

深圳市晶远兴电子科技有限公司

诚信致远 品质唯兴

“诚信致远，品质唯兴”深圳市晶远兴电子科技有限公司成立于2013年5月，是一家有自主研发能力的石英晶体制造商，月产能可达70KK，拥有超3000平方米的万级净化车间，先进的现代化生产设备，成熟稳定的生产工艺，先后通过ISO9001质量管理体系、ISO14001环境管理体系认证，全系产品符合ROHS标准。经过多年的技术革新和管理沉淀，与日系、台系诸多晶体品牌厂商均有深度合作，同时“JINYX”自主品牌多次荣获石英晶体谐振器行业国内优秀品牌殊荣，尤其是小尺寸、高精度的贴片晶振和有源晶振优势明显，产品广泛应用于汽车电子、通讯、物联网、工业控制、医疗、安防、机器人、电脑周边等“智造”行业。

公司秉承“专注、诚信、服务、共赢”的经营理念，致力于打造一个专精、诚信、富有社会责任的企业。我们的目标是：用专精的技术和贴心的服务成为世界优秀的频率元器件方案商！

Shenzhen Jingyuanxing Electronic Technology Co., Ltd. was founded in May 2013. It is a quartz crystal manufacturer with independent research and development capabilities. With a monthly production capacity of 70KK, it has more than 3,000 square meters of ten thousand purification workshops, advanced modern production equipment, mature and stable production technology, successively passed ISO9001 quality management physique, ISO14001 environment management physique certification, all products meet ROHS regulations. With years of technological innovation and management precipitation, it has established deep cooperative ties with numerous Japanese and Taiwanese crystal brands. Among quartz crystal resonators, JINYX has won many domestic excellent brand awards, for its small size and high precision, as well as its SMD crystals and oscillators. The products are widely used in such fields as automotive electronics, communications, IoT, industrial control, medical care, security, robotics, and computer peripherals.

The company adheres to the philosophy of "focus, integrity, service, and win-win", and is committed to creating a professional, honest, and socially responsible business. Our mission is to become the world's best provider of frequency component solutions with professional technology and considerate service!

企业资质



工厂一角



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SERIES DA RESISTANCE WELDED HC-49/U PACKAGE

Features

- .Resistance welded type crystal units.
- .A great number of standard frequencies.
- .Higher frequency pullability and lower equivalent series resistance.
- .highly mass production capability.
- .The best choice of TV,VCD,DVD.
- .RoHS Compliant/Pb Free.



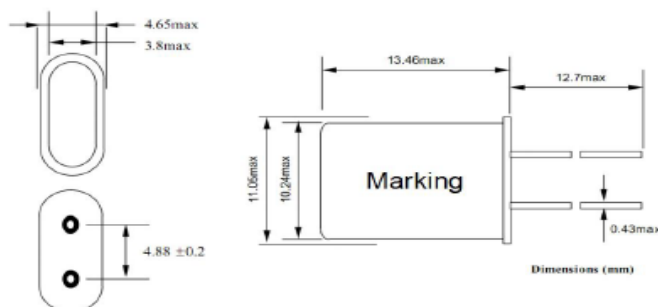
Electrical Specifications

Item/Type	DA
Frequency Range	1.8432~150MHz
Frequency Tolerance (at 25°C)	±30ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	7 pF Max
Driver Level (Typical)	1~500μW (100μW typical)
Load Capacitance(C _L)	Series 16pF,20pF,30pF,or specify
Aging @25°C	±5ppm / year Max
Storage Temperature Range	-40~+85°C

Equivalent Series Resistance(ESR)

Fundamental		3rd Overtone or (5rd)	
1.8432~3.5MHz	250Ω Max	24~30MHz	60Ω Max
3.5~6MHz	90Ω Max	30~60MHz	50Ω Max
6~10MHz	60Ω Max	60~90MHz	40Ω Max
10~30MHz	40Ω Max	90~150MHz	60Ω Max

Dimensions



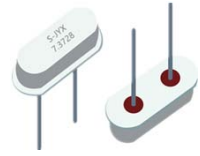
Type	L
HC-49U	13.46Max
HC-49T	11.0Max

Units: mm

SERIES DA RESISTANCE WELDED HC-49/S PACKAGE

Features

- .Resistance welded type crystal units.
- .A great number of standard frequencies.
- .Higher frequency pullability and lower equivalent series resistance.
- .Lower cost and highly mass production capability.
- .The best choice of TV,STB,LCDM and Cable Modem.
- .RoHS Compliant/Pb Free.



