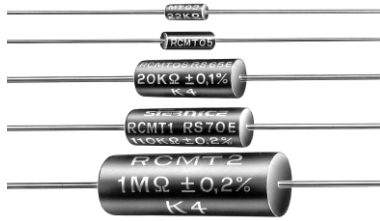


Molded Metal Film High Stability High Temperature High Precision Resistors



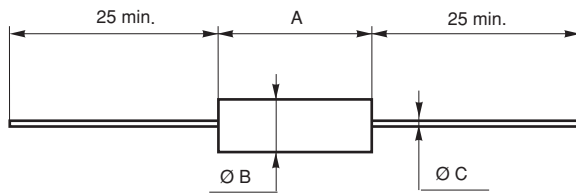
The performance of the RCMT resistors exceed the requirements of NF C 83-230 and MIL-R-55182 standards. They are, particularly, relevant to the more stringent military and industrial applications especially when high ambient temperatures such as + 175°C are to be encountered.

The RCMT resistors are qualified and released to the NF C UTE 83-230 standard styles RS56C, RS60E and C, RS65E and C, RS70E and C.

FEATURES

- 0.1W to 2W at 125°C
- NF C 83-230
- CECC 40 101-044
- High climatic performance - 65°C/+ 175°C/56 days
- High stability
- Tight temperature coefficient to $\pm 15\text{ppm}/^\circ\text{C}$
- Temperature coefficient tracking 5ppm/°C
- Wide ohmic range
- Tight tolerances up to $\pm 0.1\%$
- Matching tolerance 0.05%

DIMENSIONS in millimeters



SERIES DIMENSIONS	RCMT 01	RCMT 02	RCMT 05	RCMT 08	RCMT 1	RCMT 2	RCMT 4
A max.	4.32	6.7	10.4	16.5	19.3	29	54
Ø B max.	2.03	2.5	3.66	6.4	6.4	10.2	10.2
Ø C	0.4	0.6	0.6	0.8	0.8	0.8	0.8
Unit weight in g	0.11	0.28	0.46	1.3	1.5	4.4	13

TEMPERATURE COEFFICIENT

T.C. CODE	TEMPERATURE RANGE	NOMINAL TEMPERATURE COEFFICIENT	TEMPERATURE RANGE	TYPICAL TEMPERATURE COEFFICIENT
K5	0°C + 155°C	$\pm 15\text{ppm}/^\circ\text{C}$	0°C + 70°C	$\pm 10\text{ppm}/^\circ\text{C}$
K4	- 55°C + 175°C	$\pm 25\text{ppm}/^\circ\text{C}$	- 10°C + 70°C	$\pm 15\text{ppm}/^\circ\text{C}$
K3	- 55°C + 175°C	$\pm 50\text{ppm}/^\circ\text{C}$	- 10°C + 70°C	$\pm 30\text{ppm}/^\circ\text{C}$

ENVIRONMENTAL SPECIFICATIONS

Insulation Resistance $>10^7\text{M}\Omega$
Voltage Coefficient 10ppm/volt
Environmental Specifications - 65°C/+ 175°C/56 days

PRACTICAL OPERATING TOLERANCES

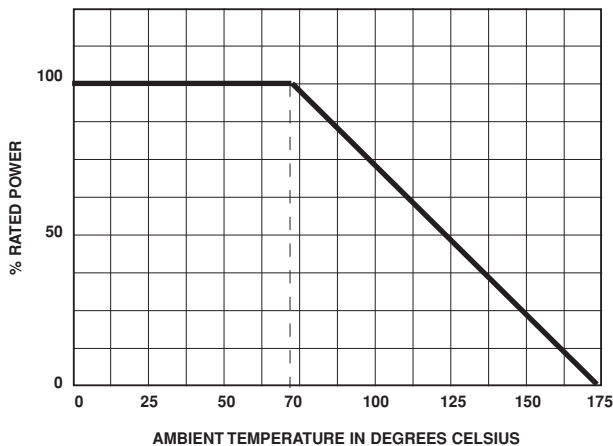
After the 10000 hours load life test, at nominal power rating, 90'/30' cycles, +125°C ambient temperature, the total actual drifts measured at +125°C are the following:

Manufacturing tolerance	$\pm 0.1\%$	$\pm 1\%$
Drift due to T.C. (K4) + life drift	$\pm 0.25\%$	$\pm 0.35\%$
Max. total deviation from nominal ohmic value, including the manufacturing tolerance	$\pm 0.35\%$	$\pm 1.35\%$

