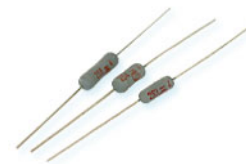


**Precision Fusible safety Wirewound Resistors**  
**Axial, Ceramic core**  
**Flame retardant coating**

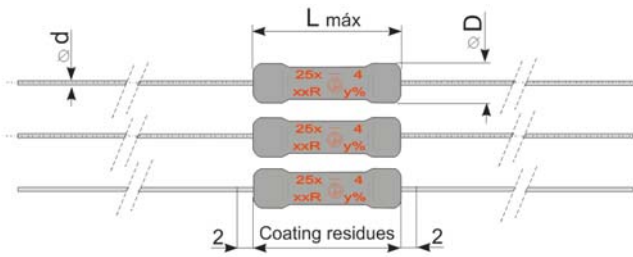
**ELECTRICAL SPECIFICATIONS**

Type	CRF 251-4	CRF 252-4	CRF 253-4	CRF 254-4	CRF 256-4	CRF 257-4
<u>Nominal Power rating</u> P <sub>40</sub> [W]	1,1	2,0	2,5	3,0	4,0	5,0
	P <sub>70</sub> 1,0	1,8	2,3	2,7	3,6	4,5
<u>Resistance range</u> [Ω]	See next page (higher values upon request)					
<u>E-Series</u>	E24					
<u>Tolerances</u> ± [%]	5					
<u>Temperature coefficient</u> [10 <sup>-6</sup> *K <sup>-1</sup> ]	120 ±50					
<u>Temperature range</u> [°C]	-55 ... +350					
<u>Thermal resistance</u> [KW <sup>-1</sup> ]	280	155	127	103	77	62
<u>Dielectric withstanding voltage</u> IEC115-1 clause 4.7 (1[ <i>min</i> ]) [V]	max 500					
<u>Max. working voltage</u> [V] <sub>RMS</sub>	$\sqrt{P_{70} * R}$					

**PERFORMANCE DATA**

<u>Derating linear</u> [°C]	70...350 (0W)					
<u>Climatic category</u>	55/350/56					
<u>Failure Rate</u> (Total, $\vartheta_o$ , max, 60[%] cont. lev.) [10 <sup>-9</sup> h <sup>-1</sup> ]	appr. 10 depends on value					
<u>Endurance</u> IEC60115-1 clause 4.25 (P <sub>70</sub> , @ 70[°C], 1000[h]) ± [%]	5,0					
<u>Damp heat, steady state</u> IEC115-1 clause 4.24 (40[°C], 93[% r.h.], 56[d]) ± [%]	5,0					
<u>Climatic sequence</u> IEC115-1 clause 4.23 ± [%]	2,0					
<u>Surge test</u> IEC61000-4-5 ± [%]	2,0					
<u>Terminal strength</u> ± [%]	0,2					
<u>Terminal Tensile Strength</u> [N]	40	50				
<u>Resistance to soldering heat</u> IEC115-1 clause 4.12 (260[°C], 10[s]) ± [%]	0,5					
<u>Solderability</u> IEC 60068-2-20 (245 <sup>±3</sup> [°C] 3 <sup>±0,3</sup> [s])	Solder bath method (min. 95[%] coverage)					
<u>Marking</u> IEC60062	Printed in clear					

DIMENSIONS [mm]



Type	L max	Ø D max *	Ø d
CRF251-4	9,0	3,0	0,65
CRF252-4	9,7	4,0	0,80
CRF253-4	14,5	4,5	0,65
CRF254-4	12,6	6,0	0,80
CRF256-4	17,0	6,0	0,80
CRF257-4	18,0	8,5	0,80

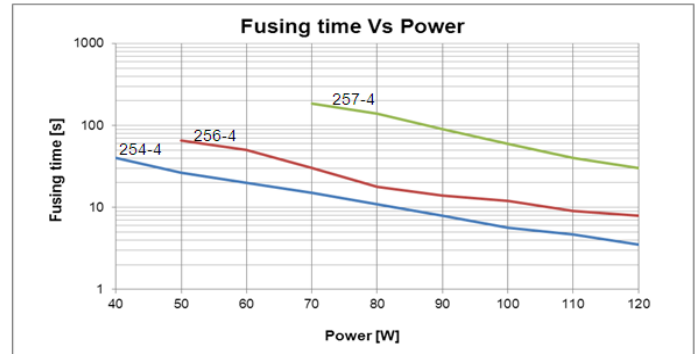
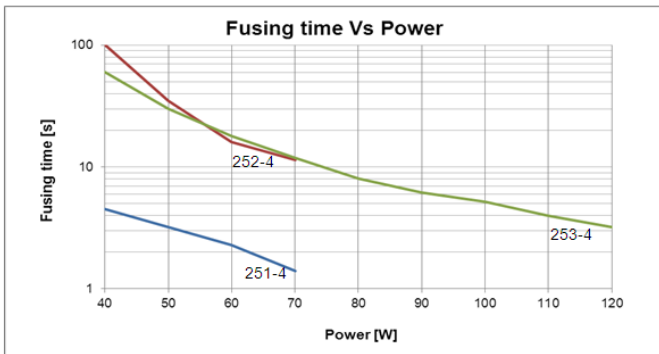
\*R <10R D max.+1

