



Corp. Automotive Components Gr.

THE NEW VALUE FRONTIER



A KYOCERA GROUP COMPANY

Parameter on Ceramic Resonators

PBRC-HR Series

11th-Dec. 2015

KYOCERA Corporation
Automotive Components
Engineering division
Engineering section

京セラ株式会社

1. Series Name

PBRC-HR series

(+85deg.C / consumer/industrial / 7.4 x 3.4 mm)

2. Electrical Characteristics

(key parameters)

PN	Freq	Freq Initial Tolerance	Freq Temp Stability	Resonant Impedance
	(MHz)	(%)	(%)	ohm
PBRC2.00HR50X000	2.00	±0.5	±0.5	200
PBRC2.45HR50X000	2.45	±0.5	±0.5	200
PBRC2.46HR50X000	2.46	±0.5	±0.5	200
PBRC3.58HR50X000	3.58	±0.5	±0.5	30
PBRC3.68HR50X000	3.68	±0.5	±0.5	30
PBRC4.00HR50X000	4.00	±0.5	±0.5	30
PBRC4.19HR50X000	4.19	±0.5	±0.5	30
PBRC4.91HR50X000	4.91	±0.5	±0.5	30
PBRC5.00HR50X000	5.00	±0.5	±0.5	30
PBRC6.00HR50X000	6.00	±0.5	±0.5	30

PN	Freq	Freq Initial Tolerance	Freq Temp Stability	Resonant Impedance
	(MHz)	(%)	(%)	ohm
PBRC7.37HR50X000	7.37	±0.5	±0.5	30
PBRC8.00HR50X000	8.00	±0.5	±0.5	30
PBRC10.00HR50X000	10.00	±0.5	±0.5	150
PBRC11.06HR50X000	11.06	±0.5	±0.5	150
PBRC12.00HR50X000	12.00	±0.5	±0.5	150
PBRC14.74HR50X000	14.74	±0.5	±0.5	150
PBRC16.00HR50X000	16.00	±0.5	±0.5	150
PBRC20.00HR50X000	20.00	±0.5	±0.5	150

(other common parameters)

Items	Specifications
Standard Test IC	MC14069UB(2.0-8.0MHz) / MC74HCU04(8.01-20.0mHz) (Freescale)
Withstanding Voltage	100 V D.C. 10 sec max.
Max. Input Signal Voltage	15 Vp-p
Insulation Resistance	100 M Ω min. (at 10 V D.C.)
Operating Temperature Range	-40 to +85°C
Storage Temperature Range	-40 to +85°C
Aging for 10 years on Oscillating Frequency	fosc $\pm$ 0.30 % max. (at 25°C from initial value)

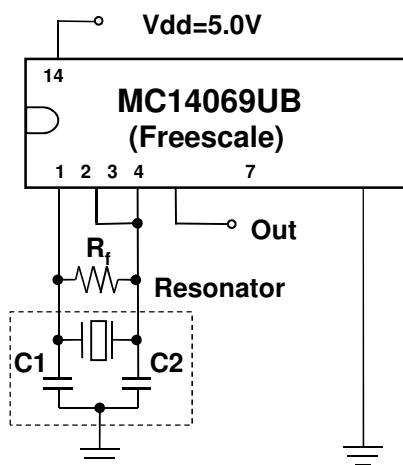
3-1. Measurement Condition

The reference temperature shall be 25 ± 2 °C.

The measurement shall be performed in the temperature range from 15 to 35°C unless otherwise the result is doubtful.

3-2. Measurement Circuit

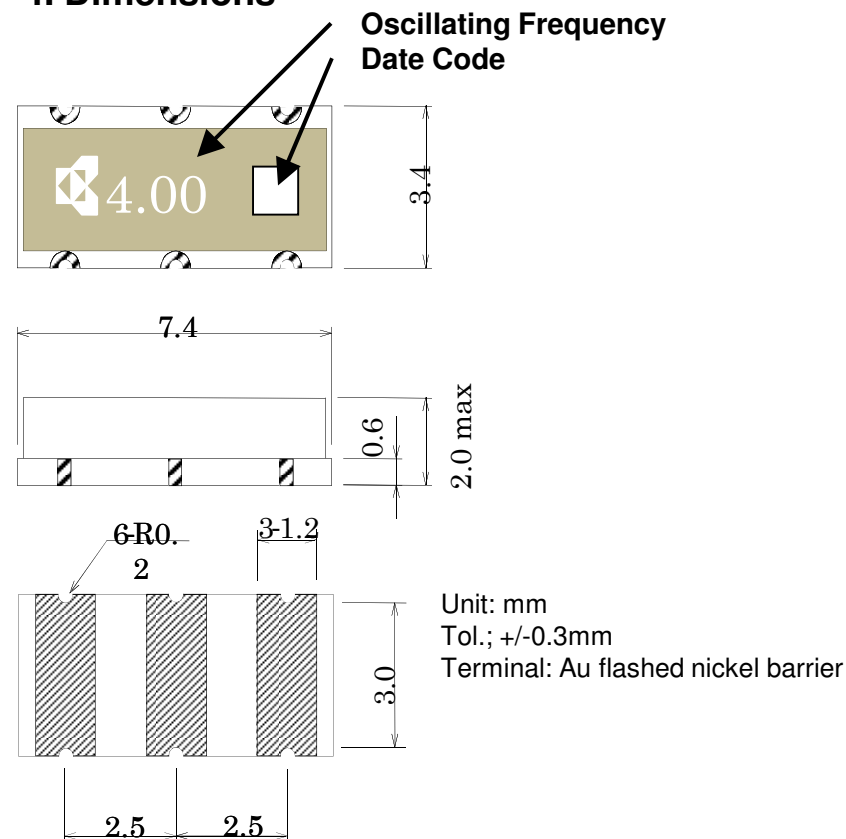
Oscillating frequency shall be measured using the Kyocera standard test circuit shown in Fig. 1.



