

HLT

Vishay Dale

# Wirewound Resistors, Industrial Power, Tapped Tubular



# FEATURES

- Fixed taps for voltage dividers
- High temperature silicon coating
- Complete welded construction
- Excellent stability in operation (< 3 % change in resistance)
- Can be used as multi-tap resistor

www.vishay.com/doc?99912

for definitions of compliance

Material categorization:



please see

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### Note

This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	STAND	ARD ELECTR	RICAL SPECIFICA	TIONS				
HL T015 HLT-15 15 0.1 to 18K 10 8.64   HLT020 HLT-25 20 0.1 to 31K 10 12.57   HLT025 HLT-25 25 0.1 to 34K 10 20.72   HLT026 HLT-25 26 0.1 to 59K 10 15.34   HLT050 50 0.1 to 104K 10 42.08   HLT051 HLT-55 55 0.1 to 104K 10 42.08   HLT065 HLT-56 65 0.1 to 136K 10 64.82   HLT060 HLT-70 70 0.1 to 72K 10 64.82   HLT070 HLT-70 70 0.1 to 72K 10 64.82   HLT085 HLT-80 80 0.1 to 72K 10 64.82   HLT080 HLT-80 100 0.1 to 253K 10 13.7   HLT100 100 0.1 to 356K 10 19.3 13.7   HLT120 HLT-120 120 0.1 to 356K 10 192.36   HLT130 HLT-75 175 0.1 to 481K 10 245.66			<i>P</i> 25 °C	TOTAL RESISTANCE WITH ONE TA		WEIGHT (typical) a		
HLT025 HLT-25 25 0.1 to 34K 10 20.72   HLT026 HLT-26 26 0.1 to 59K 10 15.34   HLT050 HLT-50 50 0.1 to 104K 10 42.08   HLT051 HLT-51 51 0.1 to 19K 10 42.08   HLT055 55 0.1 to 19K 10 65.4   HLT060 HLT-66 65 0.1 to 138K 10 65.4   HLT080 HLT-70 70 0.1 to 72K 10 66.48   HLT080 HLT-80 80 0.1 to 164K 10 121.58   HLT080 HLT-70 70 0.1 to 72K 10 66.48   HLT080 HLT-70 70 0.1 to 250K 10 121.58   HLT080 HLT-70 100 0.1 to 260K 10 183.82   HLT120 HLT-10 100 0.1 to 358K 10 192.36   HLT120 HLT-175 175 0.1 to 481K 10 250.80   HLT120 HLT-175 175 0.1 to 481K 10 30.99.0; ± 90	HLT015	HLT-15			10			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	HLT020	HLT-20	20	0.1 to 31K	10	12.57		
H.T050 H.T-50 50 0.1 to 104K 10 42.08   H.T051 H.T-51 51 0.1 to 112K 10 51.96   H.T055 H.T-55 55 0.1 to 49K 10 60.48   H.T060 H.T-60 60 0.1 to 159K 10 65.48   H.T060 H.T-70 70 0.1 to 159K 10 66.482   H.T070 H.T-70 70 0.1 to 164K 10 121.58   H.T085 H.T-80 80 0.1 to 164K 10 121.58   H.T080 H.T-70 70 0.1 to 164K 10 183.82   H.T080 H.T-70 100 0.1 to 253K 10 183.82   H.T130 H.T-120 120 0.1 to 305K 10 183.82   H.T130 H.T-75 175 0.1 to 446K 10 122.58   H.T175 H.T-75 175 0.1 to 426K 10 129.90; ± 90 for 0.1 Ω to 0.99 Ω   Dielectric Withstanding Voltage V 100 0 for 10 Ω and above; ± 50 for 10 Ω to 0.9.9 Ω; ± 90 for 0.1 Ω to 0.99 Ω 1000, form terminal to mounting hardware	HLT025	HLT-25	25		10	20.72		
