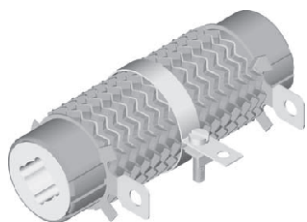


Cemented Wirewound Resistors with Corrugated Ribbon



FEATURES

- All welded construction
- Power rating up to 500 W
- Corrugated ribbon construction aids rapid cooling
- Available in adjustable design = "E"
- Material categorization:
for definitions of compliance please see
www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(5-2008)

STANDARD ELECTRICAL SPECIFICATIONS					
MODEL	POWER RATING $P_{40^{\circ}\text{C}}$ W	RESISTANCE RANGE ⁽¹⁾ Ω TCR + 650 ppm/K to + 750 ppm/K WM 10	RESISTANCE RANGE ⁽¹⁾ Ω TCR - 10 ppm/K to - 80 ppm/K WM 50	RESISTANCE RANGE ⁽¹⁾ Ω TCR + 100 ppm/K to + 180 ppm/K WM 110	TOLERANCE \pm %
ZBS 20/100 ZBS 20/100 E	50	0.13 to 0.51	0.56 to 2.2	1.3 to 6.2	10, 5
ZBS 20/165 ZBS 20/165 E	100	0.27 to 1	1.1 to 4.7	2.4 to 12	10, 5
ZBS 20/265 ZBS 20/265 E	150	0.47 to 1.8	2 to 7.5	4.3 to 22	10, 5
ZBS 30/100 ZBS 30/100 E	75	0.1 to 0.43	0.47 to 3.3	1 to 8.2	10, 5
ZBS 30/133 ZBS 30/133 E	110	0.15 to 0.62	0.68 to 5.1	1.5 to 12	10, 5
ZBS 30/165 ZBS 30/165 E	150	0.2 to 0.91	1.0 to 6.8	2 to 16	10, 5
ZBS 30/215 ZBS 30/215 E	200	0.27 to 1.1	1.2 to 9.1	2.7 to 24	10, 5
ZBS 30/265 ZBS 30/265 E	250	0.3 to 1.3	1.5 to 11	3.9 to 27	10, 5
ZBS 30/330 ZBS 30/330 E	300	0.39 to 1.8	2 to 15	5.1 to 36	10, 5
ZBS 45/370 ZBS 45/370 E	375	0.75 to 3	3.3 to 24	8.2 to 56	10, 5
ZBS 60/370 ZBS 60/370 E	500	0.91 to 3.9	4.3 to 33	10 to 75	10, 5

Notes

- For available "Mounting Accessories for Resistors", please see: www.vishay.com/doc?221015
- ⁽¹⁾ Resistance value to be selected for ± 10 % tolerance from E12 and for ± 5 % from E24

PART NUMBER AND PRODUCT DESCRIPTION

Part Number: ZBS202S01100KLX000

Z	B	S	2	0	2	S	0	1	1	0	0	K	L	X	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

MODEL	VARIANT/ TERMINAL	TCR/MATERIAL	VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
ZBS202S = ZBS 20/100 ZBS204L = ZBS 20/165 ZBS207D = ZBS 20/265 ZBS302S = ZBS 30/100 ZBS303P = ZBS 30/133 ZBS304L = ZBS 30/165 ZBS305Z = ZBS 30/215 ZBS307D = ZBS 30/265 ZBS308D = ZBS 30/303 ZBS3096 = ZBS 30/330 ZBS45AA = ZBS 45/370 ZBS60AA = ZBS 60/370	0 = Neutral 1 = E Z = Value overflow (BV)	1 = - 10ppm/K to - 80 ppm/K WM 50 Class 1 3 = 100 ppm/K to 180 ppm/K WM 110 Class 3 4 = 650 ppm/K to 750 ppm/K WM 10 Class 1 See also note (1)	2 digit value 1 digit multiplier MULTIPLIER 8 = *10 ⁻² 9 = *10 ⁻¹ 0 = *10 ⁰	J = ± 5.0 % K = ± 10.0 %	LX = Loose pack, without quantity	000 = Standard 3 digit code = Special ⁽¹⁾

