WIREWOUND - RESISTORS

The following equations and data may be used to calculate the admissible pulse load of wirewound resistors.
The equations are the results of many separate experiments and represent the sum of experience.
Several other factors, often application related, cannot be considered in our formula which should give safe operation information rather than exact limiting data.

After calculating the provisional results, testing to the specific requirements is recommended.

- Admissible pulse load: $P_{max} = \frac{K}{\sqrt{t}}$ [W]

- Admissible pulse duration: $t_{max} = \frac{K^2}{P^2}$ [sec]
  *P=peak power

- Minimum interval between pulses: $t_{min} = P \times \frac{t}{P_{70}}$ [sec]
  *P=peak power
  *t=actual pulse duration

- These equations are applicable for the interval $1 \times 10^{-6} \leq t \leq 100 \times 10^{-3}$

- Under the conditions $P_{avg}(t) \leq P_{70}$

The following table also gives the maximum current I_{max} and the minimum resistance R_{min} which depends on the internal construction of the resistor.

VITROHM PORTUGUESA, Lda. – Est. Nacional 249-4, Trajouce – 2765-653 S. Domingos de Rana – PORTUGAL
Tel:+ 351 214 457 700 - Fax:+ 351 214 457 755 – Germany Sales Tel:+ 49 4121 870 103 - e-mail: vitrohm.support@yageo.com – www.vitrohm.com

Pulse Load – Table

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Serie	Type	P_{70} [W]	K	U_{max} [V]	I_{max} [A]	from R_{min} [Ω]
KC	**200-0**	1	50	2.000	20	10R
	202-0	2	100	4.000	20	20R
	204-0	3	150	6.000	20	33R
	200-040	1	100	2.000	30	30R
	202-040	2	150	4.000	30	62R
	204-040	3	200	6.000	30	100R
KH	**206-0/8**	4	200	2.000	20	10R
	208-0/8	5	250	4.000	20	15R
	210-0/8	7	350	6.000	20	33R
	212-0/8	7	300	4.000	20	15R
	214-0/8	9	450	6.000	20	33R
	216-0/8	11	550	8.000	20	47R
	218-0/8	17	850	10.000	20	82R
	206-040/840	4	300	2.000	30	30R
	208-040/840	5	350	4.000	30	47R
	210-040/840	7	450	6.000	30	100R
	212-040/840	7	400	4.000	30	47R
	214-040/840	9	550	6.000	30	100R
	216-040/840	11	650	8.000	30	150R
	218-040/840	17	950	10.000	30	240R
KV	**206-3/5**	4	200	2.000	20	10R
	208-3/5	5	250	4.000	20	15R
	210-3/5	7	350	6.000	20	33R
	212-3/5	7	300	4.000	20	15R
	214-3/5	9	450	6.000	20	33R
	216-3/5	11	550	8.000	20	47R
	218-3/5	17	850	10.000	20	82R
	206-340	4	300	2.000	30	30R
	208-340	5	350	4.000	30	47R
	210-340	7	450	6.000	30	100R
	212-340	7	400	4.000	30	47R
	214-340	9	550	6.000	30	100R
	216-340	11	650	8.000	30	150R
	218-340	17	950	10.000	30	240R
KF	**206-4**	1.2	200	2.000	20	10R
	208-4	1.5	250	4.000	20	15R
	210-4	2.5	350	6.000	20	33R
	212-4	2.0	300	4.000	20	15R
	214-4	3.0	450	6.000	20	33R
	216-4	4.0	550	8.000	20	47R
	218-4	6.0	850	10.000	20	82R
	206-440	1.2	300	2.000	30	30R
	208-440	1.5	350	4.000	30	47R
	210-440	2.5	450	6.000	30	100R
	212-440	2.0	400	4.000	30	47R
	214-440	3.0	450	6.000	30	100R
	216-440	4.0	650	8.000	30	150R
	218-440	6.0	950	10.000	30	240R

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Serie	Type	P_{70} [W]	K	U_{max} [V]	I_{max} [A]	from R_{min} [Ω]
KT	**206-6**	1.5	200	2.000	20	10R
	208-6	1.9	250	4.000	20	15R
	210-6	2.9	350	6.000	20	33R
	212-6	2.6	300	4.000	20	15R
	214-6	3.5	450	6.000	20	33R
	216-6	4.5	550	8.000	20	47R
	206-640	1.5	300	2.000	30	30R
	208-640	1.9	350	4.000	30	47R
	210-640	2.9	450	6.000	30	100R
	212-640	2.6	400	4.000	30	47R
	214-640	3.5	550	6.000	30	100R
	216-640	4.5	650	8.000	30	150R
KT	**212-7**	2.0	300	4.000	20	15R
	214-7	2.5	450	6.000	20	33R
	216-7	3.5	550	8.000	20	47R
	212-740	2.0	400	4.000	30	47R
	214-740	2.5	550	6.000	30	100R
	216-740	3.5	650	8.000	30	150R
KN	**350-8**	5.0	Please ask Vitrohm for more details (vitrohm.support@yageo.com) or see: *"Design Notes for Current Sense Resistors"*, Available on www.Vitrohm.com			
	351-8	6.0				
	352-8	8.0				
	353-8	8.0				
	354-8	10.0				
KP	**290-0/1**	2.0	100	2.000	20	18R
	292-0/1	4.0	200	4.000	20	27R
	294-0/1	5.0	250	6.000	20	43R
	296-0/1	6.5	300	8.000	20	62R
	298-0/1	8.0	400	10.000	20	82R
	290-040/140	2.0	200	2.000	30	48R
	292-040/140	4.0	300	4.000	30	82R
	294-040/140	5.0	350	6.000	30	120R
	296-040/140	6.5	400	8.000	30	180R
	298-040/140	8.0	500	10.000	30	240R
KWA	**KWA15**	15	700	8.000	20	38R
	KWA20	20	900	10.000	20	68R
	KWA30	30	1.300	15.000	20	100R
	KWA40	40	1.700	17.000	20	130R
KWV	**302-3**	2	100	600	10	3R3
	304-3	3	150	1.000	10	9R1
	306-3	5	200	2.000	20	10R
	308-3	7	250	3.000	20	15R
	309-3	10	350	4.000	20	18R
	310-3	10	350	4.000	20	18R

