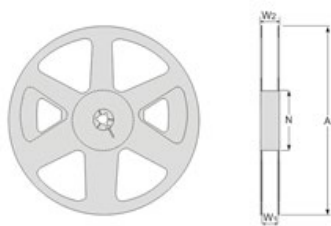


## PACKAGING

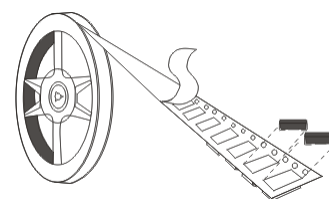
The standard packaging for RWI dimensions below.



Type	A0	B0	W	D1	P	T2
RWI502	5,4	12,4	24	1,5	8	5



Type	W1	W2	N	A
RWI502	25,4	29,5	90	330



Type	Packaging	Pieces
RWI502	13(inch) Blister tape	1500