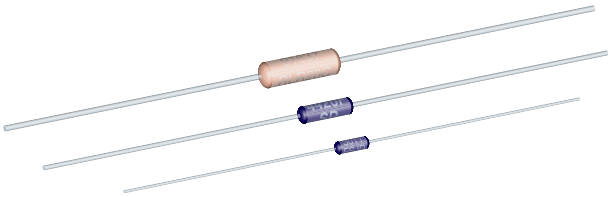
Metal Film Resistors, Axial, Military/Established Reliability, MIL-PRF-55182 Qualified, Precision, Type RNC, Characteristics J, H, K



FEATURES

- Meets requirements of MIL-PRF-55182
- Very low noise (-40 dB)
- Verified failure rate (contact factory for current level)
- 100 % stabilization and screening tests. Group A testing, if desired, to customer requirements
- Controlled temperature coefficient
- Epoxy coating provides superior moisture protection
- Standard lead on RNC product is solderable and weldable
- Traceability of materials and processing
- Monthly acceptance testing
- Vishay Dale has complete capability to develop specific reliability programs designed to customer requirements
- Extensive stocking program at distributors and factory on RNC50, RNC55, RNC60 and RNC65
- For MIL-PRF-55182 characteristics E and C product, see Vishay Angstrohm's HDN (Military RNR/RNN) datasheet (www.vishay.com/doc?66001)

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	MIL-PRF-55182 STYLE	MIL SPEC. SHEET	POWER RATING $P_{70\,°C}$ W	POWER RATING $P_{125\,°C}$ W	TOLERANCE (4) ± %	MAXIMUM WORKING VOLTAGE (2) V	RESISTANCE RANGE Ω	TEMPERATURE COEFFICIENT ± ppm/°C	LIFE FAILURE RATE (1)
ERC50, ERC50..31 (3)	RNC50, RNR50	07	0.10	0.05	0.1, 0.5, 1	200	10 to 796K	100 (K), 50 (H), 25 (J)	M, P, R, S
ERC55, ERC55..65 (3)	RNC55, RNR55	01	0.125	0.10	0.1, 0.5, 1	200	10 to 2M	100 (K), 50 (H), 25 (J)	M, P, R, S
ERC55..200, ERC55..201 (3)	RNC60, RNR60	03	0.25	0.125	0.1, 0.5, 1	250	10 to 2M	100 (K), 50 (H), 25 (J)	M, P, R, S
							2.01M to 3.01M	100 (K), 50 (H), 25 (J)	M
ERC65, ERC65..65 (3)	RNC65, RNR65	05	0.50	0.25	0.1, 0.5, 1	300	10 to 3.01M	100 (K), 50 (H), 25 (J)	M, P, R
ERC70 ERC70..4 (3)	RNC70, RNR70	06	0.75	0.50	0.1, 0.5, 1	350	10 to 3.01M	100 (K), 50 (H), 25 (J)	M, P, R

Notes

(1) Consult factory for current QPL failure rates.

(2) Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.

(3) Hot solder dipped leads.

(4) Tolerance of ± 0.1 % is not applicable to characteristics K.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	CONDITION
Voltage Coefficient, max.	ppm/V	5/V when measured between 10 % and full rated voltage
Dielectric Strength	V_{AC}	RNC50, RNC55 and RNC60 = 450; RNC65 and RNC70 = 900
Insulations Resistance	Ω	≥ 10^{11} dry; ≥ 10^{9} after moisture test
Operating Temperature Range	°C	-65 to +175
Terminal Strength	lb	2 lb pull test on RNC50, RNC55, RNC60 and RNC65; 4.5 lb pull test on RNC70
Solderability		Continuous satisfactory coverage when tested in accordance with MIL-STD-202, method 208
Weight	g	RNC50 = 0.11; RNC55 = 0.35; RNC60 = 0.35; RNC65 = 0.84; RNC70 = 1.06

For technical questions, contact: ff2aresistors@vishay.com

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: RNC55H2152FRR36 (preferred part numbering format)