FUSING PERFORMANCE

Resistance range					
CRF251-4	CRF252-4	CRF253-4	CRF254-4	CRF256-4	CRF257-4
*1R ... 100R	*1R ... 240R	*1R ... 330R	*1R ... 330R	*1R ... 330R	*1R ... 330R

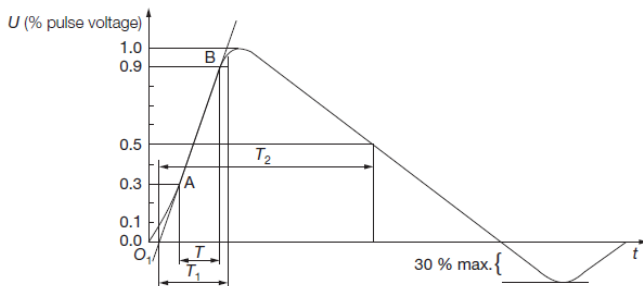
**Note:** The special construction off resistance values >10R results in an immediate interruption (<1s, 200[ms] typical), when mains voltage (120/230[V]<sub>RMS</sub>) is applied. No flames, no explosion. After fusing, the resistance value is 100K.

\* 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

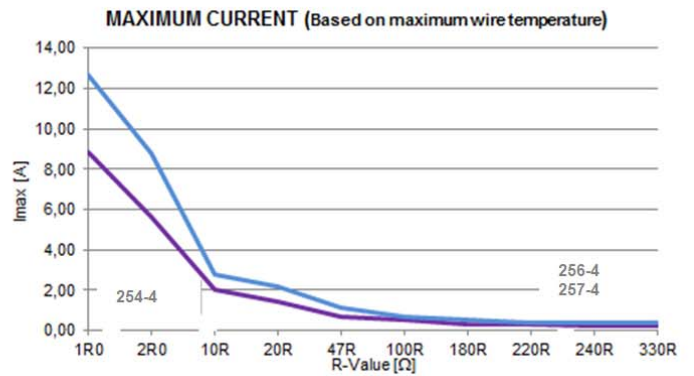
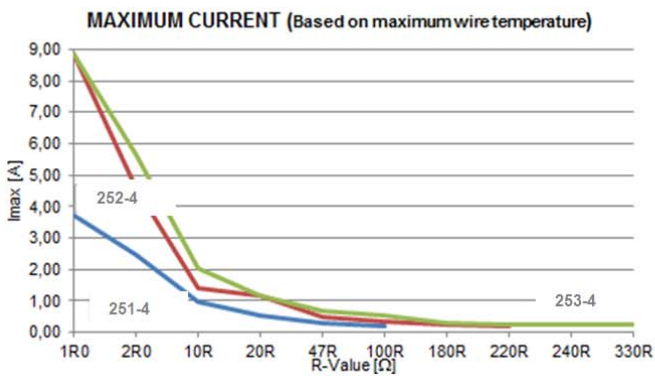
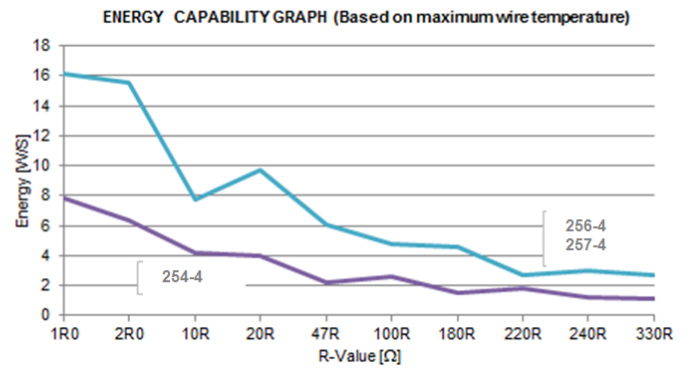
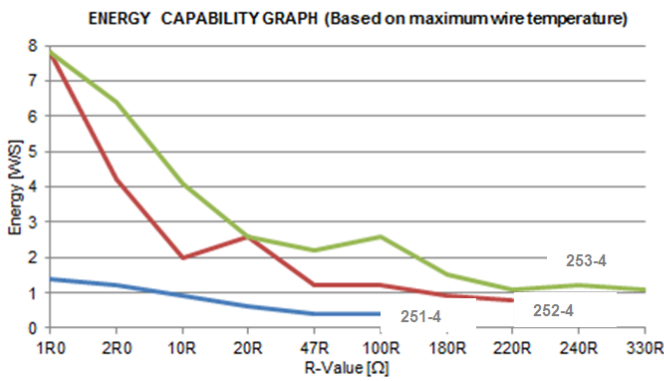
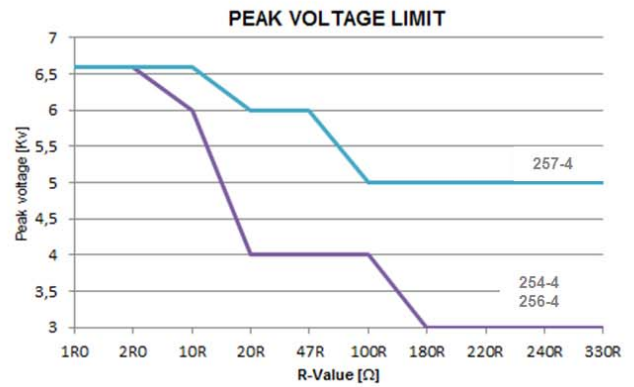
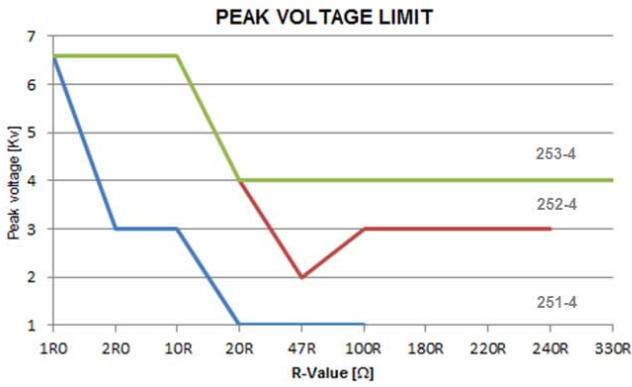


