

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. D = ±0,5% 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

- Automotive
- Charger
- Alternative Energy
- Power Supply
- Home Appliances
- Industrial

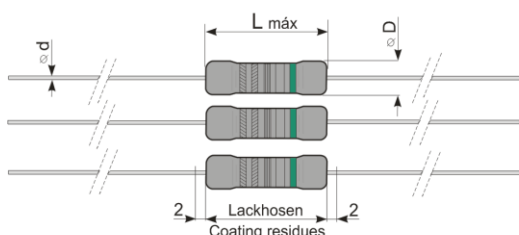
FEATURES

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

ELECTRICAL SPECIFICATIONS

Type		CRP110 (under development)	CRP200	CRP300	CRP400 (under development)	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	1,1	2,0	3,0	4,0	5,0	7,2
	P ₇₀	1,0	1,8	2,7	3,6	4,5	6,5
Resistance Range	[Ω]	0R1 ... 220R	R051,0R1 ... 470R	0R1 ... 1K8	0R1 ... 1K5	0R1 ... 5K1	1R ... 22R (approved range) 24R ... 470R (under development)
E-Series (preferred)		(Other values upon request)					
Tolerances	±[%]	E24 (Other upon request)					
Temperature Coefficient	±[10 ⁻⁶ K ⁻¹]	0,5(D) [R ≥ 1R] ; 1(F) ; 2(G) ; 5(J)					
Working Temperature Range	[°C]	120 ±50					
Thermal Resistance	[KW ⁻¹]	-55 ... +350					
Max. Working Voltage	[V] _{RMS}	280	155	104	78	62	43
Dielectric Withstanding Voltage IEC115-1 clause 4.7 (1[min])	[V] _{RMS}	$\sqrt{P_{70} \times R}$					
		500					

DIMENSIONS [mm]



Type	Historical P/N:	L max.	∅ D max. *	∅ 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

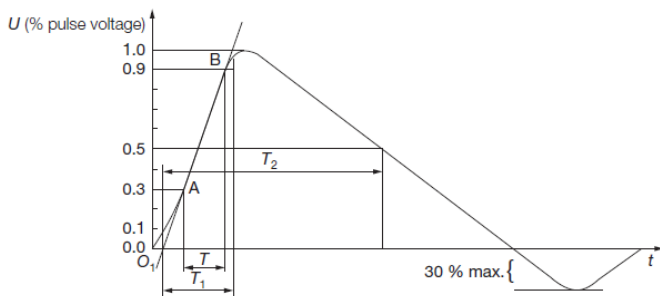
*R < 10R D max.+1

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PERFORMANCE DATE

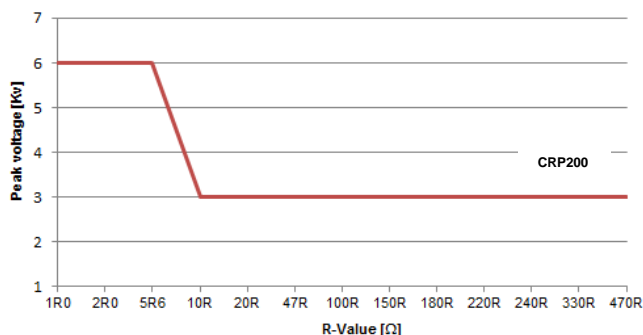
Type		CRP110 (under development)	CRP200	CRP300	CRP400 (under development)	CRP500	CRP720 (under development)
Historical Part Number	AXIAL	CRP251-1	CRP252-1	CRP254-1	CRP256-1	CRP257-1	CRP259-1
	SMD	RZI1	RZI2	RZI4	RZI6	-----	-----
Derating Linear	[°C]	70...350 (0W)					
Climatic Category		55/200/56					
Failure Rate <i>(Total, ϑ_{θ}, 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>	$\pm[\%]$	3,0					
Damp Heat, Steady State <i>IEC60115-1 clause 4.24 (40[°C], 93[% r.h.], 56[d])</i>	$\pm[\%]$	5,0					
Climatic Sequence <i>IEC60115-1 clause 4.23</i>	$\pm[\%]$	2,0					
Resistance to Soldering Heat <i>IEC60115-1 clause 4.18 (260^{±5}[°C], 10^{±1}[s])</i>	$\pm[\%]$	0,2					
Surge Test <i>IEC61000-4-5</i>	$\pm[\%]$	2,0					
Terminal Strength	$\pm[\%]$	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