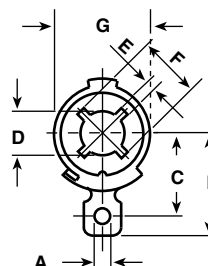
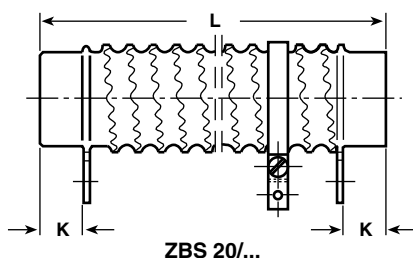
Product Description: ZBS 20/100 50 10R 10 % LX

ZBS 20/100	50	10R	10 %	LX
MODEL ⁽²⁾	TCR/MATERIAL ⁽²⁾	VALUE ⁽²⁾	TOLERANCE CODE ⁽²⁾	PACKAGING DESCRIPTION ⁽³⁾

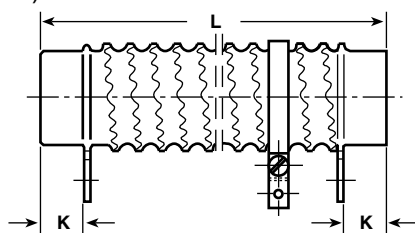
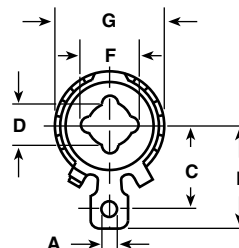
Notes

- (1) For special variants or special winding, please contact: ww1resistors@vishay.com
(2) See "Part Number" above
(3) See "Packaging Code" above

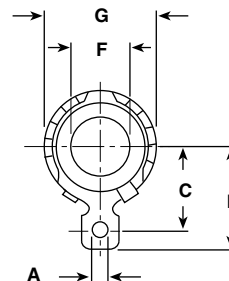
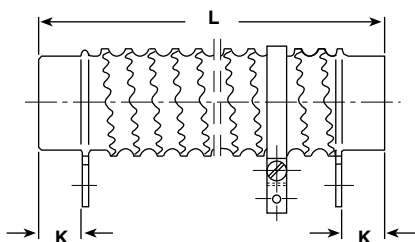
DIMENSIONS



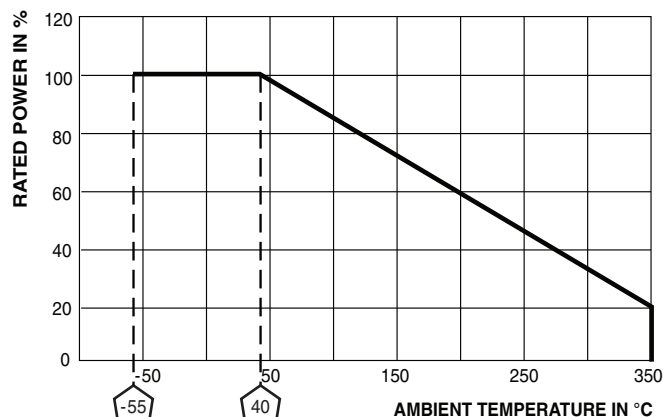
MODEL	DIMENSIONS in millimeters [inches]									
	L	K	A	B	C	D	E	F	G	MASS (g)
ZBS 20/100 ZBS 20/100 E	100 ± 2.5 [3.937 ± 0.098]	15 [0.591]	4.2 [0.165]	26.5 [1.043]	22 [0.866]	10 [0.394]	1.5 [0.059]	14 [0.551]	24 [0.945]	100
ZBS 20/165 ZBS 20/165 E	165 ± 4 [6.496 ± 0.157]	15 [0.591]	4.2 [0.165]	26.5 [1.043]	22 [0.866]	10 [0.394]	1.5 [0.059]	14 [0.551]	24 [0.945]	150
ZBS 20/265 ZBS 20/265 E	265 ± 6.6 [10.433 ± 0.260]	15 [0.591]	4.2 [0.165]	26.5 [1.043]	22 [0.866]	10 [0.394]	1.5 [0.059]	14 [0.551]	24 [0.945]	250

DIMENSIONS (continued)

ZBS 30/...