HLT051 HLT-51 51 0.1 to 112K 10 61.96   HLT055 HLT-55 55 0.1 to 136K 10 60.48   HLT060 HLT-66 60 0.1 to 136K 10 66.48   HLT065 HLT-65 65 0.1 to 136K 10 66.48   HLT065 HLT-60 60 0.1 to 136K 10 66.48   HLT070 TO 0.1 to 72K 10 60.48   HLT080 HLT-70 70 0.1 to 164K 10 121.58   HLT090 HLT-100 100 0.1 to 253K 10 192.36   HLT120 HLT-100 100 0.1 to 358K 10 192.36   HLT130 HLT-10 160 0.1 to 358K 10 192.36   HLT120 HLT-175 175 0.1 to 436K 10 245.80   HLT225 HLT-225 225 0.1 to 436K 10 245.80   HLT225 HLT-225 225 0.1 to 426.80 10 309.97   Dielectric Withstanding Voltage Va.C 1000 from terminal to mounting hardwar	HLT026	HLT-26	26	0.1 to 59K	10	15.34		
HLT055 HLT-55 55 0.1 to 49K 10 60.48   HLT060 HLT-60 60 0.1 to 136K 10 65.64   HLT065 HLT-80 60 0.1 to 139K 10 64.82   HLT070 HLT-80 80 0.1 to 159K 10 64.82   HLT085 HLT-80 80 0.1 to 164K 10 121.58   HLT085 HLT-95 95 0.1 to 253K 10 91.37   HLT120 HLT-10 100 0.1 to 358K 10 192.36   HLT120 HLT-15 175 0.1 to 44K 10 245.86   HLT25 HLT-175 175 0.1 to 44K 10 245.86   HLT25 HLT-125 225 0.1 to 42K 10 245.86   HLT25 HLT-120 225 0.1 to 42K 10 245.86   HLT25 HLT-225 225 0.1 to 622K 10 309.97   TECHNICAL SPECIFICATIONS PARAMETER UNIT HLT RESISTOR CHARACTERISTICS   Temperature Coefficient ppm/°C ± 30 for 10 Ω and above; ± 50 fo	HLT050	HLT-50	50	0.1 to 104K	10	42.08		
HLT055 HLT-55 55 0.1 to 49K 10 60.48   HLT060 HLT-60 60 0.1 to 136K 10 65.64   HLT065 HLT-65 65 0.1 to 159K 10 64.82   HLT070 HLT-80 80 0.1 to 159K 10 64.82   HLT085 HLT-80 80 0.1 to 164K 10 121.58   HLT080 HLT-95 95 0.1 to 253K 10 91.37   HLT120 HLT-10 100 0.1 to 358K 10 123.58   HLT180 HLT-120 120 0.1 to 358K 10 192.36   HLT175 HLT-150 130 0.1 to 446K 10 245.86   HLT255 HLT-175 175 0.1 to 4245.86 10 309.97   TECHNICAL SPECIFICATIONS PAAMETER UNIT HLT RESISTOR CHARACTERISTICS   PAAMETER UNIT HLT RESISTOR CHARACTERISTICS   Temperature Coefficient ppm/*C ± 30 for 10 Ω and above; ± 50 for 1.0 Ω to 9.9 Ω; ± 90 for 0.1 Ω to 0.99 Ω Dielectric Withstanding Voltage V (P × R) <sup>1/2</sup> (P × R) <sup>1/2</sup>	HLT051	HLT-51	51	0.1 to 112K	10	51.96		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	HLT055	HLT-55	55		10	60.48		
HLT070 HLT-70 70 0.1 to 72K 10 60.48   HLT080 HLT-80 80 0.1 to 164K 10 121.58   HLT095 HLT-95 95 0.1 to 96K 10 76.51   HLT100 HLT-100 100 0.1 to 253K 10 91.37   HLT120 HLT-120 120 0.1 to 305K 10 183.82   HLT130 HLT-150 130 0.1 to 358K 10 192.36   HLT155 HLT-155 175 0.1 to 446K 10 245.86   HLT225 HLT-25 225 0.1 to 622K 10 309.97   TECHNICAL SPECIFICATIONS   PARAMETER UNIT HLT RESISTOR CHARACTERISTICS   Temperature Coefficient ppm/°C ± 30 for 10 Ω and above; ± 50 for 1.0 Ω to 9.9 Ω; ± 90 for 0.1 Ω to 0.99 Ω Dielectric Withstanding Voltage V <sub>AG</sub> 100 monting hardware   Short Time Overload - 10 Ω to 9.9 Ω; ± 90 for 0.1 Ω to 0.99 Ω   Maximum Working Voltage V (P × R)^{1/2}   Insulation Resistance Ω 0 K = ± 10.0 %	HLT060	HLT-60	60	0.1 to 136K	10	65.64		