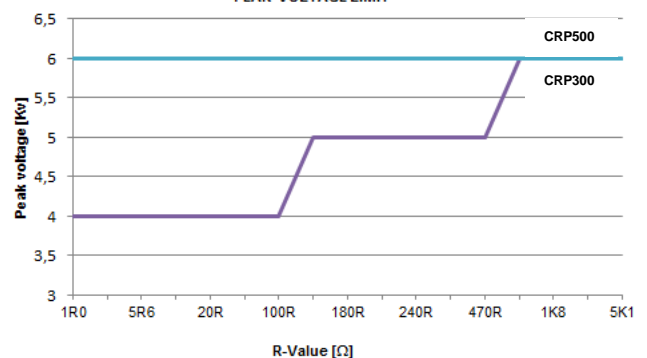


NOTE: The voltage shown in the below table, is the net voltage across the resistor. The generator open voltage will be higher due to the generator's internal impedance (12[Ω]).
Pulse shape – 10 pulses @ 20 [s] interval

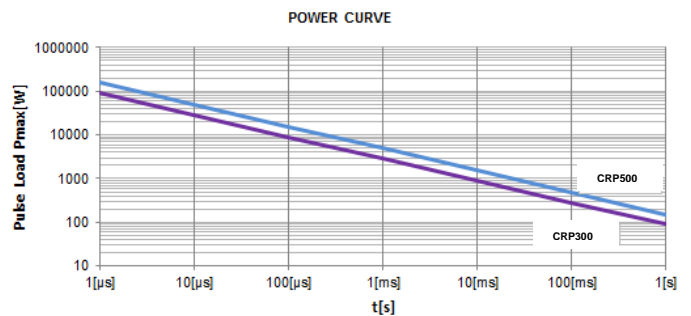
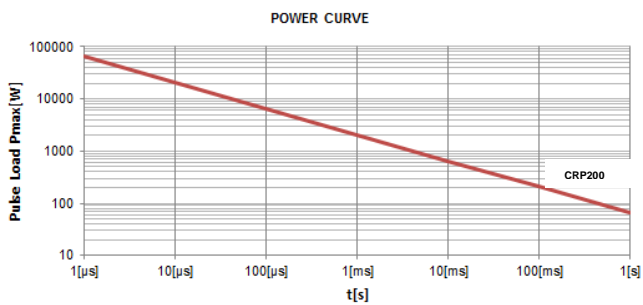
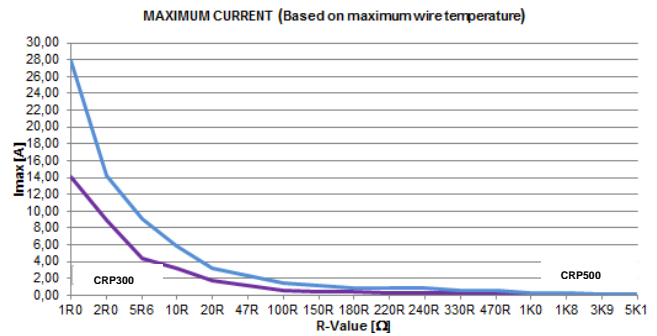
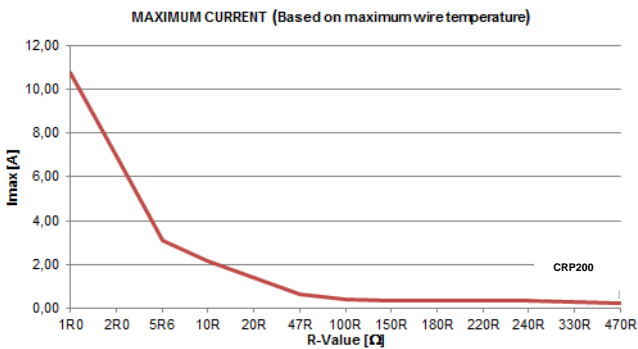
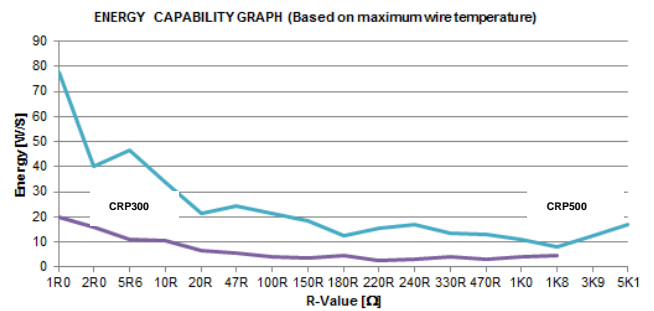
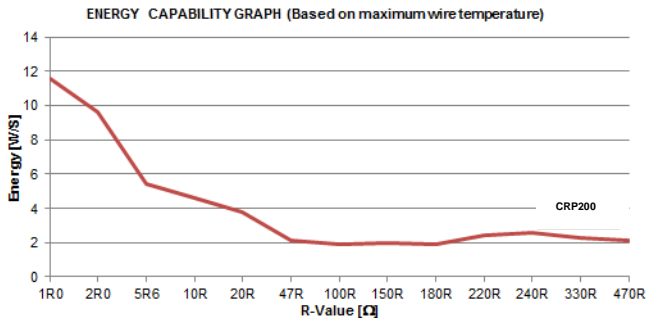
PEAK VOLTAGE LIMIT