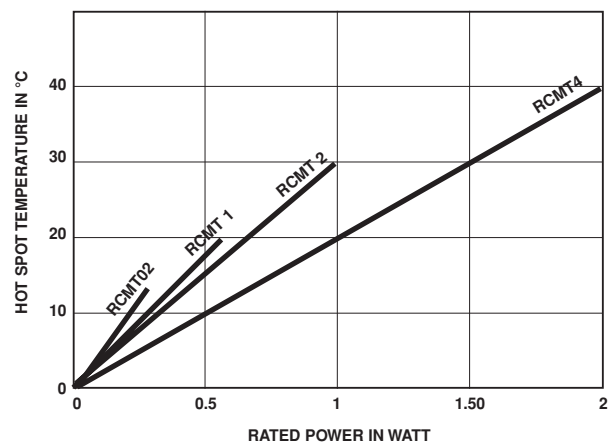
TECHNICAL SPECIFICATIONS												
VISHAY SFERNICE SERIES	NFC 83-230 CECC 40 101-044	MIL-R-55182	POWER RATING AT +70°C	POWER RATING AT +125°C	RESISTANCE VALUE RANGE IN RELATION TO - TEMPERATURE COEFFICIENT - TOLERANCE						MAXIMUM VOLTAGE	CRITICAL RESISTANCE
					K3		K4		K5			
					± 0.2%	± 0.5% ± 1%	± 0.1% ± 0.2%	± 0.5% ± 1%	± 0.1% ± 0.2%	± 0.5% ± 1%		
RCMT 01 K3	-	RNR 50H	0.063W	0.05W	10Ω	1Ω	49.9Ω	49.9Ω	100Ω	100Ω	200V	-
RCMT 01 K4	-	RNR 50J			511kΩ	511kΩ	100kΩ	511kΩ	100kΩ	100kΩ		
RCMT 02 K3	RS 56C	RNR 55H	0.125W	0.1W	10Ω	1Ω	10Ω	1Ω	10Ω	10Ω	300V	-
RCMT 02 K4	RS 56E	RNR 55J			332kΩ	332kΩ	332kΩ	332kΩ	100kΩ	332kΩ		
RCMT 05 K3	RS 60C	RNR 60H	0.25W	0.125W	10Ω	1Ω	10Ω	1Ω	10Ω	10Ω	350V	980kΩ
RCMT 05 K4	RS 60E	RNR 60J			332kΩ	1MΩ	332kΩ	1MΩ	332kΩ	1MΩ		
RCMT 08 K3	RS 65C	RNR 65H	0.5W	0.25W	10Ω	1Ω	10Ω	1Ω	10Ω	10Ω	400V	640kΩ
RCMT 08 K4	RS 65E	RNR 65J			1MΩ	1.5MΩ	1MΩ	1.5MΩ	750kΩ	1.5MΩ		
RCMT 1 K3	RS 70C	RNR 70H	1W	0.5W	10Ω	1Ω	10Ω	1Ω	10Ω	10Ω	500V	500kΩ
RCMT 1 K4	RS 70E	RNR 70J			1MΩ	2MΩ	1MΩ	2MΩ	750kΩ	2MΩ		
RCMT 2 K3	-	RNR 75H	2W	1W	10Ω	1Ω	10Ω	1Ω	10Ω	10Ω	600V	360kΩ
RCMT 2 K4	-	RNR 75J			1MΩ	2.5MΩ	1MΩ	2.5MΩ	1MΩ	2.5MΩ		
RCMT 4 K3	-	-	4W	2W	10Ω	1Ω	10Ω	1Ω	10Ω	10Ω	800V	320kΩ
RCMT 04 K4	-	-			2.5MΩ	5MΩ	2.5MΩ	5MΩ	2MΩ	2.5MΩ		

Undergoes European Quality Insurance System (CECC)

POWER RATING CHART



TEMPERATURE RISE





PERFORMANCE			
NF C 83-230 - CECC 40 101-044			TYPICAL VALUES AND DRIFTS
TESTS	CONDITIONS	REQUIREMENTS	
Dielectric Voltage	2 Un/ 1 mn	± 0.25%	< ± 0.05% or 0.05Ω
Short Time Overload	2,5 Um / 5 s limited to 2 Un	± 0.25%	± 0.05% or 0.05Ω
Load Life at maximum Category Temperature	1000 h at +155°C 0% of Pr	± 0.5%	± 0.25% or 0.05Ω
Damp Heat Humidity (Steady State)	56 days with low load	± 0.5%	± 0.2% or 0.05Ω Insulation resist. >10 ⁶ MΩ
Rapid Temperature Change	- 55°C + 175°C	± 0.1%	± 0.05 % or 0.05Ω
Climatic Sequence	- 65°C + 175°C severity 1	± 0.5% Insulation resist. >10 ³ MΩ	± 0.2% or 0.05Ω Insulation resist. >10 ⁶ MΩ
Terminal Strength	Pull - Twist - 2 bends	± 0.1%	± 0.05% or 0.05Ω
Vibration	Severity 55 B	± 0.1%	± 0.05% or 0.05Ω
Soldering (Thermal Shock)	+ 260°C 10 s	± 0.1%	± 0.05% or 0.05Ω
Load Life	cycle 90'/30' 1000 h at Pn	± 0.5%	± 0.15% or 0.05Ω
	70°C ambient 10000 h at Pn	-	± 0.25% or 0.05Ω
Shelf Life	1 year ambient temperature	-	< ± 0.05%

NOISE LEVEL

In a frequency decade, the average noise level is 0,1 μ V/V for models RCMT08, RCMT1, RCMT2 and RCMT4 in all ohmic values. It progressively increases as a function of the ohmic value and can reach 0.2 μ V/V for the highest values of models RCMT02 and RCMT05 (0.1 μ V/V for R<10 kΩ).

SPECIAL APPLICATIONS

Temperature coefficient tracking to 5 ppm.
Tolerance matching to 0.05%.
Selection of positive or negative T.C. in temperature range of - 20°C to + 125°C.
For these applications and other requirements consult VISHAY SFERNICE.

RECOMMENDATION

The lower the ohmic value the more important is the influence of lead resistance on measurements. The nominal resistance value, therefore is measured at a distance of 5 mm from resistor body.

MARKING

Printed: series, style, NF style if applicable, ohmic value (in Ω), tolerance (in %), temperature coefficient, manufacturing date.
Due to lack of space, RCMT 02 is referenced as MT 02.

ORDERING INFORMATION						
RCMT	02		332kΩ	± 0.5%	K5	
SERIES	STYLE	SPECIAL DESIGN	OHMIC VALUE	TOLERANCE	TEMPERATURE COEFFICIENT	PACKAGING
		Method N° Optional				Optional