

Crystal Units

for Automotive



2

These crystal units for automotive feature a small package and highly accurate frequency, based on Murata's excellent package technology and high grade quartz crystal elements.

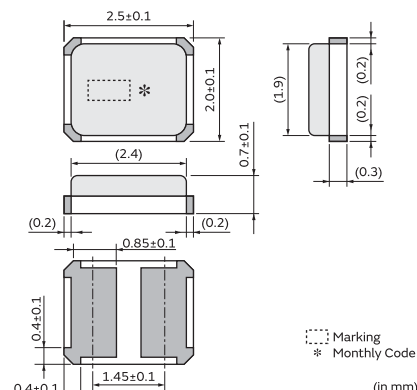
Features

1. The series has high reliability and is available for a wide temperature range.
2. The crystal units are extremely small, contributing to a reduction in the mounting area.
3. The series complies to RoHS and ELV directives, being lead-free (phase 3).
4. The series complies to AEC-Q200.

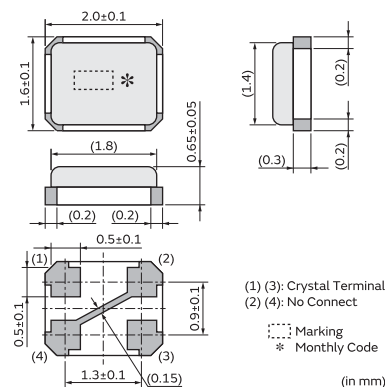
Applications

1. Power Train (ex. Engine/Transmission management ECU)
2. ADAS (ex. Camera for driver assist, Image processing, Emergency Brake Assist ECU)
3. Chassis, Safety applications, etc.
4. Car multimedia equipment.

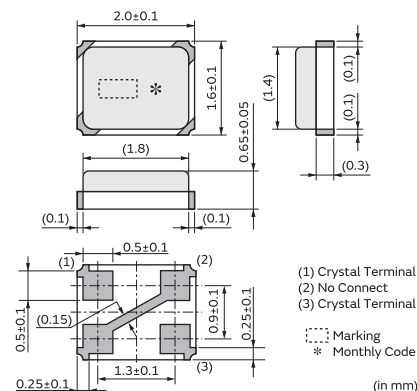
XRCHA_F_A
(HCR2520)
16.0000–24.0000MHz



XRCGB_F_A
(HCR2016)
24.0000–48.0000MHz



XRCGB_F_G
(HCR2016)
24.0000–48.0000MHz



Series

Series	Type	Package	Frequency (MHz)	Frequency Tolerance (ppm max.) [at 25°C±3°C]	Frequency Shift by Temperature (ppm max.) [Standard Condition: +25°C]	Frequency Aging (ppm max./Year)	Operating Temperature Range (°C)	Applications
XRCHA_F_A	HCR2520	Resin	16.0000 to 24.0000	±100	±100	±5	-40 to +125*	ADAS, Power Train, Chassis, Safety
XRCGB_F_A	HCR2016		24.0000 to 48.0000	±30/±50	±35/±65	±2	-40 to +125	ADAS, Power Train, Chassis, Safety
XRCGB_F_G				±30/±45/±100	±50	±5	-40 to +85	Car Multimedia

* +150°C is available.

Part Number List

<XRCHA_F_A (For Automotive)>

Part Number	Type	Frequency (MHz)	Frequency Tolerance (ppm max.) [at 25°C±3°C]	Frequency Shift by Temperature (ppm max.) [Standard Condition: +25°C]	Frequency Aging (ppm max./Year)	ESR* (Ωmax.)	Load Capacitance (pF)	Drive Level (μW max.)
XRCHA16M000F0A01R0	HCR2520	16.0000	±100	±100 (-40 to +125°C)	±5	100	8	300
XRCHA16M000F0A11R0	HCR2520	16.0000	±100	±100 (-40 to +125°C)	±5	100	8	600
XRCHA16M000F0A12R0	HCR2520	16.0000	±100	±100 (-40 to +150°C)	±5	100	8	300
XRCHA16M000F0A13R0	HCR2520	16.0000	±100	±100 (-40 to +150°C)	±5	100	8	600
XRCHA20M000F0A01R0	HCR2520	20.0000	±100	±100 (-40 to +125°C)	±5	80	8	300
XRCHA20M000F0A11R0	HCR2520	20.0000	±100	±100 (-40 to +125°C)	±5	80	8	600
XRCHA20M000F0A12R0	HCR2520	20.0000	±100	±100 (-40 to +150°C)	±5	80	8	300
XRCHA20M000F0A13R0	HCR2520	20.0000	±100	±100 (-40 to +150°C)	±5	80	8	600
XRCHA24M000F0A01R0	HCR2520	24.0000	±100	±100 (-40 to +125°C)	±5	80	8	300
XRCHA24M000F0A11R0	HCR2520	24.0000	±100	±100 (-40 to +125°C)	±5	80	8	600
XRCHA24M000F0A12R0	HCR2520	24.0000	±100	±100 (-40 to +150°C)	±5	80	8	300
XRCHA24M000F0A13R0	HCR2520	24.0000	±100	±100 (-40 to +150°C)	±5	80	8	600

