

CRP Series Datasheet

Precision Wirewound Resistors | Axial and SMD Version
Ceramic core | Pulse Version | Flame retardant coating

ORDERING CODE - Example

New SAP Part Nr.:

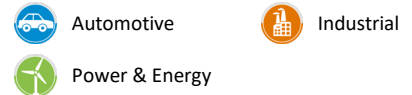
CRP	300	J	T	-	73-	150R	AA
Serie	* Power rating	Tol. F = ±1% G = ±2% J = ±5%	Pack-Code T = Tape (ammo pack)	TCR - Base on spec.	Forming type 52- Inner Taping dimension or 73- Inner Taping dimension ZB- Z version	R Value	Special AA = Standard

Historical VTM Part Nr.:

CR254 - 1	5	T	150R
Type	Tol. ±5% = J	Pack-Code T = Tape (ammo pack)	R Value

RZ14	6720	J	K	-	13	150R
Type	Size	Tol.	K = Blister tape reel	TC	Reel diam.	R Value

APPLICATIONS



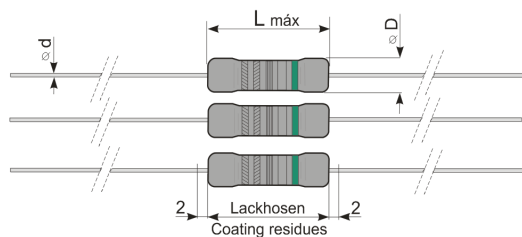
FEATURES

Flame retardant coating
High pulse load up to 6[KV]
"Z" preforming ; Other preforming available
RoHS Compliant

ELECTRICAL SPECIFICATIONS

Type		CRP110	CRP200	CRP300	CRP400	CRP500	CRP720
Historical Part Number	AXIAL	CRP251-1	CRP252-1	CRP254-1	CRP256-1	CRP257-1	CRP259-1
	SMD	RZ11	RZ12	RZ14	RZ16	-----	-----
Nominal Power Rating	* P ₄₀ P ₇₀	1,1 1,0	2,0 1,8	3,0 2,7	4,0 3,6	5,0 4,5	7,2 6,5
Resistance Range	[Ω]	0R1 ... 220R	R051,0R1 ... 470R	0R1 ... 1K8	0R1 ... 1K5	0R1 ... 5K1	1R ... 22R 24R ... 470R (under development)
E-Series (preferred)		E24 (Other upon request)					
Tolerances	±[%]	1(F); 2(G); 5(J)					
Temperature Coefficient	±[10 ⁻⁶ °K ⁻¹]	120 ±50					
Working Temperature Range	[°C]	-55 ... +350					
Thermal Resistance	[KW ⁻¹]	280	155	104	78	62	43
Max. Working Voltage	[V] _{RMS}	$\sqrt{P_{70} \times R}$					
Dielectric Withstanding Voltage IEC115-1 clause 4.7 (1[min])	[V] _{RMS}	500					

DIMENSIONS [mm]



Type	Historical P/N:	L max.	Ø D max. *	Ø d ±0,05
CRP110	CRP251 - 1	9,0	3,0	0,65
CRP200	CRP252 - 1	9,7	4,0	0,80
CRP300	CRP254 - 1	12,6	5,5	0,80
CRP400	CRP256 - 1	17,0	5,5	0,80
CRP500	CRP257 - 1	18,0	8,5	0,80
CRP720	CRP259 - 1	27,0	8,5	0,80

