

KHz Crystal (SMD)

1.1 M8

Metal Can Type Crystals M8 Series



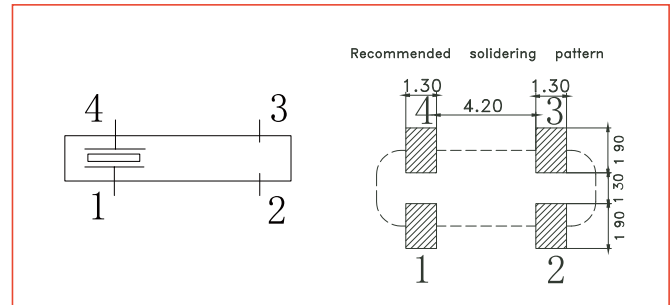
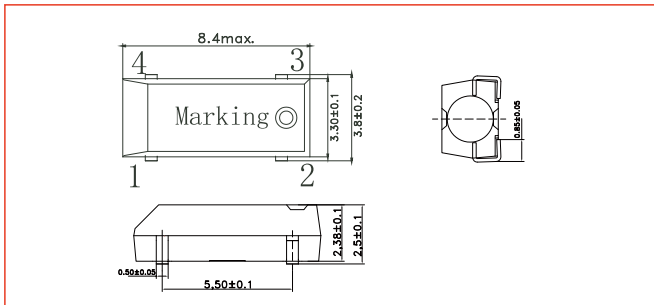
FEATURES

- Size: 8.0*3.8*2.5 mm
- Reflow resistance type crystal units
- Lower cost and highly mass production capability
- RoHS Compliant/Pb Free

TYPICAL APPLICATION

- The best choice of Notebook Computer
TV, STB, LCDM and Cable Modem

DIMENSIONS



ELECTRICAL SPECIFICATION

Item/Type	M8
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm, or specify
Operating Temperature Range	-40 ~ +85°C
Shunt Capacitance (C ₀)	2.0pF Max.
Drive Level	1.0μW typical
Load Capacitance	Series, 7pF, 9pF, 12.5pF, or specify
Aging (at 25°C)	±5 ppm First year Max.
Storage Temperature Range	-55 ~ +125°C
Turnover Temperature	25±5°C
Temperature Coefficient	(-0.036±0.005) ppm/°C ²
Insulation Resistance	500MΩ@DC 100±10V

EQUIVALENT SERIES RESISTANCE(ESR)

Frequency	Resistance
32.768KHz	50KΩ Max.

KHz Crystal (SMD)

1.2 M6

Metal Can Type Crystals M6 Series



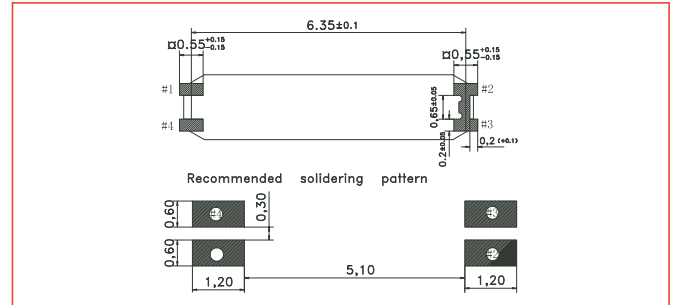
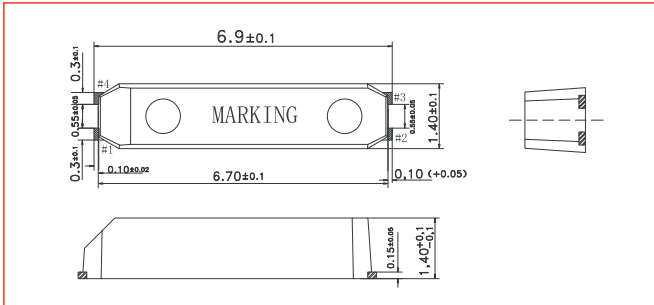
FEATURES

- Size: 7.0*1.5*1.5 mm
- Reflow resistance type crystal units
- Lower cost and highly mass production capability
- RoHS Compliant/Pb Free