PEAK VOLTAGE LIMIT

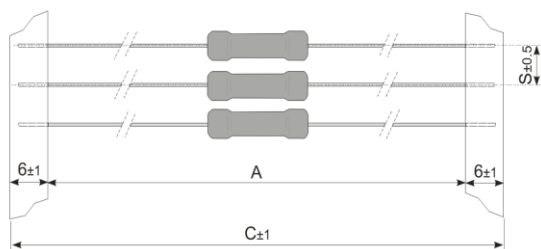


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PACKAGING

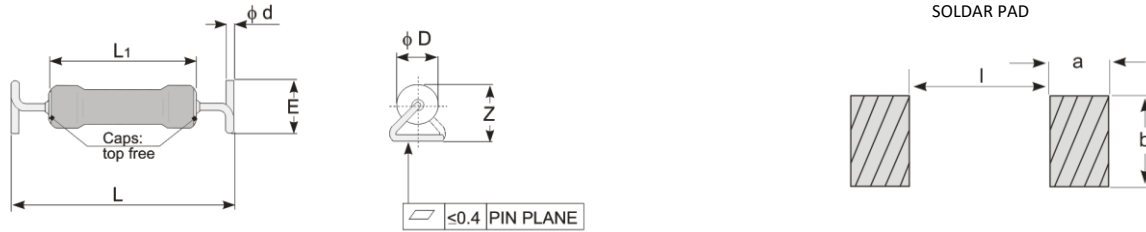
The standard packaging for CRP in axial type is taped, dimensions below.



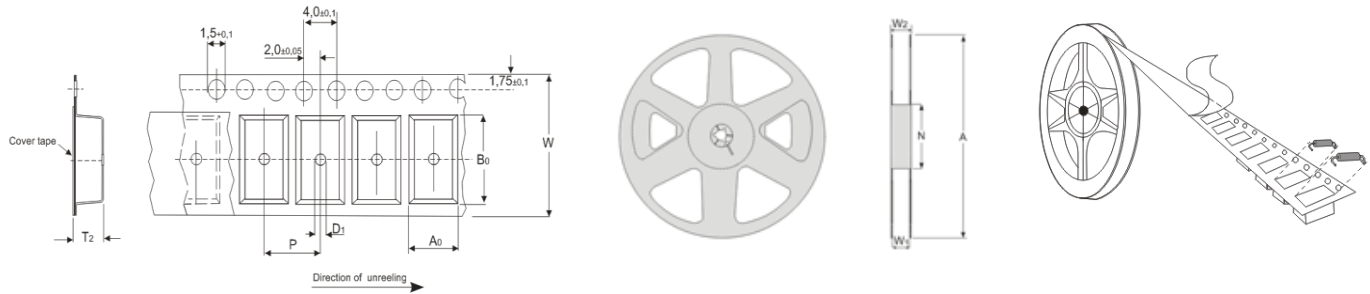
New P/Nr. Type	Historical P/N:	Pack Code	Pieces	Forming Type (Inner Taping dim.)	A	C	S
CRP110	CRP251-1	T = Taped Ammo pack	1000	52-	52	65	5
CRP200	CRP252-1		1000		52	65	5
CRP300	CRP254-1		1000	73-	73	85	10
CRP400	CRP256-1		1000		73	85	10
CRP500	CRP257-1		500		73	85	10
CRP720	CRP259-1		500		73	85	10

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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	Type	W1	W2	N	A	Type	Packaging	Pieces
CRP110	5,0	13,7	24	2,0	8	7,2	CRP110	25,4	29,5	90	330	CRP110	13(inch) Blister tape	1000
CRP200							CRP200							
CRP300	5,7	16,7	24	2,0	8	7,6	CRP300	CRP300						
CRP400	6,0	21,4	32	2,0	12	8,1	CRP400	33,4	37,4	100	380	CRP400	15(inch) Blister tape	

Ordering Code for SMD :

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