HLT080 HLT-80 80 0.1 to 164K 10 121.58   HLT095 HLT-95 95 0.1 to 96K 10 76.51   HLT100 HLT-120 100 0.1 to 253K 10 91.37   HLT120 HLT-120 120 0.1 to 253K 10 183.82   HLT130 HLT-130 130 0.1 to 358K 10 192.36   HLT160 HLT-175 175 0.1 to 481K 10 245.86   HLT25 HLT-175 175 0.1 to 481K 10 250.80   HLT225 HLT-225 225 0.1 to 622K 10 309.97   TECHNICAL SPECIFICATIONS   PARAMETER UNIT HLT RESISTOR CHARACTERISTICS   Temperature Coefficient ppm/°C ± 30 for 10 Ω and above; ± 50 for 1.0 Ω to 9.9 Ω; ± 90 for 0.1 Ω to 0.99 Ω Dielectric Withstanding Voltage VAC 100 MΩ minimum after moisture test   Operating Temperature Coefficient ppm/°C ± 30 for 10 Ω 0 MΩ minimum dry, 100 MΩ minimum after moisture test Quertain test and additional P/N (prote sin pack (J01)) (for n 1 test and additional P/N (prote sin pack (J01)) (for n 1 test and additional P/N (prote sin pack	HLT065	HLT-65	65	0.1 to 159K	10	64.82		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	HLT070	HLT-70	70	0.1 to 72K	10	60.48		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		HLT-80	80	0.1 to 164K	10	121.58		
HLT100   HLT-100   100   0.1 to 253K   10   91.37     HLT120   HLT-120   120   0.1 to 305K   10   183.82     HLT130   HLT-130   130   0.1 to 358K   10   182.36     HLT106   HLT-160   160   0.1 to 446K   10   245.86     HLT25   HLT-175   175   0.1 to 481K   10   250.80     HLT225   HLT-225   225   0.1 to 622K   10   309.97     TECHNICAL SPECIFICATIONS     PRAMETER   UNIT   HLT RESISTOR CHARACTERISTICS     Temperature Coefficient   ppm/°C   ± 30 for 10 Ω and above; ± 50 for 1.0 Ω to 9.9 Ω; ± 90 for 0.1 Ω to 0.99 Ω     Dielectric Withstanding Voltage   V   (P × R) <sup>1/2</sup> 100 A Ω minimum dry, 100 MΩ minimum after moisture test     Operating Temperature Range   °C   -   100 MΩ minimum dry, 100 MΩ   Second     GLOBAL   PART NUMBER INFORMATION   TERMINAL   RESISTANCE   VALC   VALC   J (*) eskin pack (J01)   (dash nur     HLT20 (see   TerMINAL								
HLT120 HLT-120 120 0.1 to 305K 10 183.82   HLT130 HLT-130 130 0.1 to 305K 10 192.36   HLT160 HLT-160 160 0.1 to 346K 10 245.86   HLT175 HLT-175 175 0.1 to 446K 10 245.86   HLT225 HLT-225 225 0.1 to 622K 10 309.97   TECHNICAL SPECIFICATIONS   PARAMETER UNIT HLT RESISTOR CHARACTERISTICS   Temperature Coefficient ppm/°C ± 30 for 10 Ω and above; ± 50 for 1.0 Ω to 9.9 Ω; ± 90 for 0.1 Ω to 0.99 Ω   Dielectric Withstanding Voltage Vac 1000, from terminal to mounting hardware   Short Time Overload - 10 × rated power for 5 s   Maximum Working Voltage V (P × R) <sup>1/2</sup> Insulation Resistance Ω 1000 MΩ minimum dry, 100 MΩ minimum after moisture test   Operating Temperature Range °C -55 to +350   GLOBAL DESIGNATION R = decimal K = ± 10.0 % E = lead (Pb)-free skin pack (dath or no from 1 to a sapplic ditional P/N's)   Tabe above for dditional P/N's) 15 N								