Electrical Specifications

Item/Type	DA
Frequency Range	3.2~90MHz
Frequency Tolerance (at 25°C)	±30ppm, or specify
Frequency Stability Over Operating Temperature Range	±30ppm, or specify
Operating Temperature Range	-20~+70°C, or specify
Shunt Capacitance (C ₀)	7 pF Max
Driver Level (Typical)	1~500μW (100μW typical)
Load Capacitance (C _L)	5pF-30pF, or specify
Aging @25°C	±5ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance (ESR)

Fundamental		3rd Overtone	
3.2~6.0MHz	150Ω Max	27~30MHz	100Ω Max
6.0~10MHz	60Ω Max	30~50MHz	80Ω Max
10~30MHz	40Ω Max	50~90MHz	60Ω Max

Dimensions

Top View: Length 11.5 Max., Width 5.0 Max., Brand JINYX.

Side View: Lead thickness 0.43±0.05, Lead height 13.2±0.5, Case height H*, Case width 3.8 Max.

Bottom View: Pad spacing 4.88±0.25.

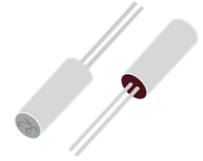
TYPE	H
S	3.5±0.2
SS	2.5±0.2

Units: mm

SERIES DK80/60 CYLINDER CRYSTAL UNITS

Features

- .Wide frequency range.
- .High shock tolerance.
- .Small size.
- .Good frequency stability
- .Application: Microprocessor systems, Consumer electronics, Instrumentation, Automotive electronics
- .RoHS Compliant / Pb Free



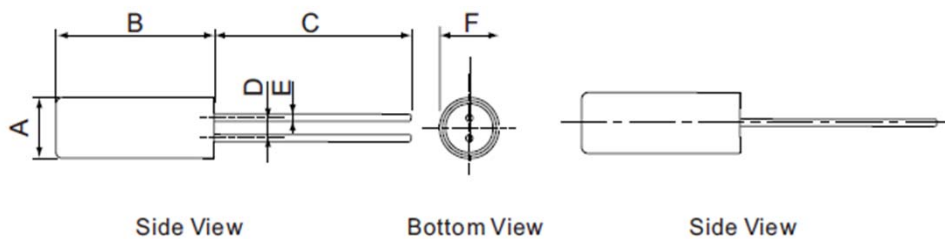
Electrical Specifications

Item/Type	DK60	DK80
Frequency Range	3.579~54MHz	
Frequency Tolerance (at 25°C)	±10ppm, or specify	
Frequency Stability Over Operating Temperature Range	±30ppm, ±10ppm, or specify	
Operating Temperature Range	-20~+70°C, or specify	
Shunt Capacitance (C ₀)	7 pF Max	
Driver Level (Typical)	1~200μW (100μW typical)	
Load Capacitance(C _L)	10pF, 12pF, 20pF, or specify	
Aging @25°C	±3ppm / year Max, or, ±5ppm / year Max	
Storage Temperature Range	-40~+85°C	

Equivalent Series Resistance(ESR)

Fundamental		3rd Overtone	
3.2~6.0MHz	150Ω Max	27~30MHz	100Ω Max
6.0~10MHz	90Ω Max	30~54MHz	80Ω Max
10~30MHz	40Ω Max		

Dimensions



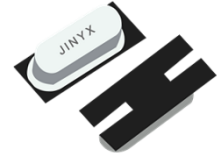
MODEL	A	B	C	D	E
DK80	3.1 Max	8.0 Max	0.3	10.0 MAX	1.1
DK60	2.1 Max	6.0 Max	0.2	7.0 MAX	0.7

Units: mm

SERIES MA RESISTANCE WELDED HC-49/SMD PACKAGE

Features

- .Surface mount type crystal units.
- .A great number of standard frequencies.
- .Higher frequency pullability and lower equivalent series resistance.
- .Highly mass production capability.
- .The best choice of TV,STB,LCDM and Cable Modem.
- .RoHS Compliant/Pb Free.



