

# Vitreous Wirewound Power Resistor with Corrugated Ribbon



## FEATURES

- Excellent power dissipation
- Robust mechanical
- Good thermal shock characteristics
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

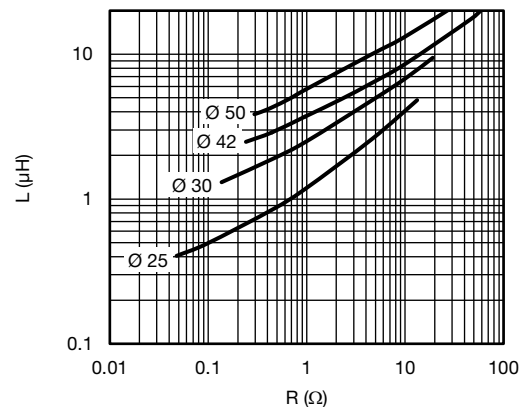
STANDARD ELECTRICAL SPECIFICATIONS			
GLOBAL MODEL	POWER RATING W	RESISTANCE RANGE $\Omega$	TOLERANCE <sup>(1)</sup> $\pm$ %
VC 50 x 370	1000	0.39 to 68	5, 10
VC 42 x 362	700	0.33 to 56	5, 10
VC 30 x 250	350	0.22 to 33	5, 10
VC 30 x 153	220	0.18 to 22	5, 10
VC 25 x 168	200	0.10 to 18	5, 10
VC 25 x 138	160	0.068 to 12	5, 10
VC 25 x 110	130	0.068 to 10	5, 10
VC 25 x 84	90	0.068 to 8.2	5, 10

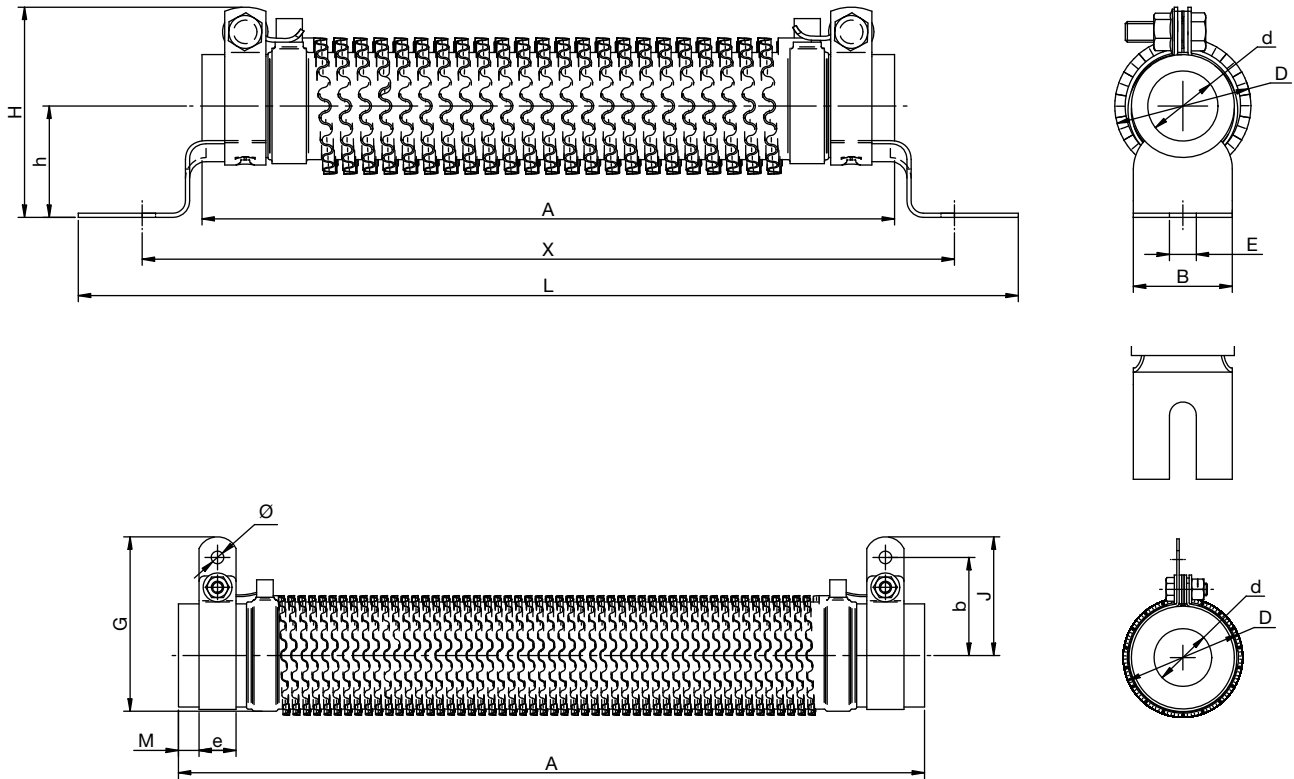
**Note**
<sup>(1)</sup> For  $R_n < 1 \Omega$ 