HLT130 HLT-130 130 0.1 to 358K 10 192.36   HLT160 HLT-160 160 0.1 to 446K 10 245.86   HLT125 HLT-175 175 0.1 to 481K 10 255.86   PARAMETER UNIT HLT RESISTOR CHARACTERISTICS 10 309.97   TECHNICAL SPECIFICATIONS Parameter UNIT HLT RESISTOR CHARACTERISTICS   Parameter UNIT ± 30 for 10 Ω and above; ± 50 for 1.0 Ω to 9.9 Ω; ± 90 for 0.1 Ω to 0.99 Ω Dielectric Withstanding Voltage V 100, from terminal to mounting hardware   Short Time Overload - 100 X rated power for 5 s Maximum Working Voltage V (P × R) <sup>1/2</sup> Insulation Resistance Ω Note Note E = lead (Pb)-free skin pack (J01) SPEC/L   GLOBAL DESIGNATION R = decimal K = thousand Note Note SPEC/L   HLT120 (sce TERMINAL Pectrications" table above for dditional P/N's) TERMINAL PERMINAL TERMINAL Finish RESISTANCE VALUE TOLERANCE VALUE PACKAGING CODE SPEC/L   Mote Disting pack (J01) TERMINAL N = nickel TERMINAL Phoite TERMINAL Pinish								
HLT160 HLT-160 160 0.1 to 446K 10 245.86   HLT175 HLT-175 175 0.1 to 481K 10 245.86   HLT25 HLT-125 225 0.1 to 622K 10 309.97   TECHNICAL SPECIFICATIONS   PARAMETER UNIT HLT RESISTOR CHARACTERISTICS   Temperature Coefficient ppm/°C $\pm$ 30 for 10 Ω and above; $\pm$ 50 for 1.0 Ω to 9.9 Ω; $\pm$ 90 for 0.1 Ω to 0.99 Ω Dielectric Withstanding Voltage V <sub>AC</sub> 1000, from terminal to mounting hardware   Short Time Overload - 10 x rated power for 5 s Maximum Working Voltage V (P x R) <sup>1/2</sup> Insulation Resistance Ω 1000 MΩ minimum dry, 100 MΩ minimum after moisture test - <td>-</td> <td>-</td> <td></td> <td></td> <td></td> <td></td>	-	-						
HLT175HLT-1751750.1 to 481K10250.80HLT225HLT-2252250.1 to 622K10309.97 <b>TECHNICAL SPECIFICATIONS</b> PARAMETERUNITHLT RESISTOR CHARACTERISTICSTemperature Coefficientppm/°C $\pm$ 30 for 10 Ω and above; $\pm$ 50 for 1.0 Ω to 9.9 Ω; $\pm$ 90 for 0.1 Ω to 0.99 ΩDielectric Withstanding VoltageV1000, from terminal to mounting hardwareShort Time Overload-10 x rated power for 5 sMaximum Working VoltageV(P x R) <sup>172</sup> Insulation ResistanceΩ1000 MΩ minimum dry, 100 MΩ minimum after moisture testOperating Temperature Range°C-55 to +350 <b>GLOBAL PART NUMBER INFORMATION</b> Global Part Numbering example: HLT12007Z150R0KJHLT1207Z150R0KJGLOBAL MODELTERMINAL (Pb-free Table above for table above for table table above for table above for 								
