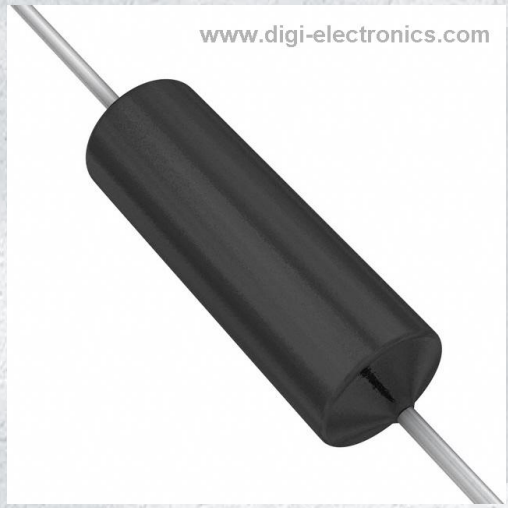
CW010120R0JE12HS Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number	CW010120R0JE12HS-DG
Manufacturer	Vishay Dale
Manufacturer Product Number	CW010120R0JE12HS
Description	RES 120 OHM 13W 5% AXIAL
Detailed Description	120 Ohms ±5% 13W Through Hole Resistor Axial Moisture Resistant, Pulse Withstanding Wirewound

This model CW010120R0JE12HS is available at DiGi Electronics.

DiGi Electronics offers a global database of semiconductor and electronic component datasheets.

We welcome your inquiries regarding pricing, lead time, or other product-related questions.

Request a Quote

Datasheet Search

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
CW010120R0JE12HS	Vishay Dale
Series:	Product Status:
CW	Active
Resistance:	Tolerance:
120 Ohms	±5%
Power (Watts):	Composition:
13W	Wirewound
Features:	Temperature Coefficient:
Moisture Resistant, Pulse Withstanding	±30ppm/°C
Operating Temperature:	Package / Case:
-65°C ~ 350°C	Axial
Supplier Device Package:	Size / Dimension:
Axial	0.375" Dia x 1.781" L (9.52mm x 45.24mm)
Height - Seated (Max):	Number of Terminations:
-	2
Failure Rate:	
-	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	Not Applicable
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8533.21.0080	

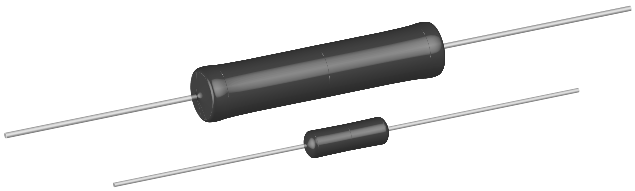
VISHAY

www.vishay.com

CW - High Surge

Vishay Dale

Wirewound Resistors, High Surge Immunity, Silicone Coated, Axial Lead



FEATURES

- High voltage surge immunity, up to 12 kV
- High temperature silicone coating
- Complete welded construction
- Excellent stability in operation
- High power to size ratio
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

e3

RoHS* Available

HALOGEN FREE Available

GREEN (5-2008) Available

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.

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING (1) $P_{25\,°C}$ W CHARACTERISTIC U +250 °C	POWER RATING (1) $P_{25\,°C}$ W CHARACTERISTIC V +350 °C	RESISTANCE RANGE Ω	TOLERANCE ± %	WEIGHT (max.) g
CW001...HS	1.0	-	0.1 to 6.37K	5, 10	0.34
CW02B...HS	3.0	3.75	0.1 to 15K	5, 10	0.7
CW005...HS	5.0	6.5	0.1 to 58.5K	5, 10	4.2
CW010...HS	10.0	13.0	0.1 to 167K	5, 10	9.0

Note

(1) Vishay Dale CW models have two power ratings, depending on operating temperature and stability requirements.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	CW RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/°C	± 30 for 10 Ω and above, ± 50 for 1.0 Ω to 9.9 Ω, ± 90 for 0.5 Ω to 0.99 Ω
Dielectric Withstanding Voltage	V_{AC}	1000
Short Time Overload	-	5 x rated power for 5 s for 3.75 W size and smaller, 10 x rated power for 5 s for 4 W size and greater
Terminal Strength	lb	10 minimum
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Operating Temperature Range	°C	Characteristic U = -65 to +250, characteristic V = -65 to +350
Power Rating	-	Characteristic U = +250 °C max. hot spot temperature, ± 0.5 % max. ΔR in 2000 h load life Characteristic V = +350 °C max. hot spot temperature, ± 3.0 % max. ΔR in 2000 h load life

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: CW02B10K00JB12HS (preferred part number format)