TYPICAL APPLICATION

- The best choice of Notebook Computer
TV, STB, LCDM and Cable Modem

DIMENSIONS



ELECTRICAL SPECIFICATION

Item/Type	M6
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm, or specify
Operating Temperature Range	-40 ~ +85°C
Shunt Capacitance (C ₀)	1.0pF Max.
Drive Level	1.0μW typical
Load Capacitance	Series, 7pF, 9pF, 12.5pF, or specify
Aging (at 25°C)	±5 ppm First year Max.
Storage Temperature Range	-55 ~ +125°C
Turnover Temperature	25±5°C
Temperature Coefficient	(-0.036±0.005) ppm/°C ²
Insulation Resistance	500MΩ@DC 100±10V

EQUIVALENT SERIES RESISTANCE(ESR)

Frequency	Resistance
32.768KHz	65KΩ Max.

KHz Crystal (SMD)

1.3 K3215

Metal Can Type Crystals M5 Series



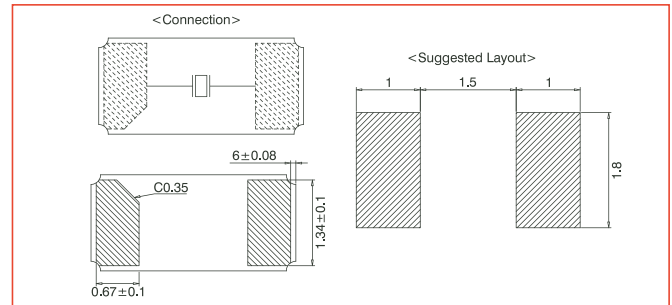
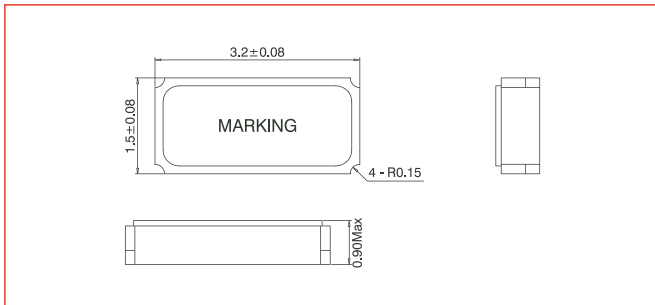
FEATURES

- Size: 3.2*1.5*0.9 mm
- Reflow resistance type crystal units
- Lower cost and highly mass production capability
- RoHS Compliant/Pb Free

TYPICAL APPLICATION

- The best choice of Notebook Computer
TV, STB, LCDM and Cable Modem

DIMENSIONS



ELECTRICAL SPECIFICATION

Item/Type	M5
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm, or specify
Operating Temperature Range	-40 ~ +85°C
Shunt Capacitance (C ₀)	1.5pF Max.
Drive Level	0.1μW typical, 0.5μW Max.
Load Capacitance	Series, 7pF, 9pF, 12.5pF, or specify
Aging (at 25°C)	±3 ppm First year Max.
Storage Temperature Range	-55 ~ +125°C
Turnover Temperature	25±5°C
Temperature Coefficient	(-0.036±0.005) ppm/°C ²
Insulation Resistance	500MΩ@DC 100±10V

EQUIVALENT SERIES RESISTANCE(ESR)

Frequency	Resistance
32.768KHz	70KΩ Max.

KHz Crystal (SMD)

1.4 K2012

Metal Can Type Crystals M3 Series



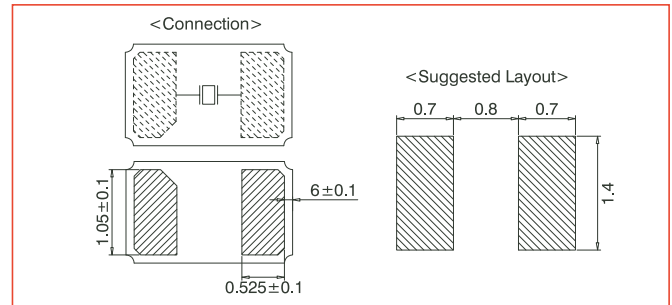
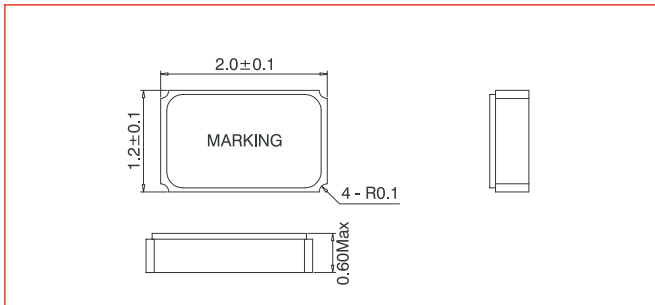
FEATURES

