


RHK $\leq \begin{smallmatrix} 02 \\ 02A \end{smallmatrix}$

hermetically sealed ultra high precision resistor metal foil

– bulk metal®

0,3 W at 25°C



The RHK series is manufactured under a specific sealing process which insulates the resistive chip from any environmental stress, thus offering performances of stability and accuracy beyond those so far available on the market.

- ULTRA PRECISION
- VERY HIGH STABILITY $< 5 \cdot 10^{-6}$ year or $< 10 \cdot 10^{-6}/3$ years (shelf life)
- CLIMATIC STABILITY
- MECHANICAL STRENGTH
- SMALL SIZE
- VERY LOW TEMPERATURE COEFFICIENT
- NON MEASURABLE NOISE
- EXCELLENT ELECTRICAL INSULATION

RHK02

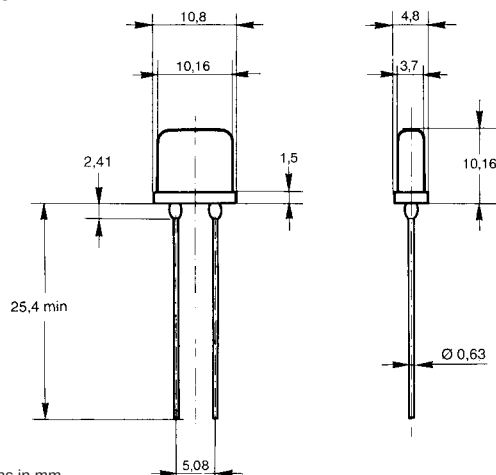


Fig. 1

RHK02A

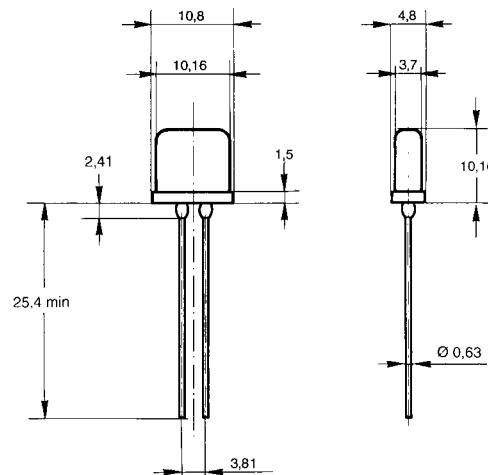


Fig. 2

Dimensions in mm

SPECIFICATIONS

MECHANICAL

MECHANICAL PROTECTION...	metal housing
RESISTIVE ELEMENT...	nickel-chromium
TERMINAL LEADS...	tinned copper
UNIT WEIGHT...	1,4 g max.

ENVIRONMENTAL

TEMPERATURE LIMITS...	-55°C +125°C
CLIMATIC CATEGORY...	55 / 100 / 56

ELECTRICAL

RESISTANCE VALUE RANGE...	35 Ω ... 250 k Ω
RESISTANCE TOLERANCE...	to $\pm 0,001$ %
POWER RATING...	0,3 W at 25°C
TEMPERATURE COEFFICIENT	$< \pm 5$ ppm/°C in the range -55°C +125°C
DIELECTRIC VOLTAGE...	500 V RMS
INSULATION RESISTANCE...	$9 \cdot 10^{-4}$ M Ω typical
LIMITING ELEMENT VOLTAGE...	200 V
CRITICAL RESISTANCE...	160 k Ω
NOISE...	non measurable
TYPICAL CAPACITANCE...	1 pF
RISE TIME...	1 nanosecond