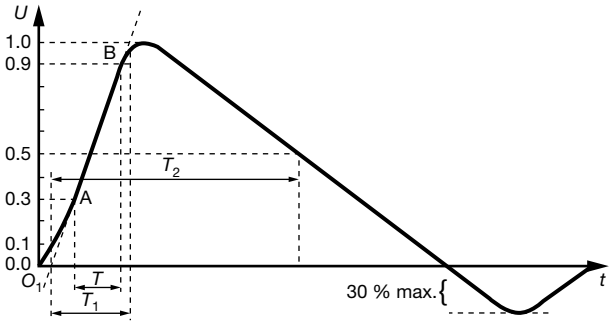
C	W	0	2	B	1	0	K	0	0	J	B	1	2	H	S

GLOBAL MODEL (5 digits)	VALUE (5 digits)	TOLERANCE (1 digit)	PACKAGING (3 digits)	SPECIAL (2 digits)
CW001 **CW02B** **CW005** **CW010**	**R** = Decimal **K** = Thousand **1R500** = 1.5 Ω **1K500** = 1.5 kΩ	**H** = ± 3.0 % **J** = ± 5.0 % **K** = ± 10.0 %	**E70** = Lead (Pb)-free, tape/reel, 1K pcs. (CW001 and CW02B) **E73** = Lead (Pb)-free, tape/reel, 500 pcs. **E12** = Lead (Pb)-free, bulk **S70** = Tin/lead, tape/reel, 1K pcs. (CW001 and CW02B) **S73** = Tin/lead, tape/reel, 500 pcs. **B12** = Tin/lead, bulk	**HS** = High Surge

For technical questions, contact: ww2aresistors@vishay.com

HIGH VOLTAGE SURGE

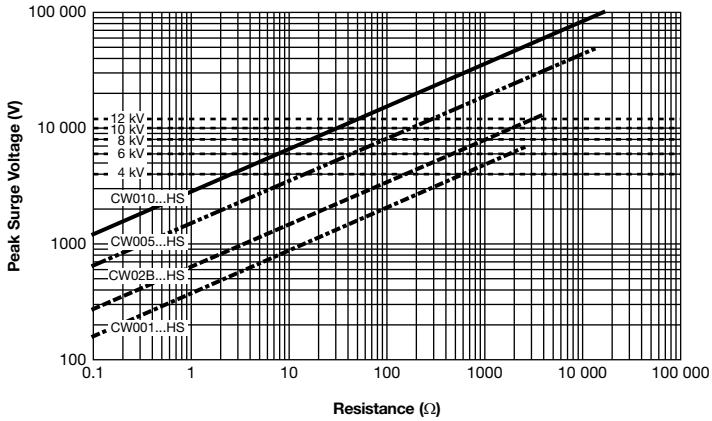
The surge handling capability is based upon applying an exponential open circuit voltage waveform according to specification IEC 61000-4-5 (1.2 µs/50 µs) as shown below at an ambient temperature of 25 °C.



Front time: T_1 = 1.67 x T = 1.2 µs ± 30 %
Time to half-value: T_2 = 50 µs ± 20 %

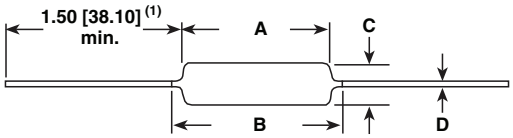
Open circuit voltage waveform at the output of the pulse generator

PEAK SURGE VOLTAGE - IEC 61000-4-5 (1.2 µs/50 µs pulse)



MINIMUM RESISTANCE VALUE FOR SURGE VOLTAGE					
GLOBAL MODEL	PEAK SURGE VOLTAGE				
	4 kV	6 kV	8 kV	10 kV	12 kV
CW001...HS	586 Ω	1.7 Ω	-	-	-
CW02B...HS	151 Ω	457 Ω	1.0 kΩ	1.8 kΩ	3.0 kΩ
CW005...HS	15 Ω	43 Ω	94 Ω	171 Ω	281 Ω
CW010...HS	2.6 Ω	7.6 Ω	17 Ω	30 Ω	50 Ω

DIMENSIONS in inches (millimeters)



MODEL	DIMENSIONS in inches [millimeters]			
	A	B [MAXIMUM] (2)	C	D
CW001...HS	0.406 ± 0.031 [10.31 ± 0.787]	0.437 [11.10]	0.094 ± 0.031 [2.39 ± 0.787]	0.020 ± 0.002 [0.508 ± 0.051]
CW02B...HS	0.562 ± 0.062 [14.27 ± 1.57]	0.622 [15.80]	0.188 ± 0.032 [4.78 ± 0.813]	0.032 ± 0.002 [0.813 ± 0.051]
CW005...HS	0.875 ± 0.062 [22.22 ± 1.57]	1.0 [25.40]	0.312 ± 0.032 [7.92 ± 0.813]	0.040 ± 0.002 [1.02 ± 0.051]
CW010...HS	1.781 ± 0.062 [45.24 ± 1.57]	1.875 [47.62]	0.375 ± 0.032 [9.52 ± 0.813]	0.040 ± 0.002 [1.02 ± 0.051]

Notes

(1) On some standard reel pack methods, the leads may be trimmed to a shorter length than shown.

(2) B (maximum) dimension is clean lead to clean lead.