Serie	Type	P_{70} [W]	K	U_{max} [V]	I_{max} [A]	from R_{min} [Ω]
KWP	**330-3/5/7**	2.5	100	2.000	20	18R
	331-3/5/7	3.3	100	2.000	20	18R

	332-3/5/7	4.1	150	4.000	20	27R
	333-3/5/7	5.7	200	6.000	20	39R
	335-3/5/7	7.4	250	6.500	20	43R
	336-3/5/7	8.2	250	8.000	20	47R
	337-3/5/7	12.3	300	8.000	20	47R
	338-3/5/7	16.4	450	10.000	20	56R
	330-340/540/740	2.5	200	2.000	30	18R
	331-340/540/740	3.3	200	2.000	30	18R
	332-340/540/740	4.1	250	4.000	30	27R
	333-340/540/740	5.7	300	6.000	30	39R
	335-340/540/740	7.4	350	6.500	30	43R
	336-340/540/740	8.2	350	8.000	30	47R
	337-340/540/740	12.3	450	8.000	30	47R
	338-340/540/740	16.4	600	10.000	30	56R
CRF	**251-4/8**	1.0	12	500	10	10R
	252-4/8	1.8	18	550	10	10R
	253-4/8	2.3	20	650	10	10R
	254-4/8	2.7	35	550	10	10R
	256-4/8	3.6	42	900	10	10R
	257-4/8	4.5	55	1.000	10	10R
CR	**251-0**	1.0	25	500	10	3R3
	252-0	1.8	48	550	10	10R
	253-0	2.3	50	650	10	9R1
	254-0	2.7	65	550	10	9R1
	255-0	3.2	75	750	10	11R
	256-0	3.6	85	900	10	11R
	257-0	4.5	110	1.000	10	24R
	258-0	5.0	125	1.500	10	30R
	259-0	6.5	165	2.000	10	43R
CRP	**251-1**	1.0	35	500	10	3R3
	252-1	1.8	65	550	10	8R2
	254-1	2.7	90	550	10	9R1
	256-1	3.6	120	900	10	11R
	257-1	4.5	155	1.000	10	24R
BW	**234-0**	0.75	*Special datasheet available on www.Vitrohm.com*	600	*Special datasheet available on www.Vitrohm.com*	
	235-0	1.5		1.000		
BWF	**236-0**	1.5		600		
	237-0	0.75		400		
RWC	**RWC5020**	1.6	25	500	10	3R3
RWI	**RWI5020**	1.6	35	500	10	3R3
RWS	**RWS5020**	1.6	12	500	10	10R
RWF	**RWF5020**	1.6	15	400	10	10R

Serie	Type	P_{70} [W]	K	U_{max} [V]	I_{max} [A]	from R_{min}
RZB	**RZB4**	0.75	*Special datasheet*	600	*Special datasheet available on*	

	RZB5	1.5	*available on* www.Vitrohm.com	1.000	www.Vitrohm.com	
RZF	**RZF6**	1.5		600		
	RZF7	0.75		400		
RZC	**RZC1**	1.0	25	500	10	3R3
	RZC2	1.8	48	550	10	10R
	RZC3	2.3	50	650	10	9R1
	RZC4	2.7	65	550	10	9R1
	RZC6	3.6	85	900	10	11R
RZI	**RZI1**	1.0	35	500	10	3R3
	RZI2	1.8	65	550	10	8R2
	RZI4	2.7	90	550	10	9R1
	RZI6	3.6	120	900	10	11R
RZS	**RZS1**	1.0	12	500	10	10R
	RZS2	1.8	18	550	10	10R
	RZS3	2.3	20	650	10	10R
	RZS4	2.7	35	550	10	10R
	RZS6	3.6	42	900	10	10R
RZX	**RZX1**	0.5	13	350	10	3R3
	RZX2	1.0	25	450	10	3R3
	RZX3	2.0	70	540	10	9R1
	RZX4	3.0	70	580	10	9R1
	RZX5	4.0	75	800	10	9R1
RX	**RX0207W5**	0.5	13	350	10	3R3
	RX04101W	1.0	25	450	10	3R3
	RX05122W	2.0	70	540	10	9R1
	RX06133W	3.0	70	580	10	9R1
	RX07164W	4.0	75	800	10	9R1
	RX07185W	5.0	125	1.500	10	30R
	RX10266W	6.1	120	1800	10	30R
SLR	**SLR2**	2	100	N/A	N/A	N/A
	SLR3	3	150	N/A	N/A	N/A
	SLR5	5	250	N/A	N/A	N/A
	SLR5B	5	250	N/A	N/A	N/A
	SLR7	7	350	N/A	N/A	N/A
	SLR7B	7	350	N/A	N/A	N/A
	SLR10	10	500	N/A	N/A	N/A
	SLR10A	10	500	N/A	N/A	N/A