

Vitreous Wirewound Power Resistor, Flat



FEATURES

- High dissipation
- Reduced space
- Embedded collars
- Insulated mounting
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

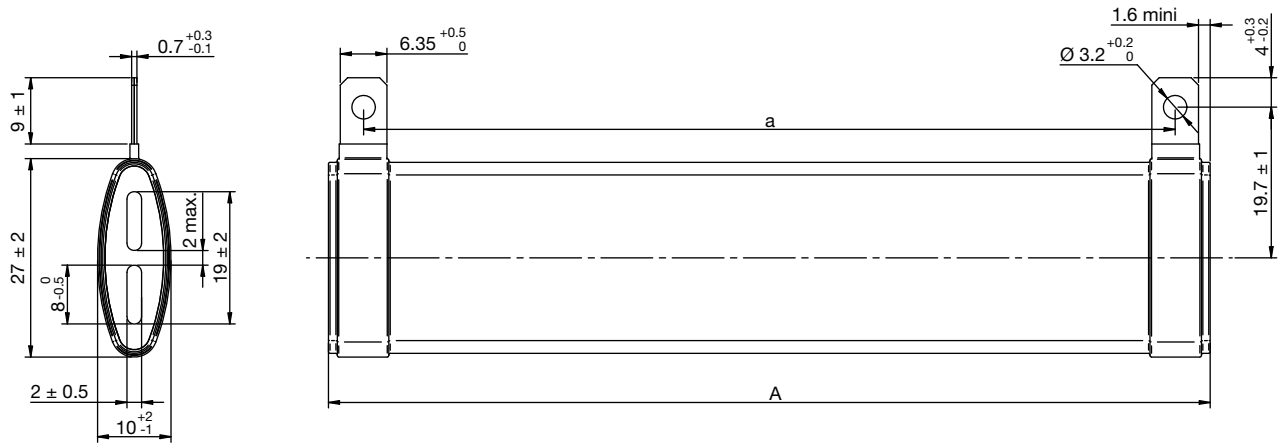
GLOBAL MODEL	POWER RATING W	RESISTANCE RANGE Ω	TOLERANCE \pm %	$U_{LIM.}$ V	MIL-R-26-D
VNPC 150	150	4.7 to 100K	5	1500	RW 24 V
VNPC 120	120	3.9 to 68K	5	1250	-
VNPC 90	90	2.7 to 47K	5	1000	RW 22 V
VNPC 50	50	1.8 to 22K	5	600	-
VNPC 30	30	1.0 to 8.2K	5	400	RW 20 V

TECHNICAL SPECIFICATIONS

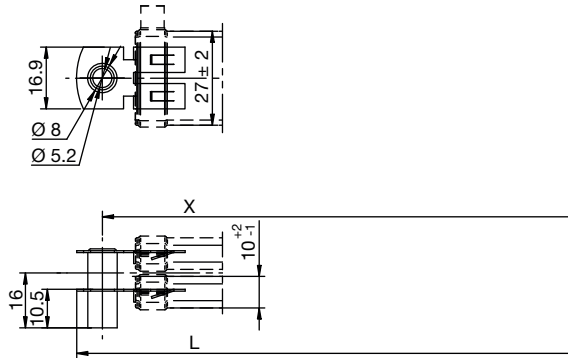
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	75 ppm/°C (typical)
Operating temperature range	°C	-55 to +450

GENERAL CHARACTERISTICS

Core	Ceramic
Winding	NiCr alloy
Coating	Vitreous enamel
Ohmic values	E12
Insulated mounting (Z)	On request

DIMENSIONS in millimeters AND WEIGHT in g


TYPE	150	120	90	50	30
A	150 ± 3	120 ± 2.4	90 ± 1.8	50 ± 1	30 ± 0.6
a	140.2 ± 3	110 ± 2.4	78.5 ± 1.8	38.3 ± 1	18.9 ± 0.6
Mass	64	51	39	25	15

DIMENSIONS SUPPORTER Z in millimeters AND WEIGHT in g
INSULATED MOUNTING ALLOWS DE-STACKING


TYPE	150	120	90	50	30
X	168 ± 3	136 ± 2.4	108 ± 2	68 ± 1	48 ± 0.5
L	182 ± 3	152 ± 2.4	122 ± 2	82 ± 1	62 ± 0.5
Mass	4	4	4	4	4

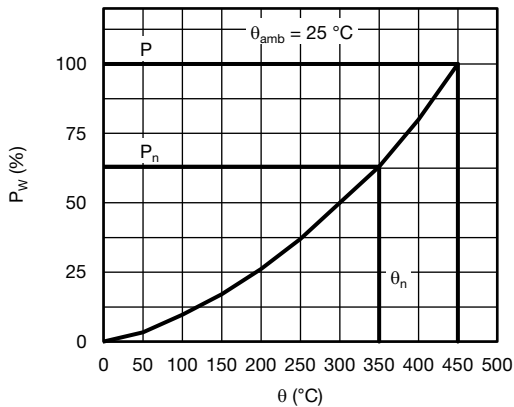
SPECIFIC NON-INDUCTIVE "A" VNPC MODEL CHARACTERISTICS

TYPE	150A	120A	90A	50A	30A
R_{min}	$4.7 \text{ } \Omega$	$3.9 \text{ } \Omega$	$2.7 \text{ } \Omega$	$1.8 \text{ } \Omega$	$1.0 \text{ } \Omega$
R_{max}	$560 \text{ } \Omega$	$470 \text{ } \Omega$	$330 \text{ } \Omega$	$150 \text{ } \Omega$	$68 \text{ } \Omega$