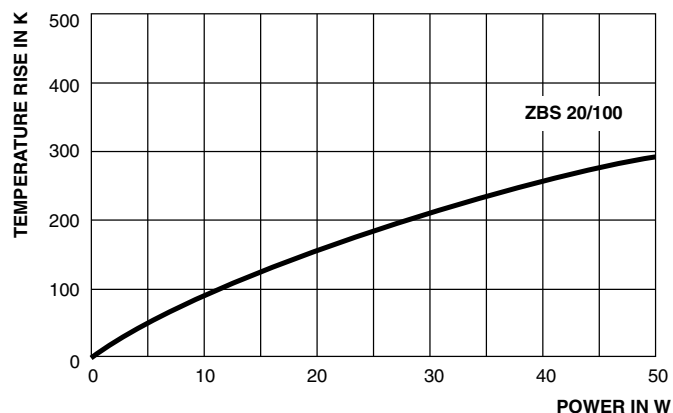
MODEL	DIMENSIONS in millimeters [inches]								MASS (g)
	L	K	A	B	C	D	F	G	
ZBS 30/100 ZBS 30/100 E	100 ± 2.5 [3.937 ± 0.098]	15 [0.591]	5.2 [0.205]	34 [1.339]	28 [1.102]	14 [0.551]	18.5 [0.728]	37 ± 1 [1.457 ± 0.039]	200
ZBS 30/133 ZBS 30/133 E	133 ± 3.3 [5.236 ± 0.130]	15 [0.591]	5.2 [0.205]	34 [1.339]	28 [1.102]	14 [0.551]	18.5 [0.728]	37 ± 1 [1.457 ± 0.039]	250
ZBS 30/165 ZBS 30/165 E	165 ± 4 [6.496 ± 0.157]	15 [0.591]	5.2 [0.205]	34 [1.339]	28 [1.102]	14 [0.551]	18.5 [0.728]	37 ± 1 [1.457 ± 0.039]	300
ZBS 30/215 ZBS 30/215 E	215 ± 5.4 [8.465 ± 0.213]	15 [0.591]	5.2 [0.205]	34 [1.339]	28 [1.102]	14 [0.551]	18.5 [0.728]	37 ± 1 [1.457 ± 0.039]	400
ZBS 30/265 ZBS 30/265 E	265 ± 6.6 [10.433 ± 0.260]	15 [0.591]	5.2 [0.205]	34 [1.339]	28 [1.102]	14 [0.551]	18.5 [0.728]	37 ± 1 [1.457 ± 0.039]	500
ZBS 30/330 ZBS 30/330 E	330 ± 8 [12.992 ± 0.315]	15 [0.591]	5.2 [0.205]	34 [1.339]	28 [1.102]	14 [0.551]	18.5 [0.728]	37 ± 1 [1.457 ± 0.039]	600


ZBS 45/370, ZBS 60/370

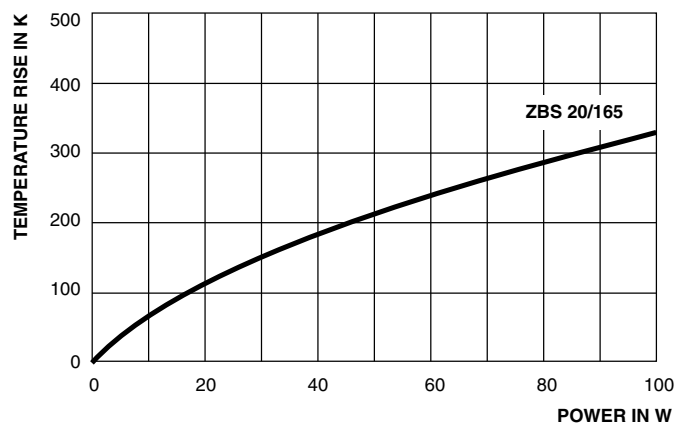
MODEL	DIMENSIONS in millimeters [inches]							
	L	K	A	B	C	F	G	MASS (g)
ZBS 45/370 ZBS 45/370 E	370 ± 9 [14.567 ± 0.354]	15 [0.591]	5.2 [0.205]	42.5 [1.673]	37 [1.457]	30 [1.181]	52 ± 1 [2.047 ± 0.039]	1000
ZBS 60/370 ZBS 60/370 E	370 ± 9 [14.567 ± 0.354]	15 [0.591]	5.2 [0.205]	51.5 [2.028]	45.5 [1.791]	45 [1.772]	67 ± 1 [2.638 ± 0.039]	1200



