Thick Film Chip Resistors, Military/Established Reliability MIL-PRF-55342 Qualified, Type RM

FEATURES

HALOGEN FREE

- Fully conforms to the requirements of MIL-PRF-55342
- Established reliability - verified failure rate; M, P, R, U, S, V, and T levels
- Construction is sulfur impervious against a high sulfur environment (ASTM B 809-95 test method)
- 100 % group A screening per MIL-PRF-55342
- Termination style B - tin/lead wraparound over nickel barrier
- Operating temperature range is - 55 °C to + 150 °C
- For MIL-PRF-32159 zero ohm jumpers, see Vishay Dale's RCWPM Jumper (Military M32159) datasheet (www.vishay.com/doc?31028)
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL SPECIFICATIONS

Resistive element	Ruthenium oxide
Encapsulation	Epoxy
Substrate	96 % alumina
Termination	Solder-coated nickel barrier
Solder finish	Tin/lead solder alloy

STANDARD ELECTRICAL SPECIFICATIONS

VISHAY DALE MODEL	MIL-PRF-55342 STYLE	MIL SPEC. SHEET	TERM.	CASE SIZE	POWER RATING $P_{70\,°C}$ W	MAX. WORKING VOLTAGE (1) V	RESISTANCE RANGE Ω	TOLERANCE ± %	TEMPERATURE COEFFICIENT (2) ± ppm/°C
RCWPM-0502	RM0502	01	B	0502	0.05	40	1 to 9.1	2, 5, 10	300
							10 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-550	RM0505	02	B	0505	0.125	40	1 to 9.1	2, 5, 10	300
							10 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-5100	RM1005	03	B	1005	0.20	75	1 to 5.6	2, 5, 10	300
							5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-5150	RM1505	04	B	1505	0.15	125	1 to 5.6	2, 5, 10	300
							5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-7225	RM2208	05	B	2208	0.225	175	1 to 5.6	2, 5, 10	300
							5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-575	RM0705	06	B	0705 (3)	0.15	50	1 to 5.6	2, 5, 10	300
							5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-1206	RM1206	07	B	1206	0.25	100	1 to 5.6	2, 5, 10	300
							5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-2010	RM2010	08	B	2010	0.80	150	1 to 5.6	2, 5, 10	300
							5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-2512	RM2512	09	B	2512	1.0	200	1 to 5.6	2, 5, 10	300
							5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-1100	RM1010	10	B	1010	0.50	75	1 to 5.6	2, 5, 10	300
							5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-0402	RM0402	11	B	0402	0.05	30	1 to 9.1	2, 5, 10	300
							10 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-0603	RM0603	12	B	0603	0.10	50	1 to 5.6	2, 5, 10	300
							5.62 to 22M	1, 2, 5, 10	100, 200, 300
RCWPM-0302	RM0302	13	B	0302	0.04	15	1 to 9.1	2, 5, 10	300
							10 to 22M	1, 2, 5, 10	100, 200, 300

Notes

- DSCC has created a series of drawings to support the need for 0201-sized product. Vishay Dale is listed as a resource on this drawing as follows:

DSCC DRAWING NUMBER	VISHAY DALE MODEL	TERM.	POWER RATING $P_{70\,°C}$ W	RES. RANGE Ω	RES. TOL. ± %	TEMP. COEF. ± ppm/°C	MAX. WORKING VOLTAGE (1) V
07009	RCWP-0201	B	0.05	10 to 46.4 47 to 1M	1, 5	200 100	30

This drawing can be viewed at: www.landandmaritime.dla.mil/Programs/MilSpec/ListDwgs.aspx?DocTYPE=DSCCdwg.

(1) Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.
(2) Characteristics: K = ± 100 ppm/°C; L = ± 200 ppm/°C; M = ± 300 ppm/°C.
(3) MIL case size 0705 and EIA case size 0805 are dimensionally the same.

