

Wirewound Resistors, Commercial Power, Silicone Coated, Capacitor Mount


FEATURES

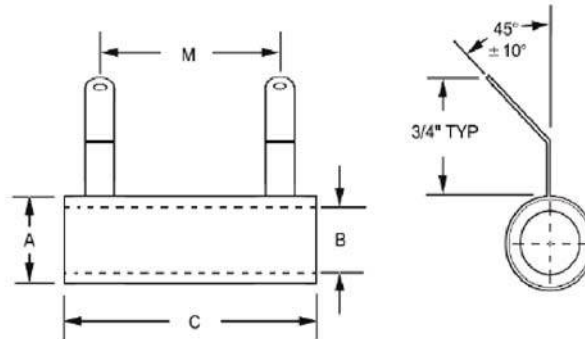
- High temperature silicone coating
- Mounts directly onto the terminal studs of three popular sizes of capacitance without additional leads or terminals
- Extra long terminals keep damaging heat away from the capacitor terminals
- Available in non-inductive style (special "NI") with Ayrton-Perry winding
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25\text{ }^\circ\text{C}}$ W	RESISTANCE RANGE Ω	TOLERANCE \pm %	WEIGHT (typical) g
CMS16	CMS-16	16	1.0 to 59K	5, 10	7.5
CMS20	CMS-20	20	1.0 to 95K	5, 10	8.64
CMS22	CMS-22	22	1.0 to 105K	5, 10	8.64

GLOBAL PART NUMBER INFORMATION																
Global Part Numbering example: CMS16CME20K00JE (visit www.vishay.net SAP parts manual for all options)																
C	M	S	1	6	C	M	E	2	0	K	0	0	J	E		
GLOBAL MODEL (5 digits)	TERMINAL DESIGNATION (2 digits)	TERMINAL FINISH (1 digit)	VALUE (5 digits)		TOLERANCE (1 digit)	PACKAGING CODE (1 digit)	SPECIAL (up to 2 digits)									
CMS16 CMS20 CMS22	CA CM	E = lead (Pb)-free	R = decimal K = thousand 1R500 = 1.5 Ω 1K500 = 1.5 k Ω		J = \pm 5 % K = \pm 10 %	E = Lead (Pb)-free cell and bulk pack	(Dash number) From 1 to 99 as applicable NI = non-inductive									
Historical Part Number example: CMS-16-20K-5 %																
CMS-16			20 k Ω			5 %										
HISTORICAL MODEL			RESISTANCE VALUE			TOLERANCE										

APPLICATION PHOTOS

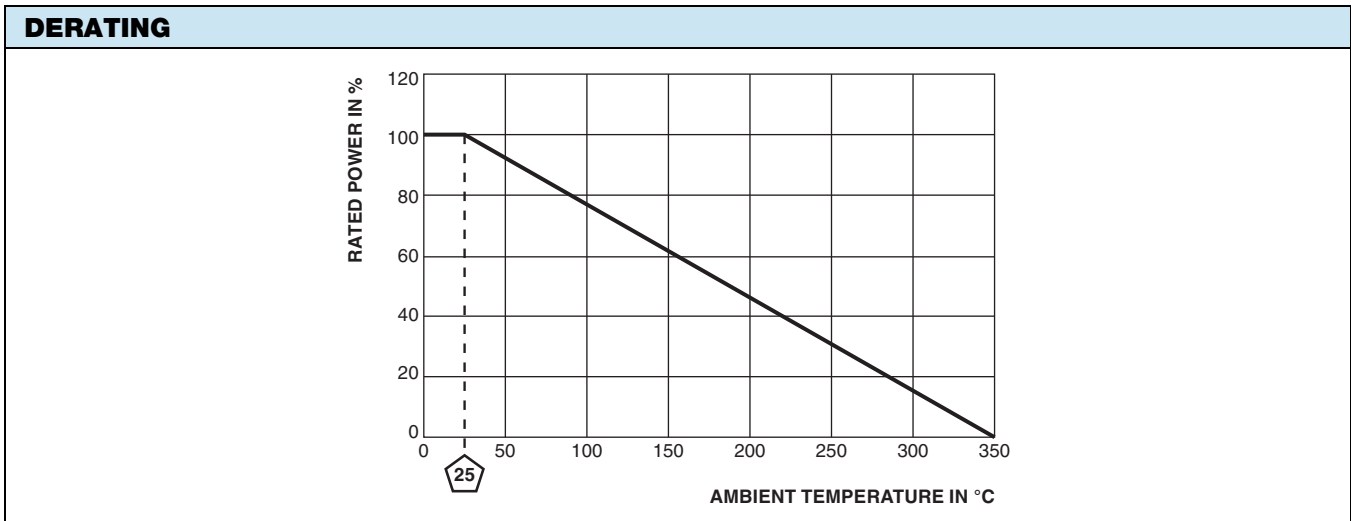
DIMENSIONS in inches [millimeters]


MODEL	CORE DIMENSIONS				TERMINAL DESIGNATION	
	A TYPICAL	B ± 0.031 [0.79]	C ± 0.062 [1.59]	M ± 0.0118 [0.3]	CM HOLE DIAMETER TYPICAL	CA HOLE DIAMETER TYPICAL
CMS16	0.562 [14.29]	0.312 [7.94]	1.25 [31.75]	0.875 [22.22]	0.197 [5.00]	0.265 [6.73]
CMS20	0.562 [14.29]	0.312 [7.94]	1.750 [44.45]	1.125 [28.58]	0.197 [5.00]	0.265 [6.73]
CMS22	0.562 [14.92]	0.312 [7.94]	1.750 [44.45]	1.250 [31.75]	0.197 [5.00]	0.265 [6.73]



TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Power Rating	W	16 to 22
Resistance Range	Ω	1 to 105k
Resistance Tolerance	%	5
Temperature Coefficient	ppm/ $^{\circ}$ C	± 260 for 20 Ω and above, ± 400 for 1 Ω to 19.99 Ω
Operating Temperature	$^{\circ}$ C	-55 $^{\circ}$ C to 350 $^{\circ}$ C
Temperature Rise	$^{\circ}$ C	325 $^{\circ}$ C above an ambient of 25 $^{\circ}$ C
Maximum Altitude	f.a.s.l.	10 000
Short-Term Overload	-	10x rated power for 5 s
Surge Windings	-	Available
Maximum Working Voltage	-	$(P \times R)^{0.5}$
Insulation Resistance	Ω	1M
Dielectric Voltage	V _{RMS}	1000 V _{AC}
Creepage	-	Varies by wattage, see "Terminal Setback" in Dimensions table
Terminal Sleeves	-	n/a
Inductance	μ H	Varies by wattage and resistance
Non-Inductive Winding	-	Available
Terminal Strength	lb	10 lbs
Electrical or Mechanical Customization	-	Contact factory: ww2dresistors@vishay.com

MATERIAL SPECIFICATIONS	
Element	Copper-nickel alloy or nickel-chrome alloy, depending on resistance value
Core	Cordierite, steatite
Coating	Special high temperature silicone
Standard Terminals	Tinned alloy 42
Optional Terminals	Alloy 42
Terminal Bands	Alloy 42
Part Marking	HEI, model, wattage, value, tolerance, date 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.

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.

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.