Electrical Specifications

Item/Type	MA
Frequency Range	3.2~90MHz
Frequency Tolerance (at 25°C)	±30ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	7 pF Max
Driver Level (Typical)	1~500μW (100μW typical)
Load Capacitance(C _L)	5pF-30pF,or specify
Aging @25°C	±5ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental		3rd Overtone	
3.2~6.0MHz	150Ω Max	27~30MHz	100Ω Max
6.0~10MHz	90Ω Max	30~50MHz	80Ω Max
10~30MHz	40Ω Max	50~90MHz	60Ω Max

Dimensions

Top View

Side View

Side View

Bottom View

Top View Suggested Layout

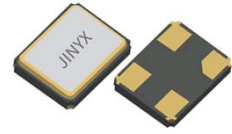
TYPE	H
SMD	4.0±0.2
SSMD	3.0±0.2

Units: mm

SERIES SM70 SEAM SEALED CERAMIC 7.0*5.0MM SURFACE MOUNT PACKAGE

Features

- .Reliable seam sealed ceramic package.
- .Wide operating temperature range.
- .Superior and reliable performance in harsh environment.
- .Application: TPMS, ECM, ABS and sensor modules.
- .RoHS Compliant / Pb Free



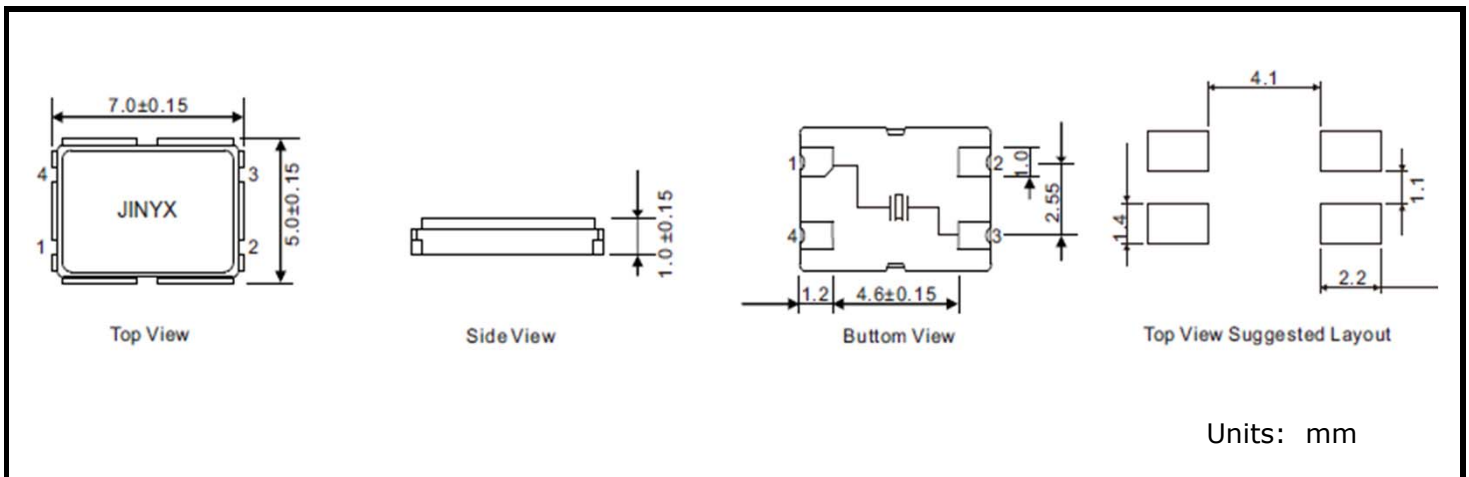
Electrical Specifications

Item/Type	SM70
Frequency Range	6~150MHz
Frequency Tolerance (at 25°C)	±30ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	7 pF Max
Driver Level (Typical)	10μW typical(200μW max)
Load Capacitance(C _L)	6pF-32pF,or specify
Aging @25°C	±3ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental		3rd Overtone	
6~8MHz	100Ω Max	30~80MHz	80Ω Max
8~16MHz	60Ω Max	80~100MHz	90Ω Max
16~30MHz	40Ω Max	100-160MHz	100Ω Max

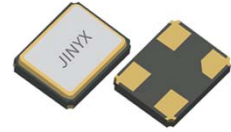
Dimensions



SERIES SM50 SEAM SEALED CERAMIC 5.0*3.2MM SURFACE MOUNT PACKAGE

Features

- .Reliable seam sealed ceramic package.
- .Wide operating temperature range.
- .Superior and reliable performance in harsh environment.
- .Application: TPMS, ECM, ABS and sensor modules.
- .RoHS Compliant / Pb Free