HLT225   HLT-225   225   0.1 to 622K   10   309.97     TECHNICAL SPECIFICATIONS   PARAMETER   UNIT   HLT RESISTOR CHARACTERISTICS     Temperature Coefficient   ppm/°C   ± 30 for 10 Ω and above; ± 50 for 1.0 Ω 0.9 9.0; ± 90 for 0.1 Ω to 0.99 Ω     Dielectric Withstanding Voltage   V <sub>AC</sub> 10 × rated power for 5 s     Short Time Overload   -   10 × rated power for 5 s     Maximum Working Voltage   V   (P × R) <sup>1/2</sup> Insulation Resistance   Ω   1000 MΩ minimum dry, 100 MΩ minimum after moisture test     Operating Temperature Range   °C   -55 to +350     GLOBAL PART NUMBER INFORMATION   Global Part Numbering example: HLT12007Z150R0KJ   TOLERANCE   PACKAGING CODE   SPEC/u     MUT120 (see   TERMINAL DESIGNATION   TERMINAL FINISH   RESISTANCE VALUE   TOLERANCE   PACKAGING CODE   SPEC/u     GLOBAL MODEL   DesignArtiON   TELE   E elead   Of 7   Z   1   5   0   R   0   K   J   (dash nur (up to 2 d from 1 to a sapplic     GLOBAL Meetrical above for diditional P/N's)   TERMINAL 15   TERMINA								
TECHNICAL SPECIFICATIONSPARAMETERUNITHLT RESISTOR CHARACTERISTICSTemperature Coefficientppm/°C $\pm$ 30 for 10 $\Omega$ and above; $\pm$ 50 for 1.0 $\Omega$ to 9.9 $\Omega$ ; $\pm$ 90 for 0.1 $\Omega$ to 0.99 $\Omega$ Dielectric Withstanding VoltageV1000, from terminal to mounting hardwareShort Time Overload-1000 M $\Omega$ minimum dry, 100 M $\Omega$ minimum after moisture testOperating Temperature Range°C*PACKAGING CODEGLOBAL PART NUMBER INFORMATIONGlobal Part Numbering example: HLT12007Z150R0KJHLT12007Z150R0KJGLOBAL MODELDECIMAGE TERMINAL DESIGNATIONTERMINAL DESIGNATIONTERMINAL RESISTANCE VALUETOLERANCE K = ± 10.0 %PACKAGING CODE E = lead (Pb)-free skin pack J (1) = skin pack (J01)SPECIA (dash num (up to 2 d from 1 to as applic (dditional P/N's)Bistorical Part Numbering example: HLT-120-07Z150 $\Omega$ 10 %10 %J01Note It HLT-120OPTTOLERANCE Note (1) Tin / lead for type "Z", lead (Pb)-free for type "N"								
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Short Time Maximum \ Insulation F	Overload Norking Voltage Resistance	- - - - - - - - - - - - - - - - - - -	10 x rated power for 5 s $(P \times R)^{1/2}$ 1000 MΩ minimum dry, 100 MΩ minimum after moisture test				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $								
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	HL	T1	2 0 0	7 Z 1 5 0	R 0 K			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	MODEL DESIGNATION FINISH VALUE TOLLHANCE PACKAGING CODE SPECI							
HLT-120 07Z 150 Ω 10 % J01	"Standard Electrical Specifications" table above for additional P/N's) 06 07 09 14 15 (Pb)-free 07 09 14 15 (Pb)-free 07 09 14 15 (Pb)-free 10.0 Ω 1K000 = 10.0 Ω 1K000 = 1 kΩ J (1) = skin pack (J01) Note (1) Tin / lead for type "Z", lead (Pb)-free for type "N" (up to 2 digits) from 1 to 99 as applicable							
			-		10 %	.101		
HISTORICAL MODEL TERMINAL/FINISH RESISTANCE VALUE TOLERANCE PACKAGING								
	HISTORIC	CAL MODEL	TERMINAL/FINISH	RESISTANCE VALUE TO	ERANCE	PACKAGING		