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: M55342M02B10E0RWB (preferred part number format)

M	5	5	3	4	2	M	0	2	B	1	0	E	0	R	W	B	

MIL STYLE	CHARACTERISTICS	SPEC. SHEET	TERMINATION STYLE	VALUE AND TOLERANCE	FAILURE RATE	PACKAGING [1]	SPECIAL
D55342 applies to Style 07 (RM1206) only. **M55342** applies to all other styles.	**K** = 100 ppm **L** = 200 ppm **M** = 300 ppm	(see Standard Electrical Specifications table)	**B** = Pre-tinned nickel barrier, wraparound	(see Tolerance and Multipliers table)	**C** = Non-ER **M** = 1.0 %/1000 h **P** = 0.1 %/1000 h **R** = 0.01 %/1000 h **U** = 0.01 %/1000 h [2] **S** = 0.001 %/1000 h **V** = 0.001 %/1000 h [2] **T** = Space level	**TP** = Tin/lead, T/R (full) **TN** = Tin/lead, T/R (full), w/ESD **UL** = Tin/lead, T/R single lot date code **S3** = Tin/lead, T/R (1000 pieces) **SV** = Tin/lead, T/R (1000 pieces), w/ESD **WB** = Tin/lead, waffle tray **WA** = Tin/lead, waffle tray, w/ESD **WL** = Tin/lead, waffle tray, single lot date code **S2** = Tin/lead, T/R (500 pieces) **SU** = Tin/lead, T/R (500 pieces), w/ESD **S6** = Tin/lead, T/R (300 pieces) **ST** = Tin/lead, T/R (300 pieces), w/ESD	Blank = Standard (Dash number) (Up to 1 digits) **S** = Space level w/option 1 part marking (-97) [3] **T** = Space level (-98) **2** = Option 1 part marking (-20) [3] **3** = Options 2 and 3 part marking (-30) [3]

Historical Part Numbering: M55342M02B10E0R (will continue to be accepted)

M55342	M	02	B	10E0	R	WB
MIL STYLE	CHARACTERISTICS	SPEC. SHEET	TERMINATION STYLE	VALUE AND TOLERANCE	FAILURE RATE	PACKAGING CODE

Notes

- For additional information on packaging, refer to the Surface Mount Resistor Packaging document (www.vishay.com/doc?31543).

(1) Products with space level failure rates are only offered in packaging codes with ESD overpack and labeling. For all other failure rates, the ESD pack codes are an optional type of packaging.

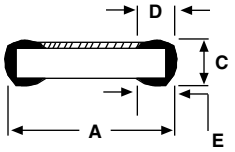
(2) Failure rates U and V require group A and B inspection ran on each production lot.

(3) MIL spec option 1, 2, and 3 part marking is not offered for the slash sheet 01, 02, 11, and 13 sizes.

RESISTANCE TOLERANCE AND MULTIPLIERS

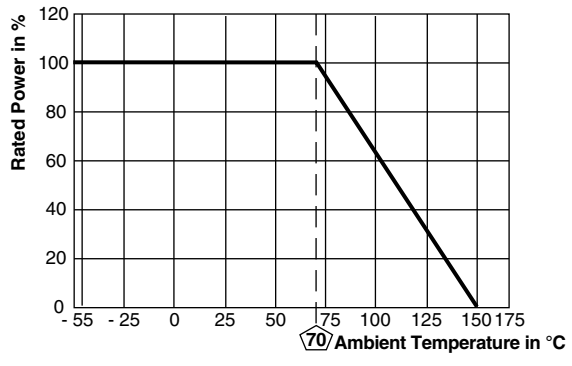
TOLERANCE				MULTIPLIER	VALUE RANGE (Ω)
± 1 %	± 2 %	± 5 %	± 10 %		
D	G	J	M	1	1 to 9xx
E	H	K	N	1000	1K to 9xxK
F	T	L	P	1 000 000	1M to 22M
Examples:		11D3 = 11.3 Ω ± 1 % 10E0 = 10 kΩ ± 1 % 332D = 332 Ω ± 1 % 2F21 = 2.21 MΩ ± 1 % 51G0 = 51 Ω ± 2 % 10H0 = 10 kΩ ± 2 % 33H0 = 33 kΩ ± 2 % 22T0 = 22 MΩ ± 2 %		15J0 = 15 Ω ± 5 % 10K0 = 10 kΩ ± 5 % 560K = 560 kΩ ± 5 % 8L20 = 8.2 MΩ ± 5 % 10M0 = 10 Ω ± 10 % 10N0 = 10 kΩ ± 10 % 2P70 = 2.7 MΩ ± 10 % 8P20 = 8.2 MΩ ± 10 %	

DIMENSIONS in inches (millimeters)



