

## SMD Power Resistors

## Specifications



Type		RWN 5020	RWC 5020
Styles			5020
Dimensions	mm	non inductive, no winding	wirewound on ceramic
Power rating $\vartheta_0 = 200^{\circ}\text{C}$	W		P <sub>25</sub> 2,2 P <sub>40</sub> 2,0 P <sub>70</sub> 1,6
Single pulse	I <sub>max.</sub> E <sub>i, max</sub> T <sub>imp, max</sub>	A mWs ms	50 625 5
periodic pulse load	i <sub>max</sub> E <sub>i, per, max</sub> t <sub>imp, max</sub> t <sub>pause</sub>	A mWs ms ms	30 (R002 ... R018) 40 (R022 ... R05) 225 5 100
Tolerance	%	1, 5 (F, J)	1, 5 (F, J)
Resistance range	$\Omega$	0R002 ... 0R05	0R01 ... 220R
Temperature coefficient	ppm K <sup>-1</sup>	see diagram	see next page
E-Series		0R002, 0R003, 0R005, $\geq$ 0R01: E 12	E 12
		diverging values on request	
max. cont. work. voltage	V <sub>RMS</sub>		$\sqrt{P \cdot R}$
Thermal resistance	K/W		100 <sup>1)</sup>
Insulation voltage (1 min.)	V <sub>RMS</sub>		1000
Insulation resistance			> 1000M $\Omega$
Climatic category			55/175/56
Temperature range	$^{\circ}\text{C}$		-55 ... 200
Endurance (P <sub>70</sub> , 70 $^{\circ}\text{C}$ , 1000h)	$\left[\frac{\Delta R}{R}\right] \%$		$\leq 1,0$
Damp heat, steady state	$\left[\frac{\Delta R}{R}\right] \%$		$\leq 0,25$
Resistance to soldering heat	$\left[\frac{\Delta R}{R}\right] \%$		$\leq 0,25$
Short time overload (5 * P <sub>70</sub> /5sec)	$\left[\frac{\Delta R}{R}\right] \%$		$\leq 1\%$
Temperature shock			$\leq 0,25$
Board-bending-test			no interruption
Solderability		suitable for wave and reflow soldering in acc. with CECC 00802	

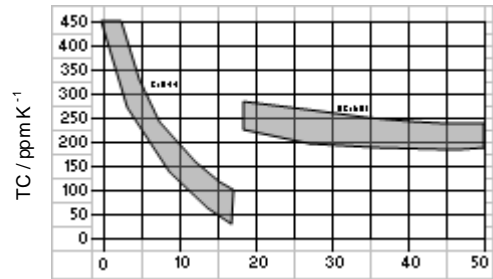
<sup>1)</sup> Thermal data according to DIN 44050 with solder pads as on next page.

Temperature coefficient:

Range ( RWC 5020 )

≥ 0R01	0R024	400 ± 50 ppm/K
≥ 0R027	0R091	≈ + 180 ppm/K
≥ 0R1	15R	0 ± 20 ppm/K
≥ 16R	220R	0 ± 10 ppm/K

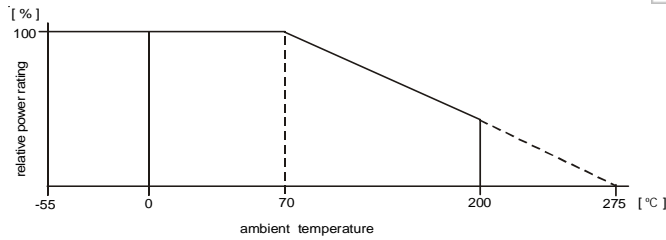
TC - Diagram ( RWN 5020)



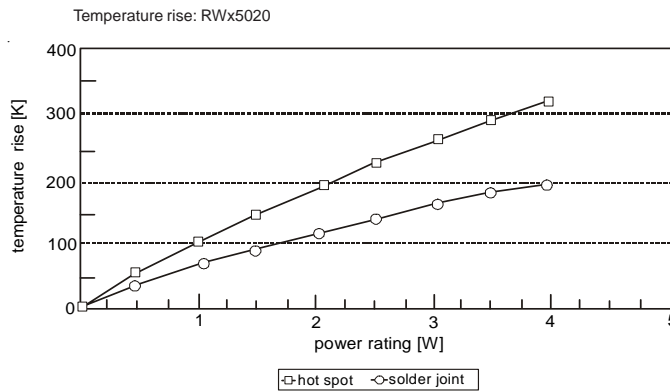
Resistance Value in mOhm

Temperature Range -55 +200°C

Derating:



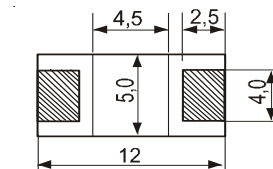
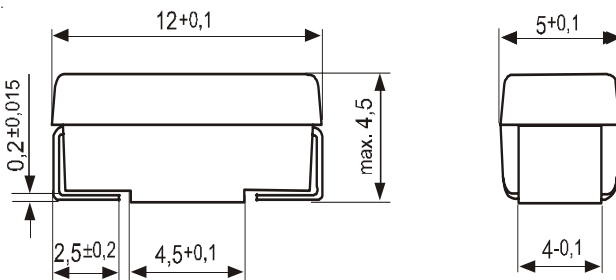
Temperature rise:



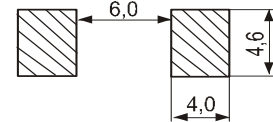
Part mounted on FR 4, pads as recommended, copper layer 35 µm

recommended solder pads:

Dimensions:



Bottom view



Solder pads

Marking: Resistor: printed in clear: Type - Value - Tolerance

Packaging additional Batch-No. - Production date

Packaging: blistertape 24 mm antistatic / 1500 pcs. on reel 330 mm Ø

Ordering example: RWC 5020 F K - 13 1R  
 Type tolerance blister tape reel TC reel diameter R-value

## SMD Power Metal film resistors

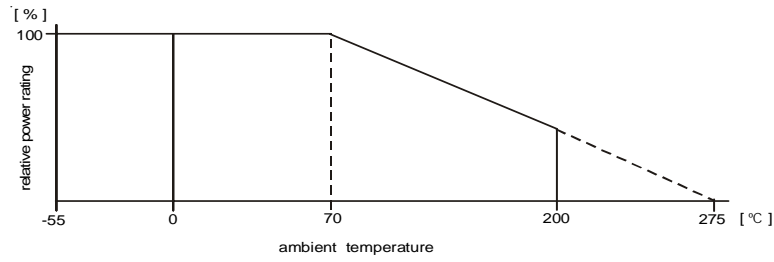


## Specifications

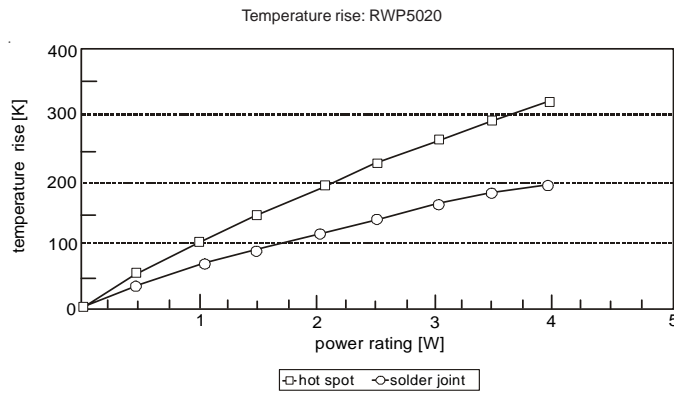
Type	RWP 5020	
Style		5020
Power rating $\vartheta_0 = 200^\circ\text{C}$	W	$P_{25}$ 2,2 $P_{40}$ 2,0 $P_{70}$ 1,6  higher power depends on mounting technology
Tolerance	%	1 (F)   5 (J)
Resistance range	$\Omega$	10R ... 1M   1R0 ... 1M
Temperature coefficient	ppm $\text{K}^{-1}$	$\pm 50$   $\pm 200$
E-Series		E 96   E 12 preferred
max. cont. work. voltage	$V_{\text{RMS}}$	500
Thermal resistance	K/W	90 <sup>1)</sup>
Insulation voltage (1 min.)	$V_{\text{RMS}}$	1000
Insulation resistance		> 1000M $\Omega$ (dry)
Climatic category		55/175/56
Temperature range	$^\circ\text{C}$	-55 ... 200
Endurance ( $P_{70}$ , 70 $^\circ\text{C}$ , 1000h, intermed.)	$\left[\frac{\Delta R}{R}\right]$ %	$\leq 1,5$
Damp heat, steady state	$\left[\frac{\Delta R}{R}\right]$ %	$\leq 1,5$
Resistance to soldering heat	$\left[\frac{\Delta R}{R}\right]$ %	$\leq 0,25$
Short time overload (5 * $P_{70}$ /2sec)	$\left[\frac{\Delta R}{R}\right]$ %	$\leq 1\%$
Temperature shock		$\leq 0,25$
Board-bending-test		no interruption
Solderability		suitable for wave and reflow soldering in acc. with CECC 00802

<sup>1)</sup> Thermal data according to DIN 44050 with solder pads as on next page.

Derating:

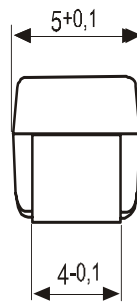
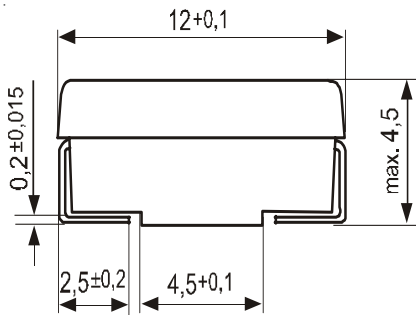


Temperature rise:

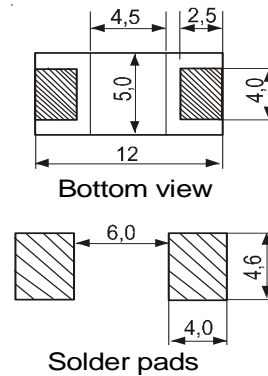


Part mounted on FR 4, pads as recommended, copper layer 35 µm

Dimensions in mm:



recommended solder pads:



Marking:

Resistor: Printed in clear: Type - Value - Tolerance  
 Package additional Batch-Nr. - Production date

Packaging:

Blister tape 24 mm antistatic / 1.500 pcs on reel 330 mm Ø

Ordering example:

RWP 5020    F    K    -    13    10K  
 Type    Tolerance    blister tape reel    TC    reel diameter    R-value