$R_f = 1M\Omega$
 $C1 = C2 = 30$ pF (Reference)

Fig.1 Standard Measuring Circuits

4. Dimensions



Oscillating Frequency

ex.4.00 (4.00 is the meaning of 4.00MHz/Oscillating Frequency)

Date Code

Jan. to Dec. 2013: A to M (except "I")

Jan. to Dec. 2014: N to Z (except "O")

Jan. to Dec. 2015: a to m (except "i")

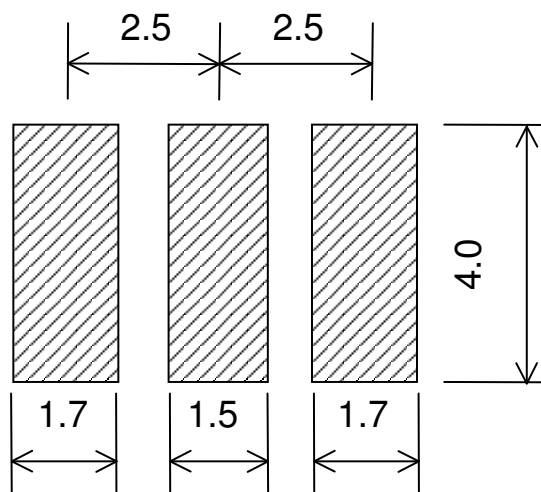
Jan. to Dec. 2016: n to z (except "o")

Note:

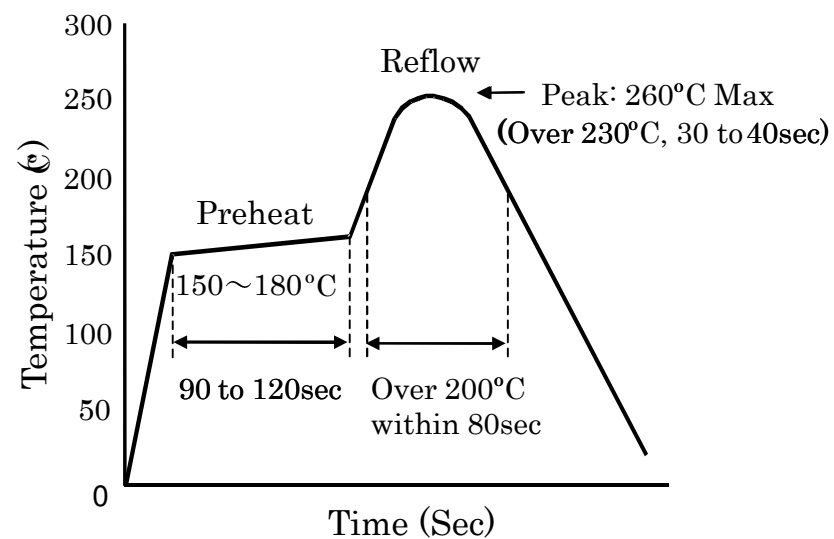
These alphabets should be after Jan.2017.

5. Recommended Land Pattern

Unit: mm



6. Recommended IR Reflow Profile



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

AVX:

[PBRC18.00HR70X000](#) [PBRC-2.45BR-AL](#) [PBRC-2.45BR\AL](#) [PBRC-5.64BR](#) [PBRC-4.19BR-AL](#)

Kyocera:

[PBRC-4.00BR-AL](#) [PBRC-8.00BR-AL](#) [PBRC-6.60BR](#) [PBRC-6.75AR](#) [PBRC-6.96BR03](#) [PBRC-9.00BR07](#)
[PBRC5.64HR50X000](#) [PBRC-4.19AR](#) [PBRC-6.96AR](#) [PBRC-16.00BR07](#) [PBRC-11.0592BR](#) [PBRC-16.00BR](#) [PBRC-6.00BR-AL](#) [PBRC-11.06BR07](#) [PBRC-2.45BR](#) [PBRC-3.68BR](#) [PBRC-4.19BR](#) [PBRC-6.00BR](#) [PBRC-8.00BR](#) [PBRC-20.00BR](#) [PBRC-4.91BR](#) [PBRC-7.00AR](#) [PBRC-4.00AR](#) [PBRC-5.00AR](#) [PBRC-7.37BR](#) [PBRC-10.24BR07](#) [PBRC-10.70BR07](#) [PBRC-12.28BR07](#) [PBRC-12.29BR07](#) [PBRC-14.31BR07](#) [PBRC-14.32BR07](#) [PBRC-14.60BR07](#) [PBRC-15.00BR07](#) [PBRC-2.41AR](#) [PBRC-2.43AR](#) [PBRC-2.44AR](#) [PBRC-2.50AR](#) [PBRC-2.56AR](#) [PBRC-3.00AR](#) [PBRC-3.18BR](#) [PBRC-3.20BR](#) [PBRC-3.24AR](#) [PBRC-3.38BR](#) [PBRC-3.60AR](#) [PBRC-3.69BR](#) [PBRC-3.93AR](#) [PBRC-3.98AR](#) [PBRC-4.50AR](#) [PBRC-4.92AR](#) [PBRC-5.00BR](#) [PBRC-5.06BR](#) [PBRC-5.46BR\AL](#)