VISHAY DALE MODEL	MIL-PRF-55342 STYLE	MIL SPEC. SHEET	A (LENGTH)	B (WIDTH)	C (HEIGHT)	D (TOP TERM)	E (BOTTOM TERM)
RCWPM-0502	RM0502	01	0.055 ± 0.005 (1.40 ± 0.13)	0.023 ± 0.003 (0.58 ± 0.08)	0.015 ± 0.003 (0.38 ± 0.08)	0.010 ± 0.005 (0.25 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWPM-550	RM0505	02	0.055 ± 0.005 (1.40 ± 0.13)	0.050 ± 0.005 (1.27 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.010 ± 0.005 (0.25 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWPM-5100	RM1005	03	0.105 ± 0.005 (2.67 ± 0.13)	0.050 ± 0.005 (1.27 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWPM-5150	RM1505	04	0.155 ± 0.005 (3.94 ± 0.13)	0.050 ± 0.005 (1.27 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWPM-7225	RM2208	05	0.230 ± 0.005 (5.84 ± 0.13)	0.075 ± 0.005 (1.91 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)
RCWPM-575	RM0705	06	0.080 ± 0.005 (2.03 ± 0.13)	0.050 ± 0.005 (1.27 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.016 ± 0.008 (0.41 ± 0.20)	0.015 ± 0.005 (0.38 ± 0.13)
RCWPM-1206	RM1206	07	0.125 ± 0.005 (3.18 ± 0.13)	0.063 ± 0.005 (1.60 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWPM-2010	RM2010	08	0.197 ± 0.006 (5.00 ± 0.15)	0.098 ± 0.005 (2.49 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)
RCWPM-2512	RM2512	09	0.250 ± 0.005 (6.35 ± 0.13)	0.124 ± 0.005 (3.15 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)
RCWPM-1100	RM1010	10	0.105 ± 0.005 (2.67 ± 0.13)	0.100 ± 0.005 (2.54 ± 0.13)	0.020 ± 0.005 (0.51 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWPM-0402	RM0402	11	0.039 ± 0.003 (0.99 ± 0.08)	0.020 ± 0.003 (0.51 ± 0.08)	0.013 ± 0.003 (0.33 ± 0.08)	0.010 ± 0.005 (0.25 ± 0.13)	0.010 ± 0.005 (0.25 ± 0.13)
RCWPM-0603	RM0603	12	0.063 ± 0.005 (1.60 ± 0.13)	0.032 ± 0.005 (0.81 ± 0.13)	0.018 ± 0.005 (0.46 ± 0.13)	0.012 ± 0.005 (0.30 ± 0.13)	0.015 ± 0.005 (0.38 ± 0.13)
RCWPM-0302	RM0302	13	0.034 ± 0.004 (0.86 ± 0.10)	0.021 ± 0.003 (0.53 ± 0.08)	0.013 ± 0.003 (0.33 ± 0.08)	0.007 ± 0.005 (0.18 ± 0.13)	0.008 ± 0.005 (0.20 ± 0.13)
RCWP-0201			0.024 ± 0.002 (0.61 ± 0.05)	0.012 ± 0.002 (0.30 ± 0.05)	0.009 ± 0.002 (0.23 ± 0.05)	0.006 ± 0.003 (0.15 ± 0.08)	0.006 + 0.002 - 0.004 (0.15 + 0.05 - 0.10)

DERATING CURVE



CAGE CODE: 91637 and SH903

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.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Thick Film Resistors - SMD ***category:***

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

Other Similar products are found below :

CRCW04028R20JNEE CRCW06036K80FKEE CRG1206F1K58 CRL0603-FW-R700ELF M55342K06B6E19RWL RC1005F1072CS RC1005F471CS RC1005F4751CS RCP0603W100RGED ERJ-1GMF1R00C ERJ-1GMF1R20C ERJ-1GMF2R55C ERJ-1GMF8R66C 25121WF1003T4E 25.501.3653.0 290-1.0M-RC 292-1.0M-RC 292-2.2K-RC 292-4.7K-RC 25121WF4700T4E 292-470K-RC 302-1.0M-RC CPG1206F10KC CRCW02011R00FXED CRCW060315K0FKEE CRCW060320K5FKEE CRG0201F10K RCP2512B100RGWB RCWP12061K00FKS2 3520510RJT 352075KJT M55342K11B9E53RUL RMC16-102JT RMC1JPTE TR0603MR-075K1L 5-2176094-4 35202K7JT WF06Q1000FTL ERJ-S14J4R7U CHP2512L4R30GNT WR12X1621FTL RCWP11001K00FKS3 LRC-LRF3W-01-R050-FTR1800 9-2176088-6 NRC06F1002TR20F CRCW02013M30FNED CRCW060343K0FKEE WR04X5360FTL RCA060345K3FKEA LTR100JZPF33R0