R	N	C	5	5	H	2	1	5	2	F	R	R	3	6			

MIL STYLE	CHARACTERISTICS	RESISTANCE VALUE	TOLERANCE CODE	FAILURE RATE	PACKAGING	SPECIAL
RNC = solderable/ weldable **RNR** = solderable only (see Standard Electrical Specifications table)	**J** = ± 25 ppm **H** = ± 50 ppm **K** = ± 100 ppm	3 digit significant figure, followed by a multiplier Use "R" for values < 100 Ω **10R0** = 10 Ω **2152** = 21.5 kΩ **3014** = 3.01 MΩ	**B** = ± 0.1 % **D** = ± 0.5 % **F** = ± 1 %	**M** = 1.0 %/1000 h **P** = 0.1 %/1000 h **R** = 0.01 %/1000 h **S** = 0.001 %/1000 h	**B14** = tin/lead, bulk **BSL** = tin/lead, bulk, single lot date code **R36** = tin/lead, T/R (full; 50, 55, 60) **R64** = tin/lead, T/R (full; 65, 70) **RE6** = tin/lead, T/R (1000 pieces) **RSL** = tin/lead, T/R, single lot date code	Blank = standard (Dash number) (Up to 3 digits) From **1 to 999** as applicable **4** = hot solder dip (70's) **31** = hot solder dip (50's) **65** = hot solder dip (55's, 65's) **201** = hot solder dip (60's)

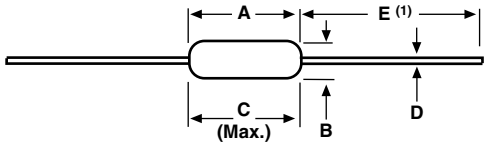
Historical Part Number Example: RNC55H2152FR R36 (will continue to be accepted)

RNC55	H	2152	F	R	R36
MIL STYLE	CHARACTERISTIC	RESISTANCE VALUE	TOLERANCE CODE	FAILURE RATE	PACKAGING

Note

- For additional information on packaging, refer to the Through Hole Resistor Packaging document (www.vishay.com/doc?31544).

DIMENSIONS in inches (millimeters)



Note

(1) Lead length for product in bulk pack. For product supplied in Tape and Reel, the actual lead length would be based on the body size, tape spacing and lead trim.

VISHAY DALE MODEL	MIL-PRF-55182 STYLE	A	B	C (MAX.)	D	E
ERC50	RNC50, RNR50	0.150 ± 0.020 (3.81 ± 0.51)	0.070 ± 0.010 (1.78 ± 0.25)	0.187 (4.75)	0.016 ± 0.002 (0.41 ± 0.05)	1.25 ± 0.266 (31.75 ± 6.76)
ERC55	RNC55, RNR55	0.250 + 0.031 - 0.046 (6.35 + 0.79 - 1.17)	0.094 ± 0.012 (2.39 ± 0.30)	0.300 (7.62)	0.025 ± 0.002 (0.64 ± 0.05)	1.50 ± 0.125 (38.1 ± 3.18)
ERC55..200	RNC60, RNR60	0.280 ± 0.020 (7.11 ± 0.51)	0.097 ± 0.012 (2.46 ± 0.30)	0.350 (8.89)	0.025 ± 0.002 (0.64 ± 0.05)	1.50 ± 0.125 (38.1 ± 3.18)
ERC65	RNC65, RNR65	0.562 ± 0.031 (14.27 ± 0.79)	0.180 ± 0.015 (4.57 ± 0.38)	0.687 (17.45)	0.025 ± 0.002 (0.64 ± 0.05)	1.50 ± 0.125 (38.1 ± 3.18)
ERC70	RNC70, RNR70	0.562 ± 0.031 (14.27 ± 0.79)	0.180 ± 0.015 (4.57 ± 0.38)	0.687 (17.45)	0.032 ± 0.002 (0.81 ± 0.05)	1.50 ± 0.125 (38.1 ± 3.18)

MATERIAL SPECIFICATIONS

Element	Vacuum-deposited nickel-chrome alloy
Core	Fire-cleaned high purity ceramic
Encapsulation	Specially formulated epoxy compound
Termination	Standard lead material is solder-coated copper. Solderable and weldable per MIL-STD-1276, type C

POWER RATING

Power ratings are based on the following two conditions:

1. ± 2.0 % maximum ΔR in 10 000 h load life
2. +175 °C maximum operating temperature

APPLICABLE MIL-SPECIFICATIONS

MIL-PRF-55182:

The ERC series meets the electrical, environmental and dimensional requirements of MIL-PRF-55182.