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1 For technical questions, contact: <u>ww2dresistors@vishay.com</u> Document Number: 30221

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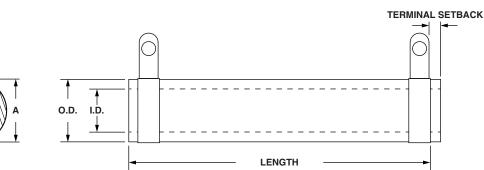
# Product is End of Life Mar-2016 and Replaced by FST



Vishay Dale

HLT

DIMENSIONS



	DIMENSIONS in inches [millimeters]								
MODEL	А	CORE DIMENSIONS			TERMINAL SETBACK	DISTANCE BETWEEN	TERMINAL DESIGNATION		BRACKET
	(max.)	LENGTH ± 0.062 [± 1.59]	O.D.	I.D. ± 0.031 [± 0.79]	± 0.031 [± 0.79]	TEDMINIALS	STANDARD	OPTIONAL	TYPE <sup>(2)</sup>
HLT015	0.563 [14.29]	1.500 [38.10]	0.438 [11.11]	0.313 [7.94]	0.094 [2.38]	0.937 [23.80]	02Z	14N	101, 203, 301
HLT020	0.563 [14.29]	2.000 [50.80]	0.438 [11.11]	0.313 [7.94]	0.094 [2.38]	1.437 [36.50]	02Z	14N	101, 203, 301
HLT025	0.688 [17.46]	2.000 [50.80]	0.563 [14.29]	0.313 [7.94]	0.094 [2.38]	1.312 [33.32]	06Z	15N	101, 203, 301
HLT026	0.563 [14.29]	3.000 [76.20]	0.438 [11.11]	0.313 [7.94]	0.094 [2.38]	2.437 [61.90]	02Z	14N	101, 203, 301
HLT050	0.688 [17.46]	4.000 [101.60]	0.563 [14.29]	0.313 [7.94]	0.094 [2.38]	3.312 [84.12]	06Z	15N	101, 203, 301
HLT051	0.906 [23.02]	3.500 [88.90]	0.750 [19.05]	0.500 [12.70]	0.125 [3.18]	2.75 [69.85]	06Z	15N	102, 206, 303
HLT055	(1)	3.500 [88.90]	(1)	(1)	(1)	2.968 [75.39]	09Z	16N	(1)
HLT060	0.906 [23.02]	4.000 [101.60]	0.750 [19.05]	0.500 [12.70]	0.125 [3.18]	3.250 [82.55]	06Z	15N	102, 206, 303
HLT065	0.906 [23.02]	4.500 [114.30]	0.750 [19.05]	0.500 [12.70]	0.125 [3.18]	3.750 [95.25]	06Z	15N	102, 206, 303
HLT070	(1)	4.750 [120.65]	(1)	(1)	(1)	4.218 [107.14]	09Z	16N	(1)
HLT080	1.313 [33.34]	4.000 [101.60]	1.125 [28.58]	0.750 [19.05]	0.219 [5.56]	2.812 [71.42]	07Z	15N	103, 205, 303
HLT095	(1)	6.000 [152.40]	(1)	(1)	(1)	5.468 [138.89]	09Z	16N	(1)
HLT100	0.906 [23.02]	6.500 [165.10]	0.750 [19.05]	0.500 [12.70]	0.125 [3.18]	5.750 [146.05]	06Z	15N	102, 206, 303
HLT120	1.313 [33.34]	6.000 [152.40]	1.125 [28.58]	0.750 [19.05]	0.219 [5.56]	4.812 [122.23]	07Z	15N	103, 205, 303
HLT130			1.125 [28.58]			5.312 [134.93]	07Z	15N	103, 205, 303
HLT160		8.000 [203.20]				6.812 [173.03]	07Z	15N	103, 205, 303
HLT175		8.500 [215.90]				7.312 [185.73]	07Z	15N	103, 205, 303
HLT225	1.313 [33.34]	10.500 [266.70]	1.125 [28.58]	0.750 [19.05]	0.219 [5.56]	9.312 [236.53]	07Z	15N	103, 205, 303

#### Notes

<sup>(1)</sup> HLT055, HLT070, and HLT095 are HL Flat style, see HL Flat datasheet for detail dimensions.

<sup>(2)</sup> Brackets are available for mounting HLT series resistors - see Mounting Hardware section below.

### **TERMINAL DIMENSIONS**



# **MOUNTING HARDWARE**

Mounting hardware is available for HLT resistors, see "HL Brackets and Sliders" datasheet for more information (www.vishay.com/doc?30279).

# **MATERIAL SPECIFICATIONS**

Element: copper-nickel alloy or nickel-chrome alloy, depending on resistance value

Core: ceramic, steatite

Coating: special high temperature silicone

Standard Terminals: model "E" terminals are tinned steel

### Terminal Bands: steel

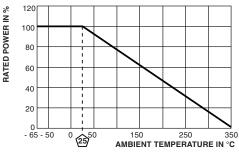
Part Marking: Dale, model, wattage, value, tolerance, date code

DIMENSION	TERMINAL STYLE							
DIVIENSION	02	06	07	09	14	15	16	
Α	0.188	0.250	0.375	0.188	0.188	0.250	0.188	
	[4.76]	[6.35]	[9.53]	[4.76]	[4.76]	[6.35]	[4.76]	
В	0.406	0.563	0.625	0.500	0.563	0.594	0.563	
	[10.32]	[14.29]	[15.88]	[12.70]	[14.29]	[15.08]	[14.29]	
С	0.093	0.166	0.173	0.104	0.050	0.065	0.050	
	[2.36]	[4.22]	[4.39]	[2.64]	[1.27]	[1.65]	[1.27]	
D	0.020	0.020	0.020	0.020	0.020	0.031	0.020	
	[0.51]	[0.51]	[0.51]	[0.51]	[0.51]	[0.79]	[0.51]	

### **TERMINAL FINISH**

"E" Finish - 100 % Sn coated steel. "Z" Finish - 60/40 Sn/Pb coated steel. "N" Finish - Nickel coated steel. Finish for terminal style 14 and 15 is limited to nickel plated steel (N).

### DERATING



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2 For technical questions, contact: ww2dresistors@vishay.com Document Number: 30221

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