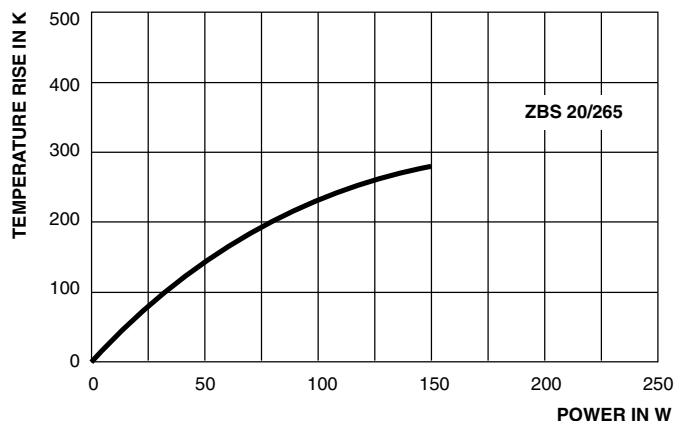
Derating



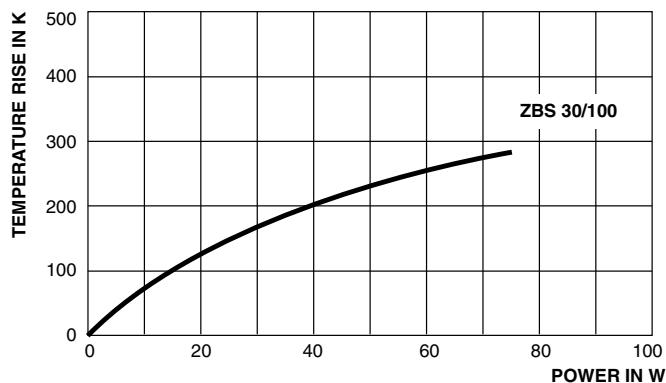
Temperature Rise



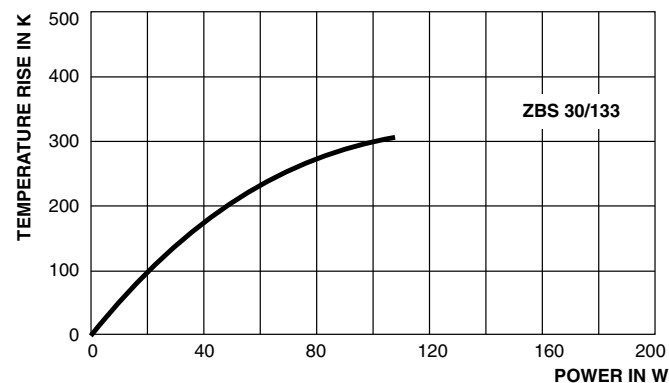
Temperature Rise



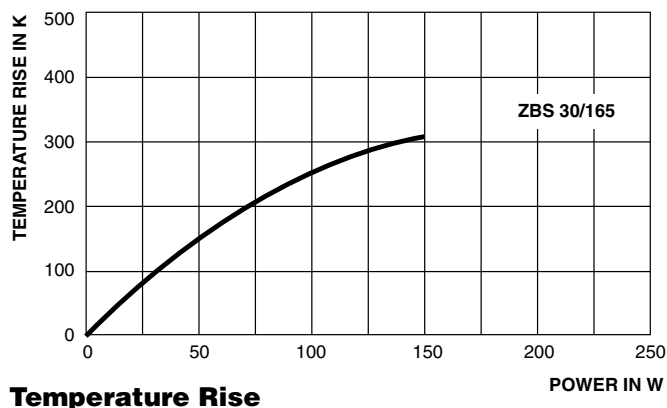
Temperature Rise



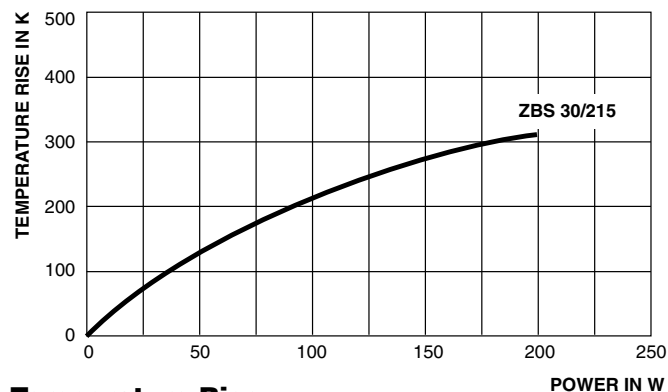
Temperature Rise



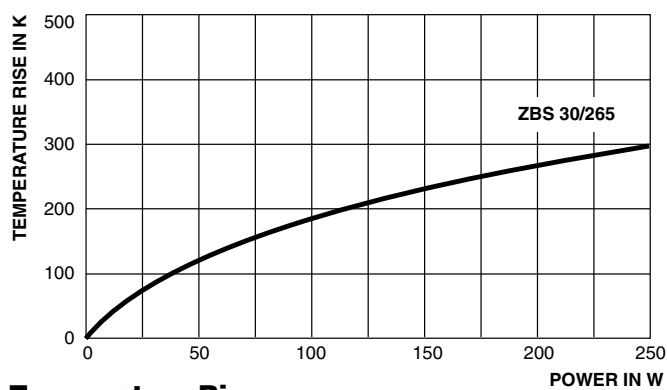
