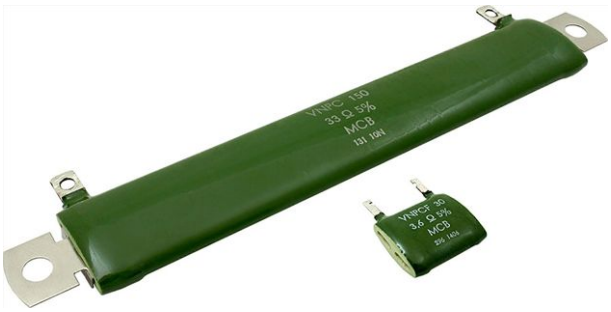
Vitreous Wirewound Power Resistor, Flat



FEATURES

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

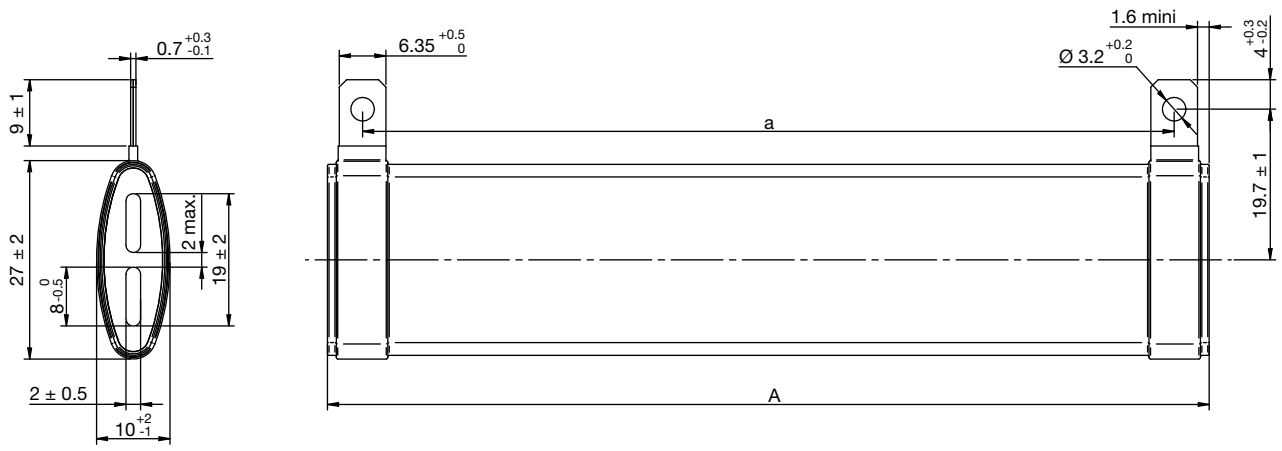
RoHS COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	POWER RATING W	RESISTANCE RANGE Ω	TOLERANCE ± %	$U_{LIM.}$ 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

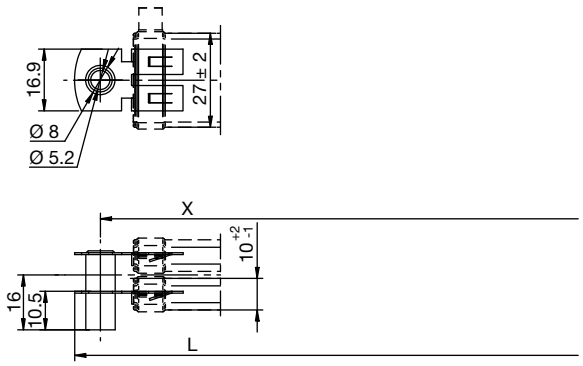
GENERAL CHARACTERISTICS	
Core	Ceramic
Winding	NiCr alloy
Coating	Vitreous enamel
Ohmic values	E12
Insulated mounting (Z)	On request

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

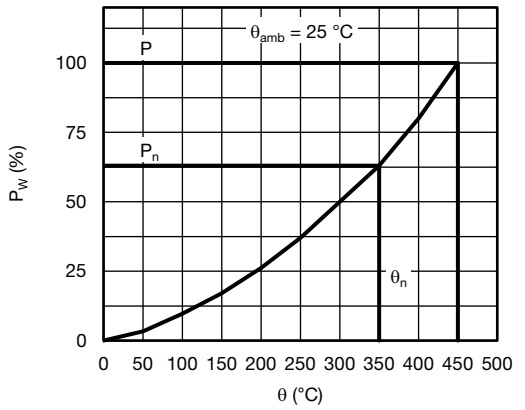
TYPE	150A	120A	90A	50A	30A
$R_{min.}$	4.7 Ω	3.9 Ω	2.7 Ω	1.8 Ω	1.0 Ω
$R_{max.}$	560 Ω	470 Ω	330 Ω	150 Ω	68 Ω

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	0.2 %
Damp heat	56 days 95 % HR	2 % or 0.05 Ω (1)		0.1 %
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 %

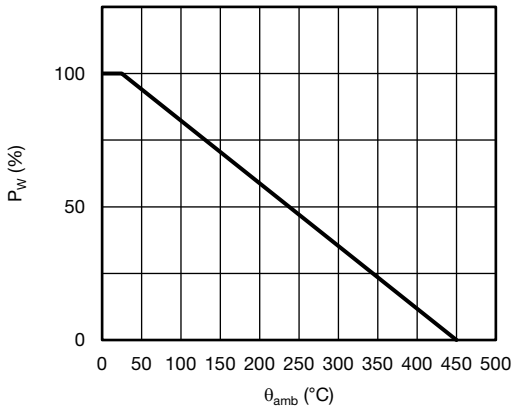
Note

(1) The higher of either value.

DISSIPATION

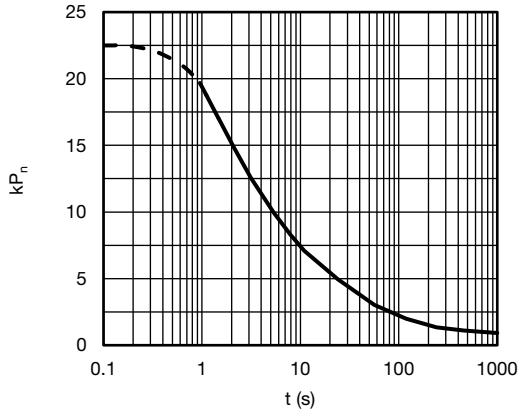


Power P_W as a Function of Surface Temperature
P(W) = f (Temperature Surface)



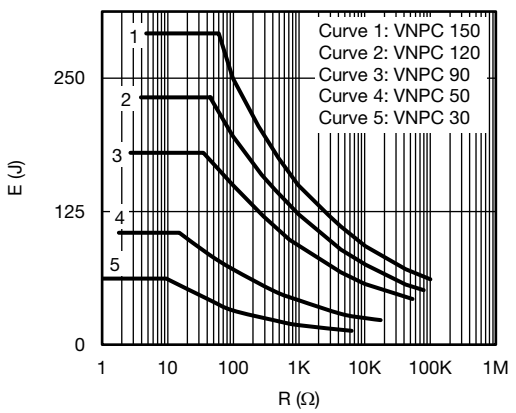
Derating in Power as a Function
of Ambient Temperature

OVERLOADS



Intermittent Overloads
Exceptional Operation
Initial Temperature < 70 °C
k x 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	RESISTANCE VALUE	TOLERANCE	CUSTOM DESIGN	PACKAGING
		Optional		± 5 % ± 10 % Other on request	Optional On request: special value, tolerance, terminals, etc.	

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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