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

RoHS compliant

ELECTRICAL SPECIFICATIONS

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

PERFORMANCE DATA

Derating linear	[ºC]	70…350 (0W)	
Climatic category		55/350/56	
Failure Rate *(Total, ϑ_0, max, 60[%] cont. lev.)*	[10^{-9} h^{-1}]	appr. 10 depends on value	
Endurance *IEC60115-1 clause 4.25* *(P_{70}, @ 70[°C], 1000[h])*	± [%]	5,0	
Damp heat, steady state *IEC115-1clause 4.24* *(40[°C], 93[% r.h.], 56[d])*	± [%]	5,0	
Climatic sequence *IEC115-1 clause4.23*	± [%]	2,0	
Surge test *IEC61000-4-5*	± [%]	2,0	
Terminal strength	± [%]	0,2	
Terminal Tensile Strength	[N]	40	50
Resistance to soldering heat *IEC115-1 clause 4.12* *(260[°C], 10[s])*	± [%]	0,5	
Solderability *IEC 60068-2-20* *(245$^{\pm 3}$[ºC] 3$^{\pm 0,3}$[s])*		Solder bath method (min. 95[%] coverage)	
Marking *IEC60062*		Printed in clear	

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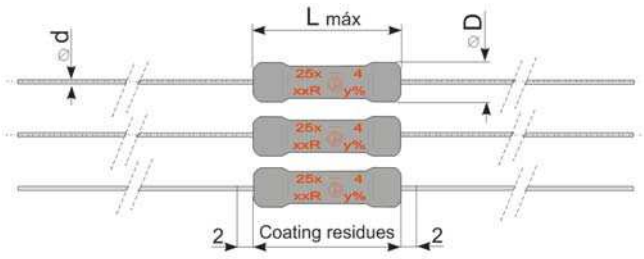
DIMENSIONS [mm]



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

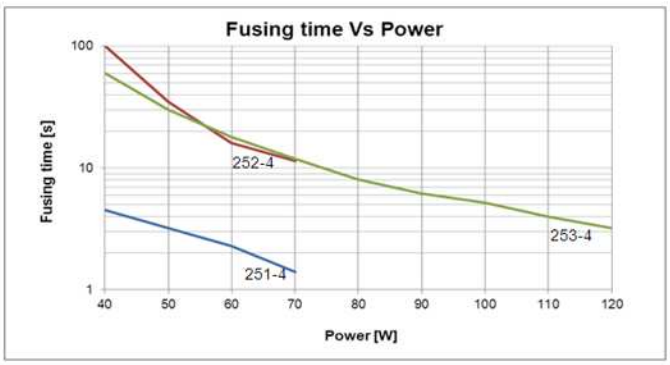
*R <10R D max.+1

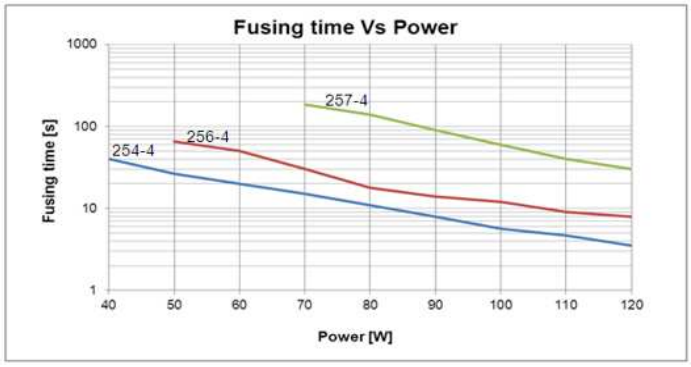
FUSING PERFORMANCE

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]$_{RMS}$) is applied. No flames, no explosion. After fusing, the resistance value Is 100K.

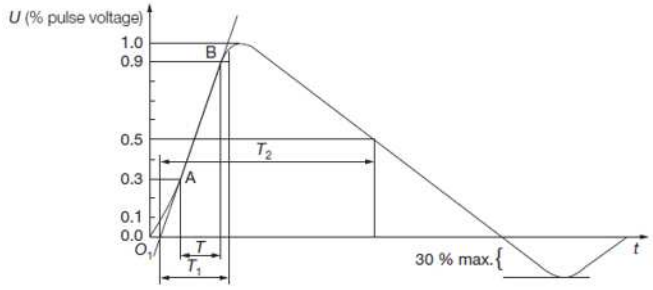
* The interruption mechanism for resistance values <10R and resistance values >max. range is not clearly defined, also for other voltage. Need to be tested in the final application