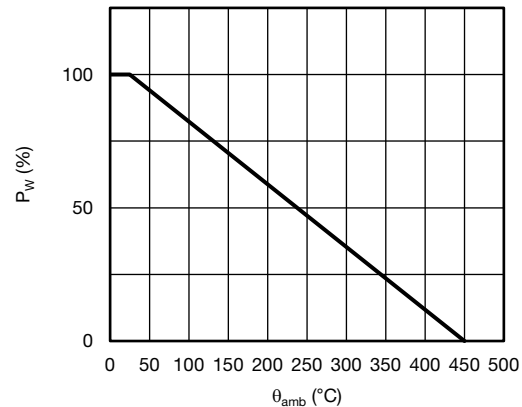
PERFORMANCES			
TESTS	CONDITIONS	REQUIREMENTS	TYPICAL VALUES
Overloads	10 P _n (temp. nom.), 5 s	2 % or 0.05 Ω ⁽¹⁾	0.4 %
Climatic	-55 °C, 5 cycles, +200 °C	3 % or 0.05 Ω ⁽¹⁾	Collar insulated > 10 ² MΩ
Damp heat	56 days 95 % HR	2 % or 0.05 Ω ⁽¹⁾	
Thermal shocks	P _n -55 °C	2 % or 0.05 Ω ⁽¹⁾	0.2 %
Shocks	Severity 50 A	0.5 % or 0.05 Ω ⁽¹⁾	0.25 %
Vibrations	Severity 55/10	0.5 % or 0.05 Ω ⁽¹⁾	0.25 %
Strength of terminals	Collar 40 N	1 % or 0.05 Ω ⁽¹⁾	0.1 %
Endurance	500 cycles P _n 90 min / 30 min	5 %	1 %

Note

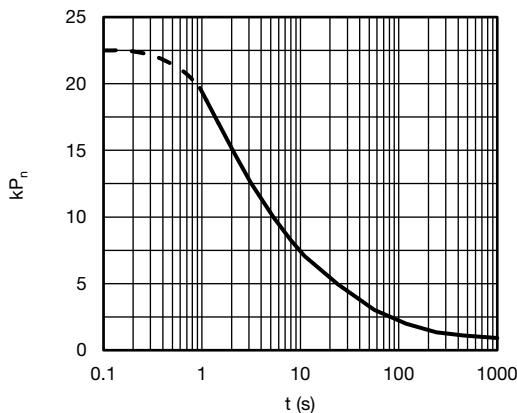
⁽¹⁾ The higher of either value.

DISSIPATION


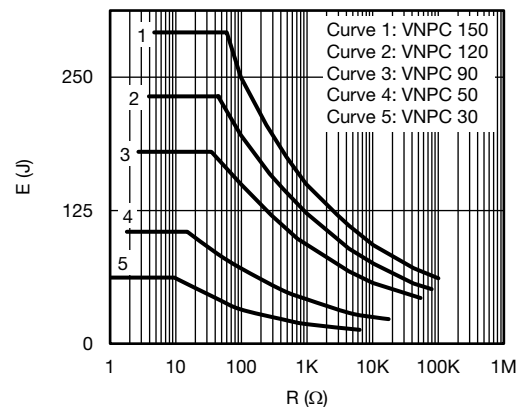
Power P_W as a Function of Surface Temperature
P(W) = f (Temperature Surface)



Derating in Power as a Function
of Ambient Temperature

OVERLOADS


Intermittent Overloads
Exceptional Operation
Initial Temperature < 70 °C
 $k \times P_n = f(t)$

PERMISSIBLE ENERGY


Repetitive Operation
Energy as a Function of R_n
Pulse Duration < 100 ms
 $E = f(R)$



OPTIONS (Consult us)

- Other values than E12 series

ORDERING INFORMATION						
VNPC	30	A	120U	± 5 %	XXX	BO40
MODEL	STYLE	NON-INDUCTIVE WINDING Optional	RESISTANCE VALUE	TOLERANCE ± 5 % ± 10 % Other on request	CUSTOM DESIGN Optional On request: special value, tolerance, terminals, etc.	PACKAGING

GLOBAL PART NUMBER INFORMATION																
V	N	P	C	0	9	0	A	1	0	R	0	J	B	8	9	9
1				2			3	4				5	6	7		
1	2	3	4	5	6	7										
PRODUCT TYPE	TYPE	OPTION (if applicable)	RESISTANCE VALUE	TOLERANCE	PACKAGING	INDUSTRIALIZATION NUMBER										
VNPC	030 050 090 120 150	A = non-inductive winding	The first three digits are significant figures and the last specifies the number of zeros to follow, R designates decimal point. 4702 = 47 kΩ 47R0 = 47 Ω	J = 5 % K = 10 %	B = box Box quantity depends of model and size	3 specific digits (if applicable)										

EXAMPLES		
MODEL	DESCRIPTION	PART NUMBER
VNPC	VNPC 90 A 10U 5 % 899 BO40	VNPC090A10R0JB899
VNPC	VNPC 30 12U 5 % BO40	VNPC03012R0JB



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