* Equivalent Series Resistance

<XRCGB_F_A (For Automotive)>

Part Number	Type	Frequency (MHz)	Frequency Tolerance (ppm max.) [at 25°C±3°C]	Frequency Shift by Temperature (ppm max.) [Standard Condition: +25°C]	Frequency Aging (ppm max./Year)	ESR* (Ωmax.)	Load Capacitance (pF)	Drive Level (μW max.)
XRCGB24M000F3A00R0	HCR2016	24.0000	±30	±35 (-40 to +125°C)	±2	120	6	300
XRCGB25M000F3A00R0	HCR2016	25.0000	±30	±35 (-40 to +125°C)	±2	100	6	300
XRCGB26M000F3A00R0	HCR2016	26.0000	±30	±35 (-40 to +125°C)	±2	80	6	300
XRCGB27M000F3A00R0	HCR2016	27.0000	±30	±35 (-40 to +125°C)	±2	80	6	300
XRCGB27M120F3A00R0	HCR2016	27.1200	±30	±35 (-40 to +125°C)	±2	80	6	300
XRCGB48M000F5A00R0	HCR2016	48.0000	±50	±65 (-40 to +125°C)	±2	60	6	300

* Equivalent Series Resistance

<XRCGB_F_G (For Car Multimedia)>

Part Number	Type	Frequency (MHz)	Frequency Tolerance (ppm max.) [at 25°C±3°C]	Frequency Shift by Temperature (ppm max.) [Standard Condition: +25°C]	Frequency Aging (ppm max./Year)	ESR* (Ωmax.)	Load Capacitance (pF)	Drive Level (μW max.)
XRCGB24M000F0G00R0	HCR2016	24.0000	±100	±50 (-40 to +85°C)	±5	150	6	300
XRCGB24M000F3G00R0	HCR2016	24.0000	±30	±50 (-40 to +85°C)	±5	150	6	300
XRCGB24M576F0G00R0	HCR2016	24.5760	±100	±50 (-40 to +85°C)	±5	150	6	300
XRCGB24M576F3G00R0	HCR2016	24.5760	±30	±50 (-40 to +85°C)	±5	150	6	300
XRCGB25M000F0G00R0	HCR2016	25.0000	±100	±50 (-40 to +85°C)	±5	150	6	300
XRCGB25M000F3G00R0	HCR2016	25.0000	±30	±50 (-40 to +85°C)	±5	150	6	300
XRCGB26M000F0G00R0	HCR2016	26.0000	±100	±50 (-40 to +85°C)	±5	150	6	300
XRCGB26M000F3G00R0	HCR2016	26.0000	±30	±50 (-40 to +85°C)	±5	150	6	300
XRCGB27M000F0G00R0	HCR2016	27.0000	±100	±50 (-40 to +85°C)	±5	150	6	300
XRCGB27M000F3G00R0	HCR2016	27.0000	±30	±50 (-40 to +85°C)	±5	150	6	300
XRCGB27M120F3G00R0	HCR2016	27.1200	±30	±50 (-40 to +85°C)	±5	150	6	300
XRCGB30M000F0G00R0	HCR2016	30.0000	±100	±50 (-40 to +85°C)	±5	100	6	300
XRCGB30M000F3G00R0	HCR2016	30.0000	±30	±50 (-40 to +85°C)	±5	100	6	300
XRCGB33M868F0G00R0	HCR2016	33.8688	±100	±50 (-40 to +85°C)	±5	100	6	300
XRCGB33M868F4G00R0	HCR2016	33.8688	±45	±50 (-40 to +85°C)	±5	100	6	300
XRCGB40M000F0G00R0	HCR2016	40.0000	±100	±50 (-40 to +85°C)	±5	100	6	300
XRCGB40M000F4G00R0	HCR2016	40.0000	±45	±50 (-40 to +85°C)	±5	100	6	300
XRCGB48M000F0G00R0	HCR2016	48.0000	±100	±50 (-40 to +85°C)	±5	100	6	300
XRCGB48M000F4G00R0	HCR2016	48.0000	±45	±50 (-40 to +85°C)	±5	100	6	300

* Equivalent Series Resistance