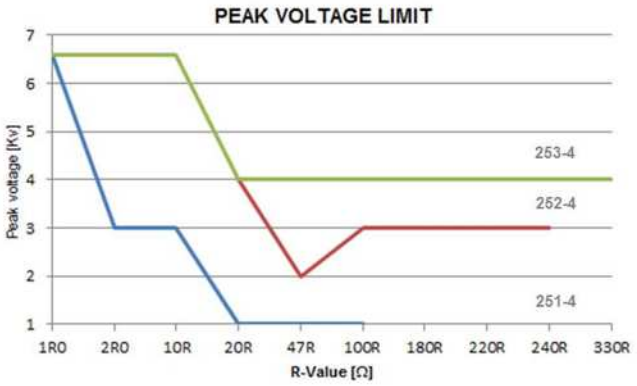


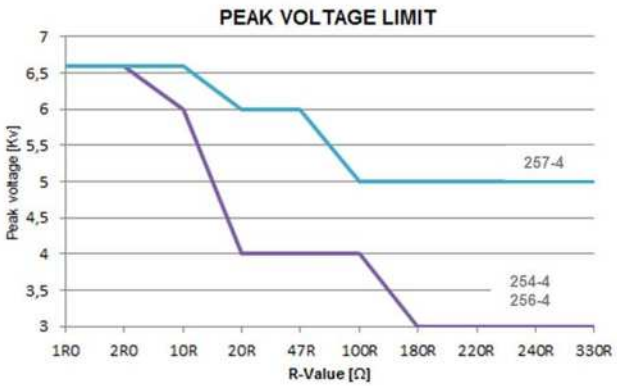
PULSE PERFORMANCE

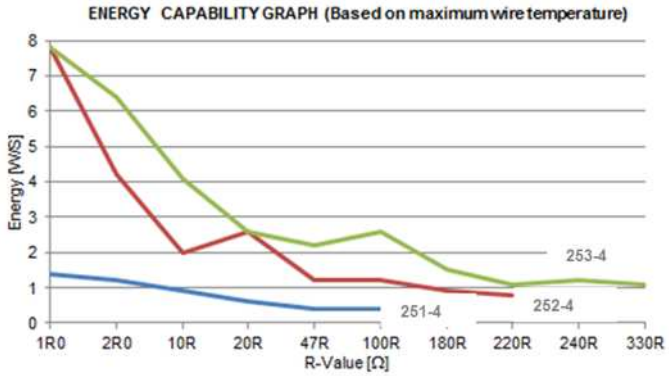
Beside fusible, this resistor also acts as in-rush current limiting for normal operation.

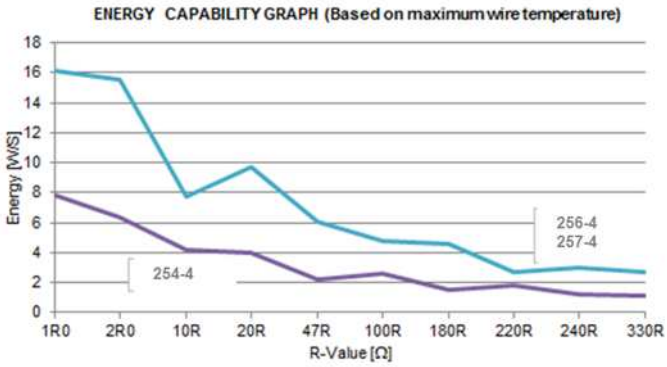


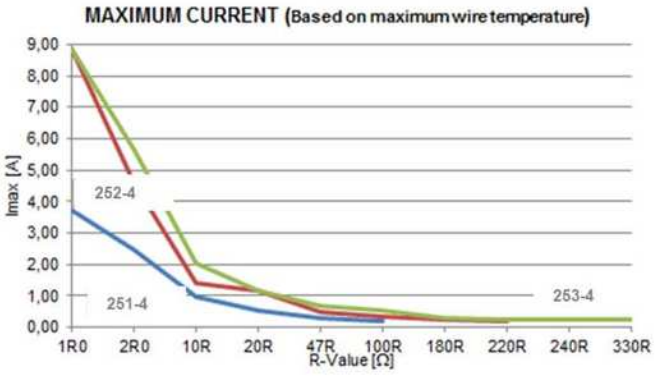
NOTE: The voltage shown in the below table, is the net voltage across the resistor. The generator open voltage will be higher due to the generator's internal impedance (12[Ω]).
Pulse shape – 10 pulses @ 20 [s] interval

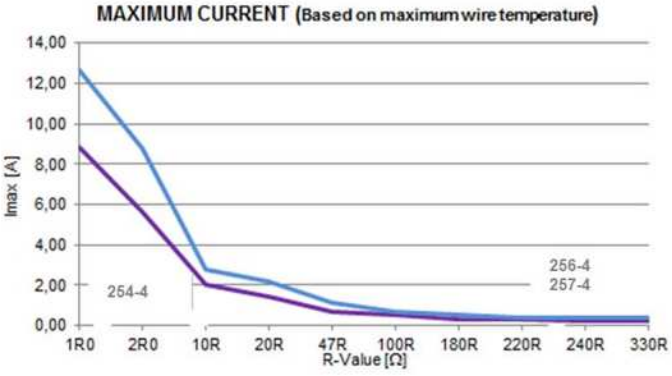






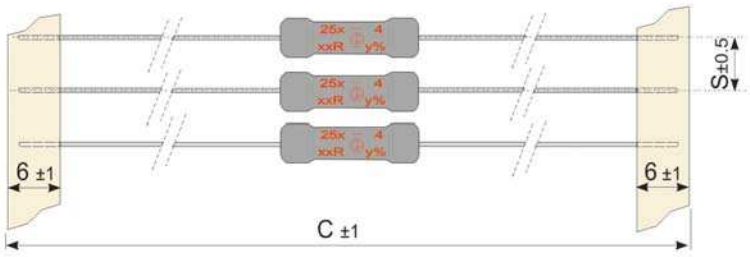






PACKAGING (dimensions [mm])

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

CRF254-4	**5**	**T**	**10R**
Type	*Tolerance*	*Pack-Code*	*R-Value*

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