PULSE PERFORMANCE

Beside fusible, this resistor also acts as in-rush current limiting for normal operation.

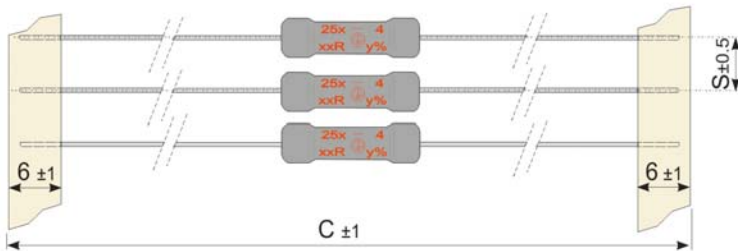


**NOTE:** The voltage shown in the below table, is the net voltage across the resistor. The generator open voltage will be higher due to the generator's internal impedance (12[Ω]).  
Pulse shape – 10 pulses @ 20 [s] interval



**PACKAGING (dimensions [mm])**

The standard packaging for CRF in axial type is taped, dimensions below.



Type	Packaging	Pieces	Pack. Code	C	S
CRF251-4	Taped / Ammo pack	1000	T	65	5
CRF252-4		1000		65	5
CRF253-4		1000		85	10
CRF254-4		1000		85	10
CRF256-4		1000		85	10
CRF257-4		500		85	10

**ALTERNATIVE LEAD CONFIGURATIONS**

This type CRF is also available in a different pre-forming, as shown below, other's upon request.

**SMD VERSION**

Z – form



Please check the details here <http://www.vitrohm.com>

**THROUGH HOLE VERSION**

Radial	Radial Kink	Axial	Axial Kink

\*For horizontal and vertical pre-forming please consult your local sales contact.

**ORDERING EXAMPLE**

<b>CRF254-4</b>	<b>5</b>	<b>T</b>	<b>10R</b>
<i>Type</i>	<i>Tolerance</i>	<i>Pack-Code</i>	<i>R-Value</i>