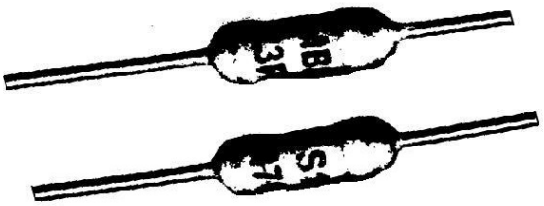
SFERNICE

RMB
RMBS

SPARE PARTS

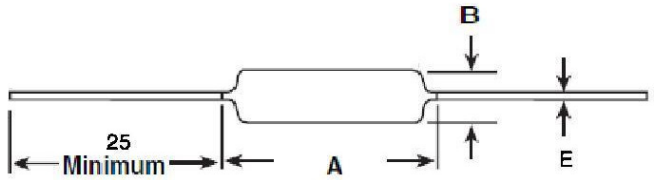
moulded precision wirewound resistors
– axial leads

0,75 W to 3 W
at 25°C
MIL-R-26 E
NF C 83-210
CECC 40201-005



High stability and low temperature coefficient are the main features of the precision wirewound resistors type RMB RMBS series just as maintenance part. Their performances can be compared with those of the best film resistors but they have in addition a greater power rating. RMBS models meet the more severe requirements of the NF C 83210 (all RMBS models are approved) and characteristics U of MIL-R-26 E (approximate size of RW 70 and 79 resistors) specifications. The two series RMB and RMBS have a similar construction. RMBS are submitted, in addition to a process which further increases the stability. On request, non-inductive resistors are available under the reference RMB NI.

- **LOW TEMPERATURE COEFFICIENT**
- **LOW OHMIC VALUES**
- **EXCELLENT BEHAVIOUR AGAINST HUMIDITY**
- **ELECTRICAL INSULATION**
- **MECHANICAL STRENGHT**



Dimensions in mm

Table 1

Serie and style	RMB 0,75 RMBS 0,5	RMB 1,5 RMBS 1	RMB 3 RMBS 2
A max	6,5	10,2	16,2
Ø B max	2,5	4	6,4
Ø E ± 0,1	0,6	0,6	0,8
Weight (ing.)	0,3	0,7	1,5

FEATURES

Table 2

SFERNICE SERIES AND STYLES		RMB 0,75	RMB 1,5	RMB 3	RMBS 0,5	RMBS 1	RMBS 2
NF C 83-210		–	–	–	RP1	RP2	RP3
CECC 40201-005		–	–	–	A	B	C
POWER RATING	at 25°C	0,75 W	1,5 W	3 W	0,5 W	1 W	2 W
	at 70°C	0,6 W	1,2 W	2,4 W	0,4 W	0,8 W	1,6 W
OHMIC RANGE IN RELATION TO TOLERANCE	± 5 % E24	0,1 Ω 2 kΩ	0,1 Ω 6,81 kΩ	0,051 Ω 13 kΩ	0,1 Ω 2 kΩ	0,1 Ω 6,81 kΩ	0,051 Ω 13 kΩ
	± 2 % E48	0,1 Ω 2 kΩ	0,1 Ω 6,81 kΩ	0,08 Ω 12,3 kΩ	0,1 Ω 2 kΩ	0,1 Ω 6,81 kΩ	0,078 Ω 12,4 kΩ
	± 1 % E96	0,1 Ω 2 kΩ	0,1 Ω 6,81 kΩ	0,1 Ω 12,4 kΩ	0,1 Ω 2 kΩ	0,1 Ω 6,81 kΩ	0,1 Ω 12,4 kΩ
	± 0,5 % E96	0,4 Ω 2 kΩ	0,4 Ω 6,81 kΩ	0,3 Ω 12,4 kΩ	0,4 Ω 2 kΩ	0,4 Ω 6,81 kΩ	0,3 Ω 12,4 kΩ
	± 0,1 %	Please consult SFERNICE					
QUALIFIED OHMIC RANGE NF C 83-210		–	–	–	1 Ω 174 kΩ	1 Ω 590 kΩ	1 Ω 1,3 kΩ
LIMITING ELEMENT VOLTAGE		non applicable	120 V	200 V	non applicable	120 V	200 V
CRITICAL RESISTANCE		out of nominal ohmic range					