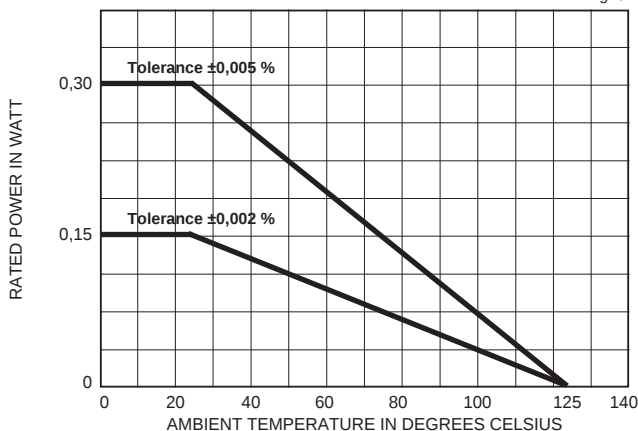
PERFORMANCES

Table 1

TESTS	CONDITIONS	REQUIREMENTS max. SFERNICE	TYPICAL DRIFTS
OVERLOAD	2Pr U max. ≤ 2 Un/10 mn	$\pm 0,005 \%$	$\pm 0,002 \%$
TEMPERATURE CYCLING	5 cycles -55°C $+125^{\circ}\text{C}$	$\pm 0,005 \%$	$\pm 0,001 \%$
TERMINALS STRENGTH	CEI 68-2-21 Test Ua (pulling) Ub (bending) Uc (twisting)	–	non measurable
RESISTANCE TO SOLDERING HEAT	260°C/10 s CEI 68-2-20A Test TB (Met.1A)	–	non measurable
VIBRATIONS	10 Hz to 55 Hz 0,75 mm or 10 g 6 h Met. B4 CEI 68-2-6 Test FC	–	non measurable
CLIMATIC SEQUENCE	-55°C $+125^{\circ}\text{C}$ 6 cycles 95% R.H. 85 mbar CEI 68-1	$\pm 0,005 \%$ Insulation R > 7,5.10 ⁴ M Ω	$\pm 0,001 \%$ Insulation R > 9.10 ⁴ M Ω
HUMIDITY (STEADY STATE)	56 days 95% R.H. 40°C CEI 68-2-3	$\pm 0,005 \%$	$\pm 0,001 \%$
MOISTURE RESISTANCE	Method 106 MIL-STD-202	–	non measurable
LOAD LIFE	Un 90°/30° cycle 2000 h Ambient temperature 25°C	$\pm 0,005 \%$	$\pm 0,002 \%$
HIGH TEMPERATURE EXPOSURE	1000 h at 125°C	$\pm 0,005 \%$	$\pm 0,002 \%$
HERMETICAL SEAL TEST	CEI-68-2-17 Test QK Helium 5 bars 1 h	10 ⁻⁷ atm cm ³ /s	10 ⁻⁷ atm cm ³ /s

POWER RATING CHART

Fig. 3



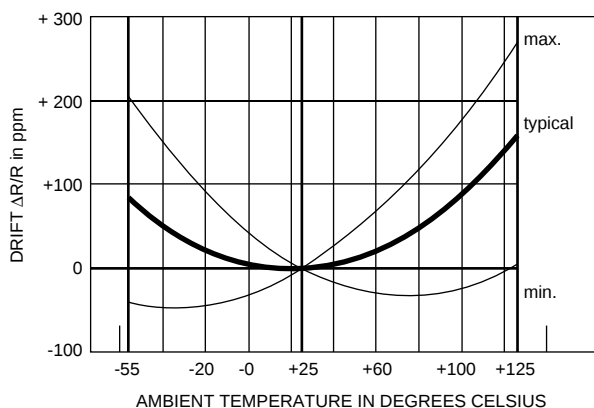
RESISTANCE OHMIC RANGE IN RELATION TO TOLERANCE

Table 2

Ohmic range	5 Ω <10 Ω	10 Ω <20 Ω	20 Ω <30 Ω	30 Ω <50 Ω	50 Ω <500 Ω	500 Ω <1 k Ω	1 k Ω 250 k Ω
Tolerance up to	$\pm 0,1\%$	$\pm 0,05\%$	$\pm 0,02\%$	$\pm 0,01\%$	$\pm 0,005\%$	$\pm 0,0025\%$	$\pm 0,001\%$

TEMPERATURE COEFFICIENT

Fig. 4



TEMPERATURE COEFFICIENT

The T.C. for RHK 02 resistors is better than :
 ± 1 ppm/°C over the temperature range 0°C to +60°C
 ± 5 ppm/°C over the temperature range -55°C to $+125^{\circ}\text{C}$.

SPECIAL REQUIREMENTS

Consult SFERNICE.

MARKING

SFERNICE trademark, series, style, nominal resistance (in Ω), tolerance (in %), manufacturing date.

RECOMMENDATION FOR USE

Soldering +220°C max. 5 seconds.

ORDERING PROCEDURE

SERIES	STYLE	OPTION	OHMIC VALUE	TOLERANCE
RHK	02	A	20 k Ω	$\pm 0,001\%$



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