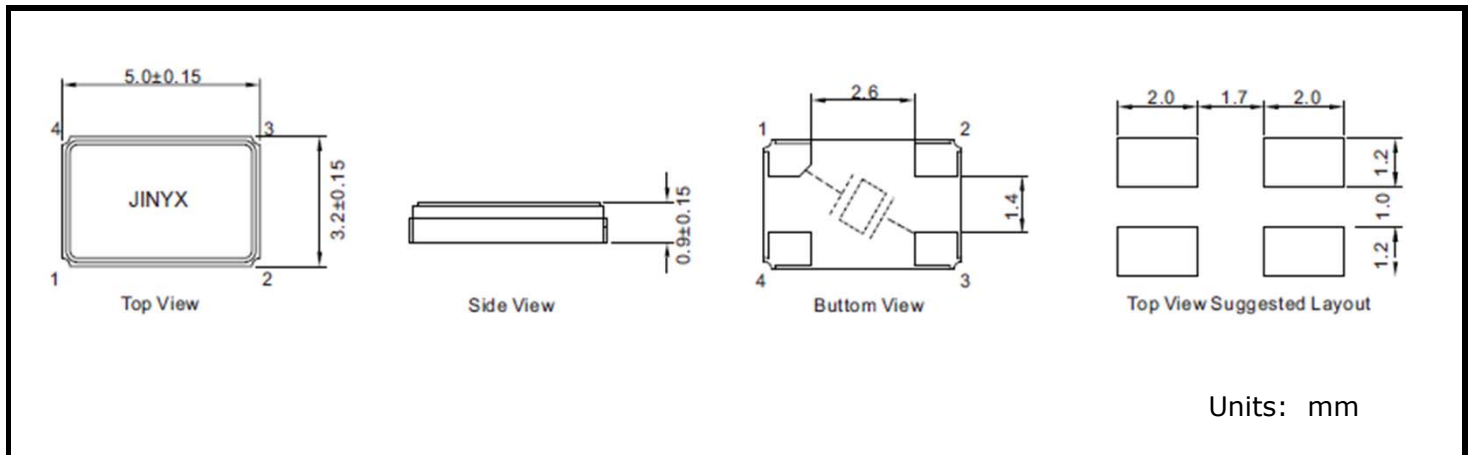
Electrical Specifications

Item/Type	SM50
Frequency Range	8~125MHz
Frequency Tolerance (at 25°C)	±10ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,±10ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	5 pF Max
Driver Level (Typical)	10μW typical(200μW max)
Load Capacitance(C _L)	6pF-32pF,or specify
Aging @25°C	±3ppm / year Max,or,±1ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental		3rd Overtone	
8.0~11.0MHz	80Ω Max	40.0~60.0MHz	120Ω Max
11.0~54.0MHz	40Ω Max	60.0~125.0MHz	80Ω Max

Dimensions



SERIES GM50 GLASS SEALED CERAMIC 5.0*3.2MM SURFACE MOUNT PACKAGE

Features

- .2 pads SMD glass sealed crystal units.
- .High reliable environmental performance.
- .Tight tolerance and stability parts are available.
- .Designed for automatic mounting and reflow soldering.
- .Reasonable cost and good delivery performance.
- .The best choice of portable PC, PDA, DSC, and USB interface card.
- .Contains Pb in sealing glass exempted by RoHS directive.