MATERIAL SPECIFICATIONS

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

Core: Ceramic: Steatite or alumina, depending on physical size

Coating: Special high temperature silicone

Standard Terminals: Tinned Copperweld®

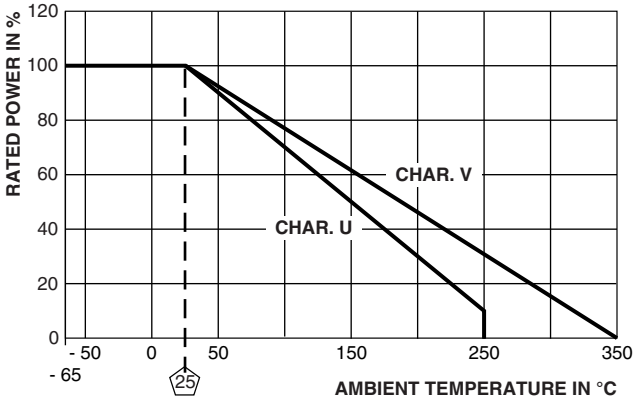
End Caps: Stainless steel

Part Marking: DALE, model, wattage (3), value, tolerance, date code

Note

(3) Wattage marked on resistor will be “V” characteristic.

DERATING



PERFORMANCE

TEST	CONDITIONS OF TEST	TEST LIMITS (4) (CHARACTERISTIC V)
Thermal Shock	Rated power applied until thermally stable, then a minimum of 15 min at -55 °C	± (2.0 % + 0.05 Ω) Δ*R*
Short Time Overload	5 x rated power (3.75 W and smaller), 10 x rated power (4 W and larger) for 5 s	± (2.0 % + 0.05 Ω) Δ*R*
Dielectric Withstanding Voltage	1000 V_{RMS}, 1 min	± (0.1 % + 0.05 Ω) Δ*R*
Low Temperature Storage	-65 °C for 24 h	± (2.0 % + 0.05 Ω) Δ*R*
High Temperature Exposure	250 h at +350 °C	± (4.0 % + 0.05 Ω) Δ*R*
Moisture Resistance	MIL-STD-202 Method 106, 7b not applicable	± (2.0 % + 0.05 Ω) Δ*R*
Shock, Specified Pulse	MIL-STD-202 Method 213, 100 *g*’s for 6 ms, 10 shocks	± (0.2 % + 0.05 Ω) Δ*R*
Vibration, High Frequency	Frequency varied 10 Hz to 2000 Hz, 20 *g* peak, 2 directions 6 h each	± (0.2 % + 0.05 Ω) Δ*R*
Load Life	2000 h at rated power, +25 °C, 1.5 h “ON”, 0.5 h “OFF”	± (3.0 % + 0.05 Ω) Δ*R*
Terminal Strength	5 s to 10 s 10 pound pull test; torsion test - 3 alternating directions, 360° each	± (1.0 % + 0.05 Ω) Δ*R*

Note

(4) All Δ*R* figures shown are maximum, based upon testing requirements per MIL-PRF-26 at a maximum operating temperature of +350 °C. Δ*R* maximum figures are considerably lower when tested at a maximum operating temperature of +250 °C.

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

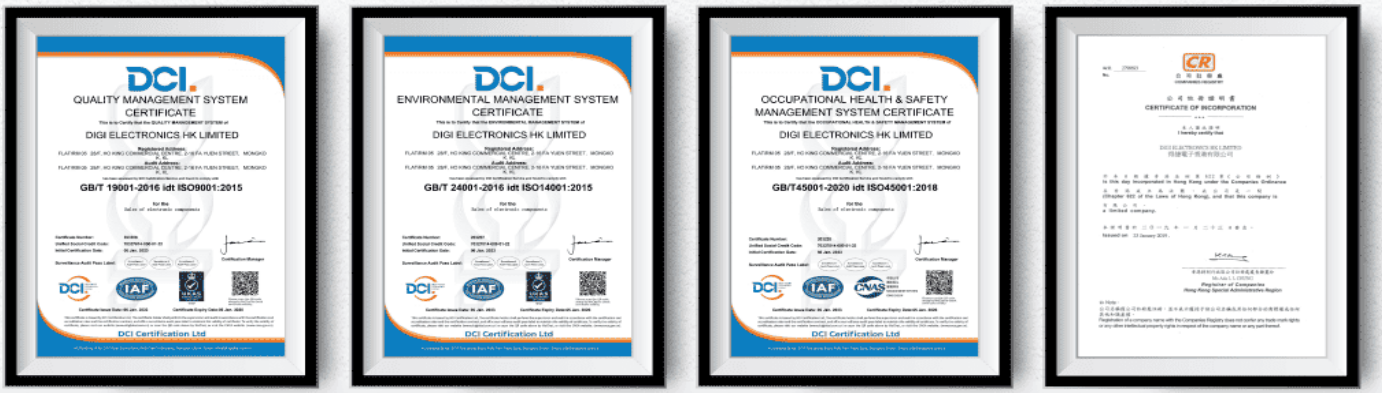
Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

OUR CERTIFICATE

DiGi provide top-quality products and perfect service for customer worldwide through standardization, technological innovation and continuous improvement. DiGi through third-party certification, we striciy control the quality of products and services. Welcome your RFQ to Email: Info@DiGi-Electronics.com



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.