- Size: 2.0*1.2*0.6 mm
- Reflow resistance type crystal units
- Lower cost and highly mass production capability
- RoHS Compliant/Pb Free

TYPICAL APPLICATION

- The best choice of Notebook Computer
TV, STB, LCDM and Cable Modem

DIMENSIONS



ELECTRICAL SPECIFICATION

Item/Type	M3
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm, or specify
Operating Temperature Range	-40 ~ +85°C
Shunt Capacitance (C ₀)	1.5pF Max.
Drive Level	0.1μW typical, 0.5μW Max.
Load Capacitance	Series, 7pF, 9pF, 12.5pF, or specify
Aging (at 25°C)	±3 ppm First year Max.
Storage Temperature Range	-55 ~ +125°C
Turnover Temperature	25±5°C
Temperature Coefficient	(-0.036±0.005) ppm/°C ²
Insulation Resistance	>500MΩ@DC 100±10V

EQUIVALENT SERIES RESISTANCE(ESR)

Frequency	Resistance
32.768KHz	90KΩ Max.

KHz Crystal (SMD)

1.5 K1610

Metal Can Type Crystals TF 1610



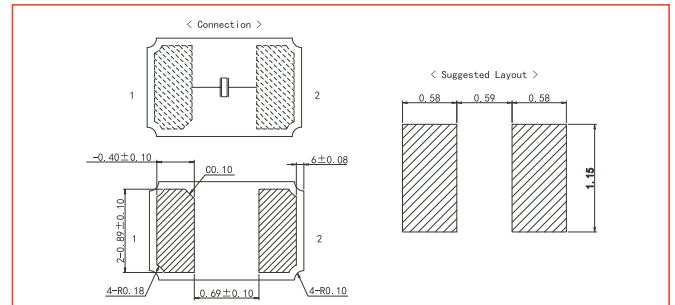
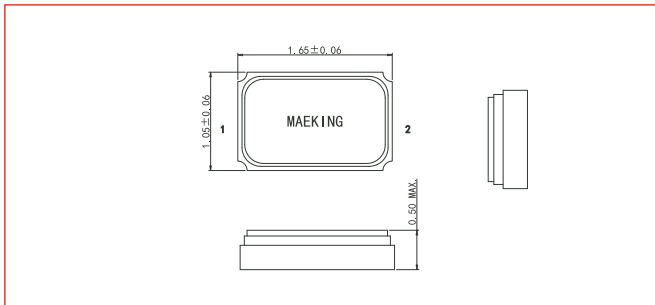
FEATURES

- Ultra-small size: 1.6 x1.0x0.5 mm
- Ceramic seam welding package
- High stability
- Pb Free and RoHS compliant

TYPICAL APPLICATION

- Small wireless device, Wireless module, IoT, Wearable device, TWS
- Health care equipment, Small consumer equipment etc

DIMENSIONS



ELECTRICAL SPECIFICATION

Item/Type	TF1610
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm
Operating Temperature Range	-40 ~ +85°C
Shunt Capacitance (C ₀)	2.0pF Max.
Drive Level	0.1μW(0.5μW Max.)
Load Capacitance	Series, 7pF, 9pF, 12.5pF, or specify
Aging(at 25°C)	±5 ppm First year Max.
Storage Temperature Range	-40 ~ +125°C
Turnover Temperature	25±5°C
Temperature Coefficient	(-0.036±0.005) ppm/°C ²
Insulation Resistance	500MΩ@DC 100±10V

EQUIVALENT SERIES RESISTANCE(ESR)

Frequency	Resistance
32.768KHz	90KΩ Max.