MIL-R-10509:

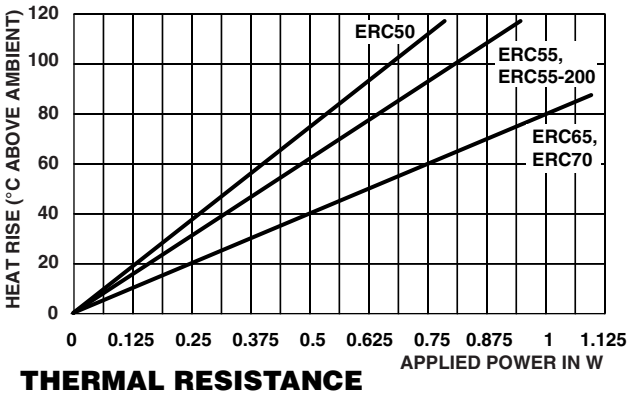
MIL-PRF-55182 supersedes MIL-R-10509 on new designs. The ERC series meets or exceeds MIL-R-10509 requirements.

DOCUMENTATION:

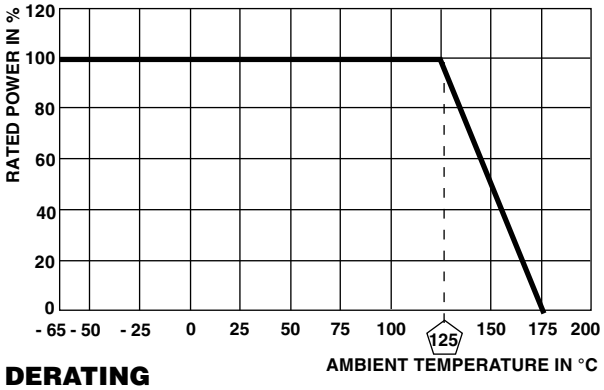
Qualification and failure rate verification test data is maintained by Vishay Dale and is available upon request. Lot traceability and identification data is maintained by Vishay Dale for five years.

CAGE CODE: 91637

Vishay Dale ERC resistors have an operating temperature range of -65 °C to +175 °C. They must be derated according to the following curve:



THERMAL RESISTANCE



DERATING

MARKING (per MIL-PRF-55182)

Characteristics: K = 100 ppm, H = 50 ppm, J = 25 ppm

Tolerance: F = 1 %, D = 0.5 %, B = 0.1 %

Value = three significant figures and multiplier

J = JAN (Joint Army - Navy) brand

RNC/RNR50, 55 (4 lines)

D	Manufacturer's code
210H	3 digit date code and characteristic
1003	Value
FSCJ	Tolerance, failure rate, lead material and JAN

RNC/RNR60, 65, 70 (5 lines)

91637	CAGE code
1213J	4 digit date code and JAN
RNC60J	Style and characteristic
1211FS	Value, tolerance, and failure rate
1209A	Production lot code

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.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. 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.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Multilayer Ceramic Capacitors MLCC - Leaded ***category:***

Click to view products by Vishay ***manufacturer:***

Other Similar products are found below :

010-007220-002REV A M39014/01-1210V M39014/01-1281V M39014/01-1335V M39014/01-1571V M39014/01-1578V M39014/01-1593 M39014/02-1265V M39014/02-1347 M39014/02-1350 M39014/02-1356VTR1 M39014/22-0167 M39014/22-0734 87043-49 Q52-DK AR215F103K4RTR2-3323 C0603C309C5GACTU-CUT-TAPE C410C221K1G5TATR C420C102J1G5TATR C430C104M1U5TATR SL155C222MAB FK26X7R2E104KN006 CCR06CG183GRV CFB1/2C101J CFB1/2C102J CN20C102K M39014/01-1317 M39014/01-1572V M39014/01-1594V M39014/02-1236 M39014/02-1321V M39014/02-1345V M39014/22-0351 M39014/22-0695 M39014/220767 M39014/220788 M39014/22-1005 MA405E334MAA MD015A103KAB SL301E105MAB CCR05CG242FRV KTD101B684M32A0B00 CCR07CG473KR CCR05CG820JP TKC-TMC1206-05-1501-J?? TKC-TMC1206-05-1801-J TKC-TMC1206-05-20R0-F TKC-TMC1206-05-3901-J TKC-TMC1206-05-44R2-F TKC-TMC1206-05-4703-J??