Temperature Rise



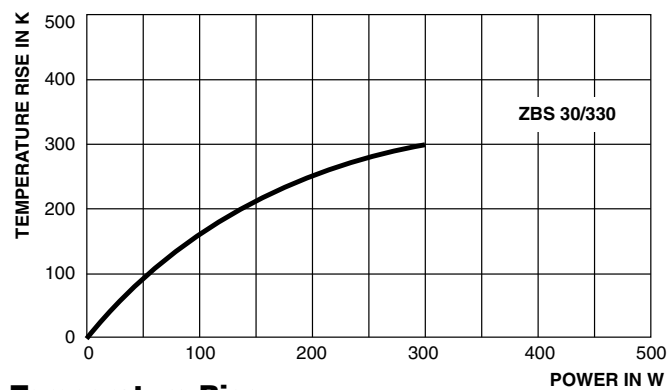
Temperature Rise



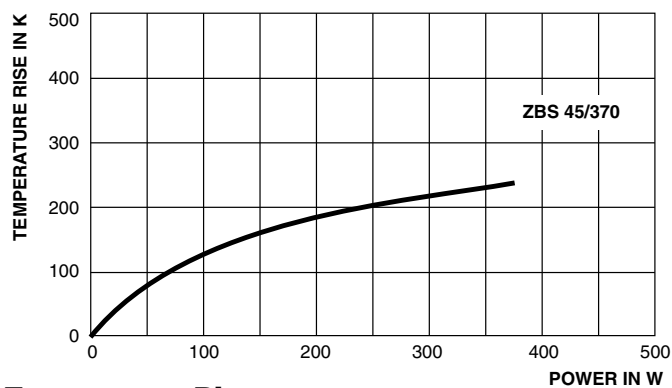
Temperature Rise



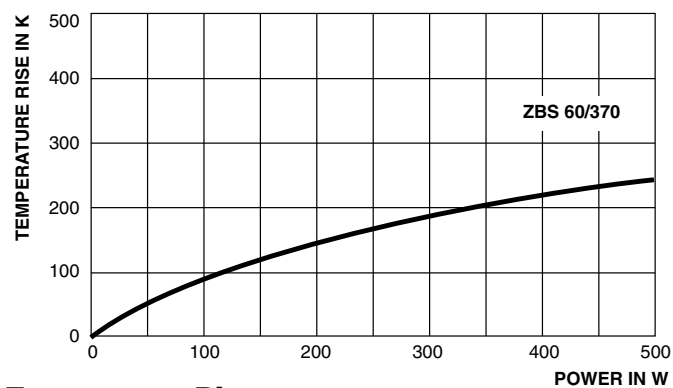
Temperature Rise



Temperature Rise



Temperature Rise



Temperature Rise



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