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/ $^{\circ}$ C	180 ppm/ $^{\circ}$ C (typical)
Operating temperature range	$^{\circ}$ C	-55 to +450

GENERAL CHARACTERISTICS	
Core	Ceramic
Winding	Nickel alloy
Coating	Vitreous
Ohmic values	E12
Traction lug outputs	VCF version
Collars outputs	VCN version

## INDUCTANCE VALUE AS A FUNCTION OF $R_n$



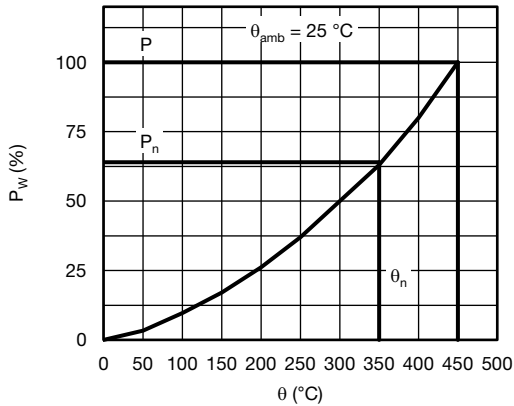
**DIMENSIONS** in millimeters **AND WEIGHT** in g


TYPE	50 x 370	42 x 362	30 x 250	30 x 153	25 x 168	25 x 138	25 x 110	25 x 84
A	362 ± 7	362 ± 7	250 ± 2	152.5 ± 1.5	168 ± 2	138 ± 2	110 ± 2	84 ± 2
B + 0.5/- 0	30	30	25	25	24	24	24	24
b	48 ± 1.5	45 ± 1.5	33 ± 1	33 ± 1	28.5 ± 1	28.5 ± 1	28.5 ± 1	28.5 ± 1
D max.	65	55	44	44	39	39	39	39
d	28.6 ± 0.6	26.5 ± 0.5	17 min.	17 min.	17 ± 0.35	17 ± 0.35	17 ± 0.35	17 ± 0.35
E	9 ± 0.5	9 ± 0.5	9 ± 0.5	9 ± 0.5	6.5 ± 0.2	6.5 ± 0.2	6.5 ± 0.2	6.5 ± 0.2
e ± 1	18	18	13	13	9	9	9	9
G max.	92	88	63	63	55	55	55	55
H max.	80	72	62	62	53	53	53	53
h ± 2	47.5	45	30	30	27	27	27	27
J	58 ± 2.5	52 ± 1.5	39 ± 1	39 ± 1	33.5 ± 1	33.5 ± 1	33.5 ± 1	33.5 ± 1
L max.	436	433	320	222.5	230	200	171	145
M	10 + 0/- 3	10 + 0/- 3	5 ± 1.5	5 ± 1.5	6 ± 1.5	6 ± 1.5	6 ± 1.5	6 ± 1.5
Ø	6.1 ± 0.5	6.1 ± 0.5	5.7 ± 0.5	5.7 ± 0.5	5 ± 0.8	5 ± 0.8	5 ± 0.8	5 ± 0.8
X ± 2	400	398	285	187.5	198	168	141	115
Mass	1600	1350	400	270	270	210	170	130