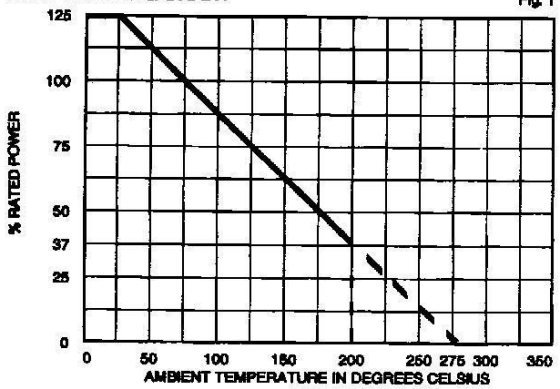
PERFORMANCES

Table 3

TESTS	CONDITIONS	REQUIREMENTS MIL-R-26 E	REQUIREMENTS NF C 83-210	TYPICAL VALUES AND DRIFTS RMB	TYPICAL VALUES AND DRIFTS RMBS
DIELECTRIC W/s VOLTAGE	700 V RMS	± (0,1 % + 0,05 Ω)	–	± (0,05% + 0,01Ω)	± (0,05% + 0,01Ω)
SHORT TIME OVERLOAD	5 Pn at 25°C / 5s	± (0,2 % + 0,05 Ω)	± 0,25 % + 0,05 Ω	± (0,1% + 0,01Ω)	± (0,05% + 0,01Ω)
CLIMATIC SEQUENCE	NF C 83-210 –55°C/+200°C 5 cycles	–	± 0,25 % + 0,05 Ω Insulation R >100 MΩ	± (0,1% + 0,01Ω) >10⁴ MΩ	± (0,05% + 0,01Ω) >10⁴ MΩ
HUMIDITY (steady state)	NF C 83-210 56 days 95% R.H.	–	± 0,25 % + 0,05 Ω Insulation R > 100 MΩ	± (0,1% + 0,01Ω) >10⁴ MΩ	± (0,05% + 0,01Ω) >10⁴ MΩ
THERMAL SHOCKS	Load at 100% P followed by cold temp. exposure at –55°C	± (0,2 % + 0,05 Ω)	–	± (0,2% + 0,01Ω)	± (0,1% + 0,01 Ω)
VIBRATIONS	MIL-STD-202 Method 204 - Test D: 20 g 10/2000 Hz	± (0,2 % + 0,05 Ω)	± 0,25 % + 0,05 Ω	± (0,01% + 0,01Ω)	± (0,01% + 0,01 Ω)
LOAD LIFE	MIL-STD-202 Method 108 Pr 2000 h	± (0,5 % + 0,05 Ω)	± 0,25 % + 0,05 Ω 1000 h at 25°C	± (1% + 0,01Ω)	± (0,15% + 0,01 Ω)
MOISTURE RESISTANCE	MIL-STD-202 Method 106	± (0,2 % + 0,05 Ω) Insulation resistance >100 MΩ	–	± (0,1% + 0,01Ω) >10³ MΩ	± (0,05% + 0,01Ω) >10³ MΩ
HIGH TEMPERATURE	1000 h at + 200°C	± (0,5 % + 0,05 Ω)	± 0,5 % + 0,05 Ω Insulation R >1 GΩ	± 1 %	± 0,3 %
SHOCKS	MIL-STD-202 100 g Method 205 Test C	± (0,1 % + 0,05 Ω)	± 0,25 % + 0,05 Ω	± 0,05 %	± 0,05 %

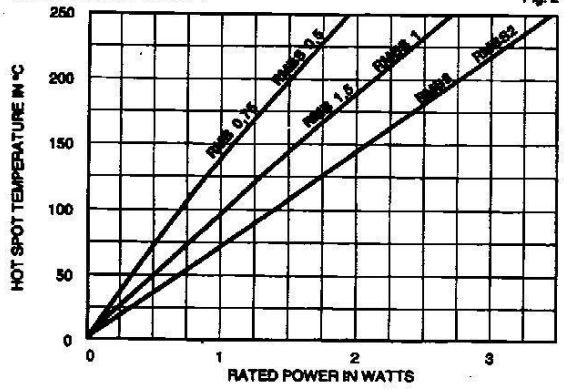
POWER RATING CHART

Fig. 1



TEMPERATURE RISE

Fig. 2



TEMPERATURE COEFFICIENT IN THE RANGE –55° +200°C

Table 4

Ohmic range	Requirements NF C 83210 MIL-R-26E	Typical values SFERNICE
Rn <1 Ω	≤ ±100 ppm/°C	±60 ppm/°C
1 Ω ≤ Rn <10 Ω	≤ ± 50 ppm/°C	
Rn ≥10 Ω	≤ ± 25 ppm/°C	+0 to -20 ppm/°C

STABILITY AND POWER RATING

Stability changes slightly according to power rating and ambient temperature. This fact is specially important for users needing a life drift lower than the initial resistance tolerance. Typical drifts, after 2000 h life test made under the 90'/30' conditions and at a 25°C ambient temperature are :

Table 5

Series style	RMBS 0,5	RMBS 1	RMBS 2	ΔR/R	Series style	RMB 0,75	RMB 1,5	RMB 3	ΔR/R
Pn	0,5W	1W	2W	0,15%	P max	1W	2W	3,5W	1%
1/2 Pn	0,25W	0,5W	1W	0,075%	Pn	0,75W	1,5W	3W	0,5%
					1/2 Pn	0,4W	0,75W	1,5W	0,3%

MARKING

Series, CECC style (if applicable)
nominal resistance (in Ω), tolerance (in %).

ORDERING PROCEDURE

SERIES	STYLE	NON INDUCTIVE WINDING	SPECIAL DESIGN	OHMIC VALUE	TOLERANCE
RMB or RMBS	3	NI		10 kΩ	±0,5 %
		Optional	Method N° Optional	Custom items are subject to extra-charge and min. order.	