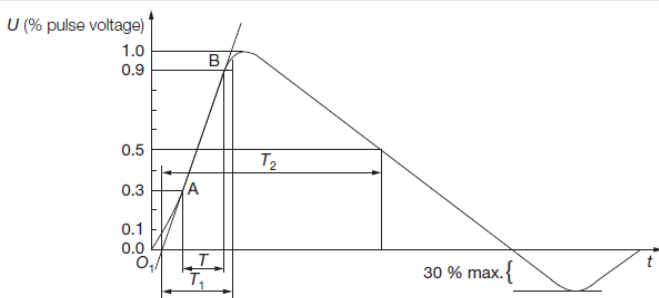
*R <10R D max.+1

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PERFORMANCE DATA

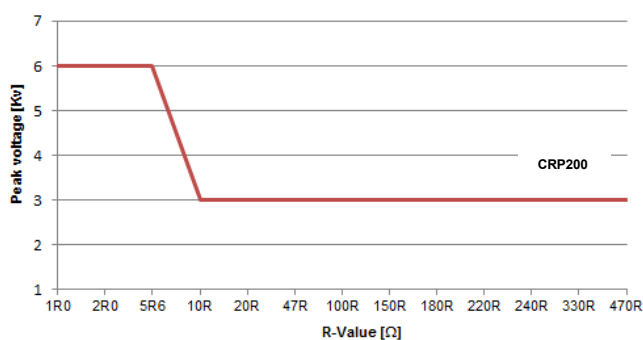
Type		CRP110	CRP200	CRP300	CRP400	CRP500	CRP720
Historical Part Number	AXIAL	CRP251-1	CRP252-1	CRP254-1	CRP256-1	CRP257-1	CRP259-1
	SMD	RZ11	RZ12	RZ14	RZ16	-----	-----
Derating Linear	[°C]	70...350 (0W)					
Climatic Category		55/200/56					
Failure Rate <i>(Total, ϑ_{j}, max, 60[%] cont. lev.)</i>	[10^{-9} h ⁻¹]	appr. 10 depends on value					
Endurance <i>IEC60115-1 clause 4.25 (P_{70}, @ 70°C, 1000[h])</i>	±[%]	3,0					
Damp Heat, Steady State <i>IEC60115-1 clause 4.24 (40°C, 93[% r.h., 56[d])</i>	±[%]	5,0					
Climatic Sequence <i>IEC60115-1 clause 4.23</i>	±[%]	2,0					
Resistance to Soldering Heat <i>IEC60115-1 clause 4.18 (260±5°C, 10±1[s])</i>	±[%]	0,2					
Surge Test <i>IEC61000-4-5</i>	±[%]	2,0					
Terminal Strength	±[%]	0,2					
Terminal Tensile Strength	[N]	40	50				
Solderability <i>IEC60068-2-20 (245±5°C) 3±0.5[s]</i>		Solder bath method (> 95% coverage)					
Marking <i>IEC60062</i>		Color code (5th band (green) for pulse version) (Values<0R1 Printed in clear)					

PULSE PERFORMANCE

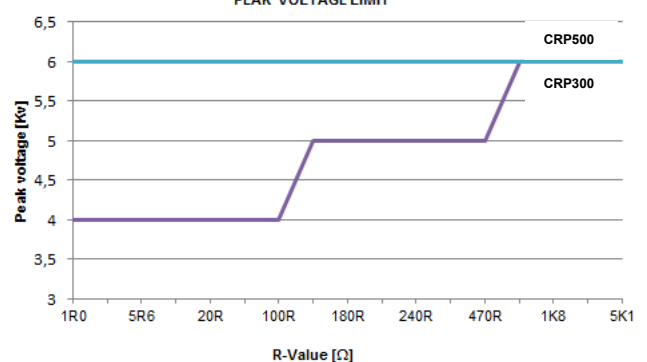


NOTE: The voltage shown in the below table, is the net voltage across the resistor. The generator open voltage will be higher due to the generator's internal impedance (12[Ω]).
Pulse shape – 10 pulses @ 20 [s] interval