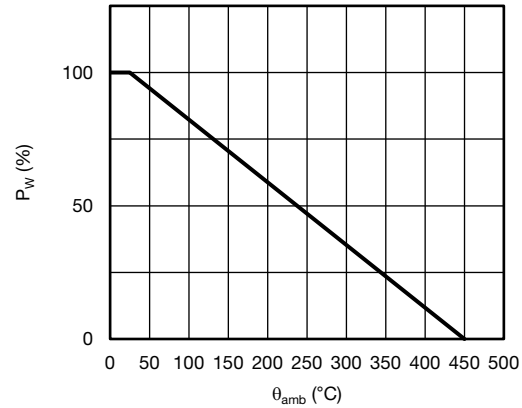


PERFORMANCES			
TESTS	CONDITIONS	REQUIREMENTS	TYPICAL VALUES
Overloads	10 Pn (temp. nom.), 5 s	2 %	1 %
Climatic	-55 °C, 5 cycles, +200 °C	3 %	1 %
Thermal shocks	Pn -55 °C	2 %	0.4 %
Endurance	500 cycles Pn 90 min / 30 min	5 %	2 %

**DISSIPATION**

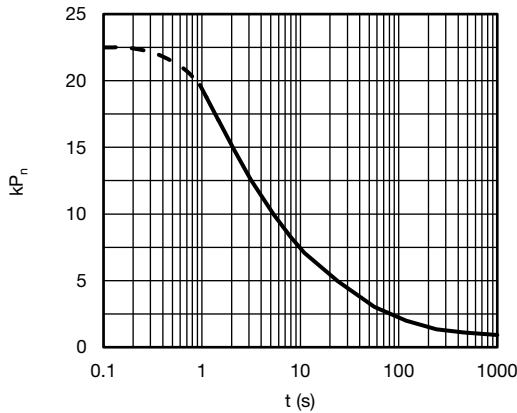


Power P<sub>w</sub> as a Function of Surface Temperature  
P(W) = f (Temperature Surface)



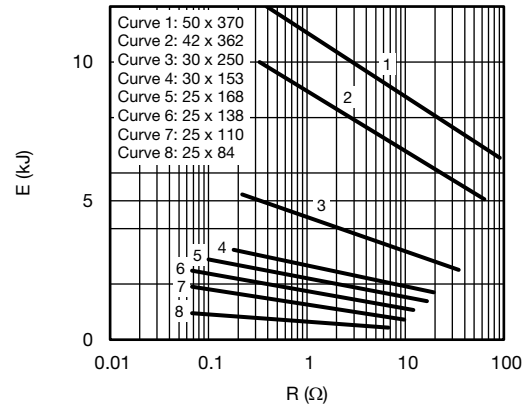
Derating in Power as a Function of Ambient Temperature

**OVERLOADS**



Intermittent Overloads  
Exceptional Operation  
Initial Temperature < 70 °C  
k x P<sub>n</sub> = f(t)

**PERMISSIBLE ENERGY**



Repetitive Operation  
Energy as a Function of R<sub>n</sub>  
Pulse Duration < 100 ms  
E = f(R)

**OPTIONS** (Consult us)

- Other values than E12 series
- Intermediate terminals
- Insulated electrical output of fixed lugs



ORDERING INFORMATION						
<b>VC</b>	<b>F</b>	<b>30 x 250</b>	<b>U22</b>	<b>± 10 %</b>	<b>XXX</b>	<b>BO3</b>
MODEL	CONNECTIONS	STYLE	RESISTANCE VALUE	TOLERANCE	CUSTOM DESIGN	PACKAGING
				± 5 % ± 10 % Other on request	Optional On request: special value, tolerance, terminals, etc.	

GLOBAL PART NUMBER INFORMATION																		
V	C	F	2	5	0	8	4	0	R	0	6	8	K	B	9	9	9	
1		2	3			4				5	6	7						
1	2	3	4	5	6	7												
PRODUCT TYPE	LEADS	SIZE	RESISTANCE VALUE	TOLERANCE	PACKAGING	INDUSTRIALIZATION NUMBER												
VC	F N	25084 25110 25138 25168 30153 30250 42362 50370	The first three digits are significant figures and the last specifies the number of zeros to follow, R designates decimal point. 8R2 = 8.2 Ω 0R068 = 0.068 Ω	J = 5 % K = 10 %	B = box Box quantity depends of model and size	3 specific digits (if applicable)												

EXAMPLES		
MODEL	DESCRIPTION	PART NUMBER
VCF	VCF 25X138 U068 10 % 999 BO3	VCF251380R068KB999
VCN	VCN 25X168 U1 10 % B03	VCN251680R10KB



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