PEAK VOLTAGE LIMIT

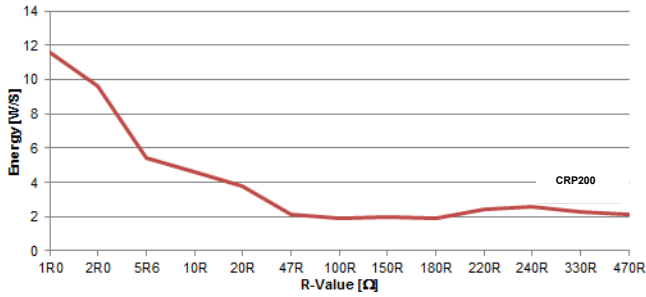


PEAK VOLTAGE LIMIT

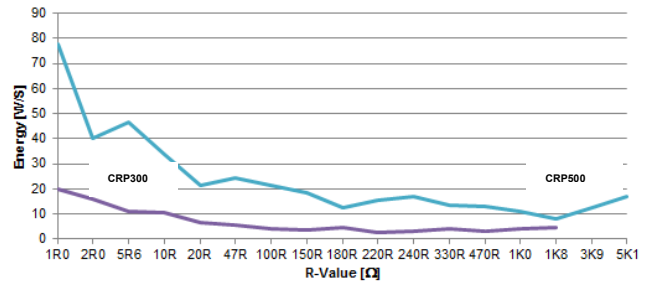


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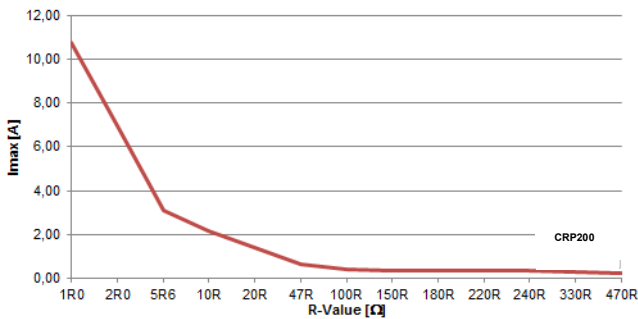
ENERGY CAPABILITY GRAPH (Based on maximum wire temperature)



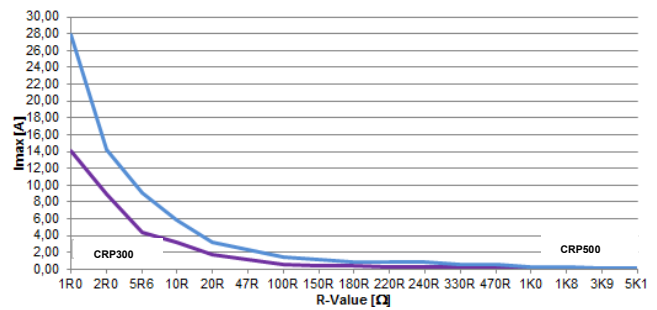
ENERGY CAPABILITY GRAPH (Based on maximum wire temperature)



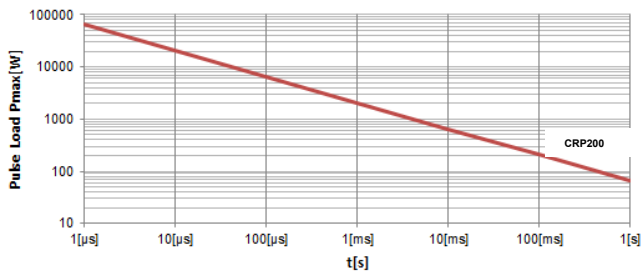
MAXIMUM CURRENT (Based on maximum wire temperature)



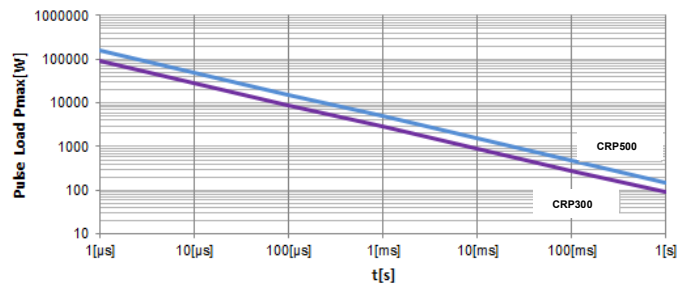
MAXIMUM CURRENT (Based on maximum wire temperature)



POWER CURVE

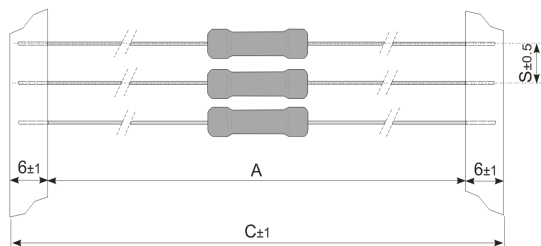


POWER CURVE



PACKAGING

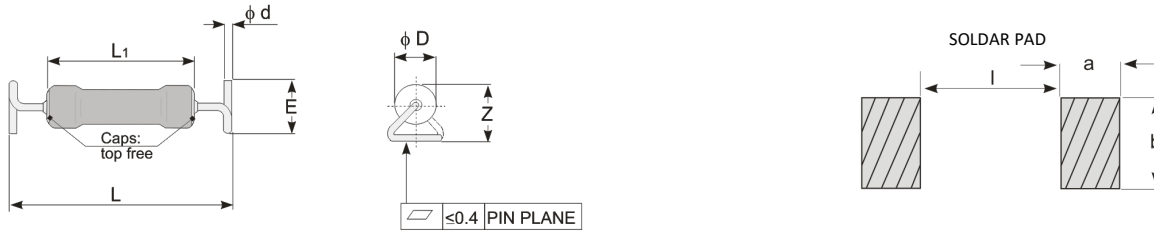
The standard packaging for CRP in axial type is taped, dimensions below.



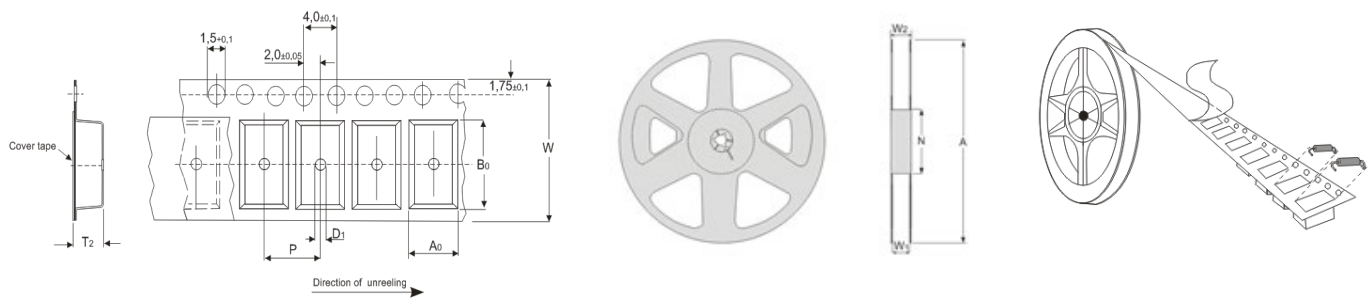
New P/Nr. Type	Historical P/N:	Pack Code	Pieces	Forming Type (Inner Taping dim.)	A	C	S
CRP110	CRP251-1	T = Taped Ammo pack	1000	52-	52	65	5
CRP200	CRP252-1		1000		52	65	5
CRP300	CRP254-1		1000		73-	73	85
CRP400	CRP256-1		1000	73		85	10
CRP500	CRP257-1		500	73		85	10
CRP720	CRP259-1		500	73	85	10	

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SMD LEAD CONFIGURATIONS



New P/Nr. Type	Historical P/N	Size	L	L ₁ max.	Ø D max	Ø d ±0,05	E	Z max	l	a	b
CRP110	RZ11	5315	13,4±0,5	9,0	3,0	0,65	5,0±0,5	7,0	10	10	10
CRP200	RZ12	5315		9,7	4,0	0,80					
CRP300	RZ14	6720	17,0±1,0	12,6	6,0	0,80		7,5	14		
CRP400	RZ16	8424	20,9±1,0	17,0	6,0	0,80		8,0	16		



Type	A0	B0	W	D1	P	T2
CRP110	5,0	13,7	24	2,0	8	7,2
CRP200						
CRP300	5,7	16,7	24	2,0	8	7,6
CRP400	6,0	21,4	32	2,0	12	8,1

Type	W1	W2	N	A
CRP110				
CRP200	25,4	29,5	90	330
CRP300				
CRP400	33,4	37,4	100	380

Type	Packaging	Pieces
CRP110	13(inch) Blister tape	1000
CRP200		
CRP300		
CRP400	15(inch) Blister tape	

Ordering Code for SMD :

CRP	300	J	K	-	ZB-	150R	AA
Serie	* Power rating	Tol.	Pack-Code	TCR	Forming type	R Value	Special
		J = ±5%	K = Blister Tape Reel	- Base on spec.	ZB- Z version		AA = Standard

ALTERNATIVE LEAD CONFIGURATIONS

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

THOUGH HOLE VERSION

Axial Goal Post (AG-)	Axial Goal Post Kink (AK-)	Radial (RD-)	Radial 2 Kink (RK-)