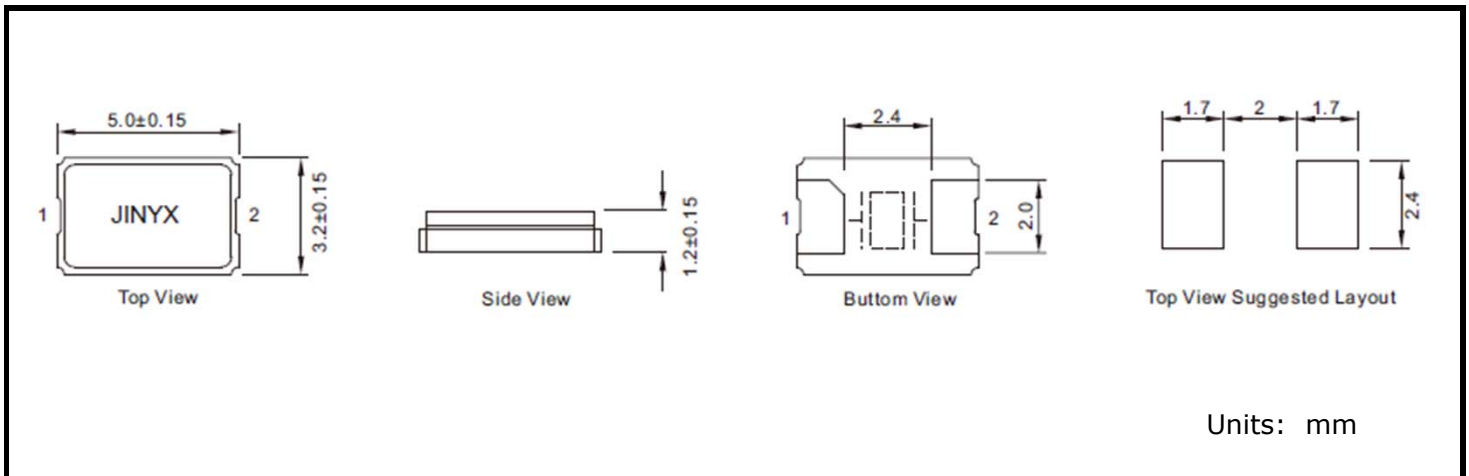
Electrical Specifications

Item/Type	GM50
Frequency Range	8~54MHz
Frequency Tolerance (at 25°C)	±10ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,±10ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	3 pF Max
Driver Level (Typical)	10μW typical(200μW max)
Load Capacitance(C _L)	6pF-32pF,or specify
Aging @25°C	±3ppm / year Max,or,±1ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental	
8.0~12.0MHz	80Ω Max
12.0~54.0MHz	50Ω Max

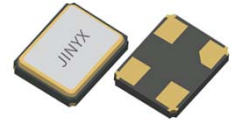
Dimensions



SERIES SM32 SEAM SEALED CERAMIC 3.2*2.5MM SURFACE MOUNT PACKAGE

Features

- .Reliable seam sealed ceramic package.
- .Wide operating temperature range.
- .Superior performance and stringent reliability in harsh environment.
- .Application: TPMS, ECM, ABS and sensor modules.
- .Compact size.
- .RoHS Compliant / Pb Free



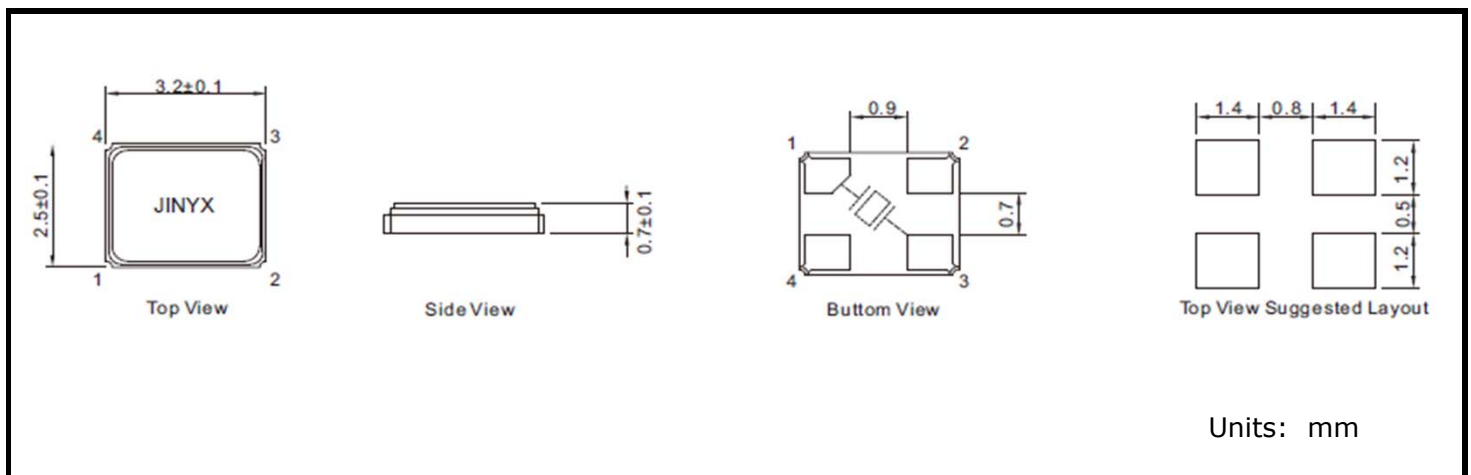
Electrical Specifications

Item/Type	SM32
Frequency Range	8~125MHz
Frequency Tolerance (at 25°C)	±10ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,±10ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	3 pF Max
Driver Level (Typical)	10μW typical(200μW max)
Load Capacitance(C _L)	6pF-32pF,or specify
Aging @25°C	±3ppm / year Max,or,±1ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental	
8.0~10.0MHz	200Ω Max
10.0~12.0MHz	150Ω Max
12.0~20.0MHz	60Ω Max
20.0~125.0MHz	40Ω Max

Dimensions



SERIES GM32 GLASS SEALED CERAMIC 3.2*2.5MM SURFACE MOUNT PACKAGE

Features

- .4 pads SMD glass sealed crystal.
- .Applications in wireless communication, DSC and USB interface card.
- .Excellent heat resistance and enviromental characteristics.
- .Contain Pb in sealing glass exempted by RoHS directive



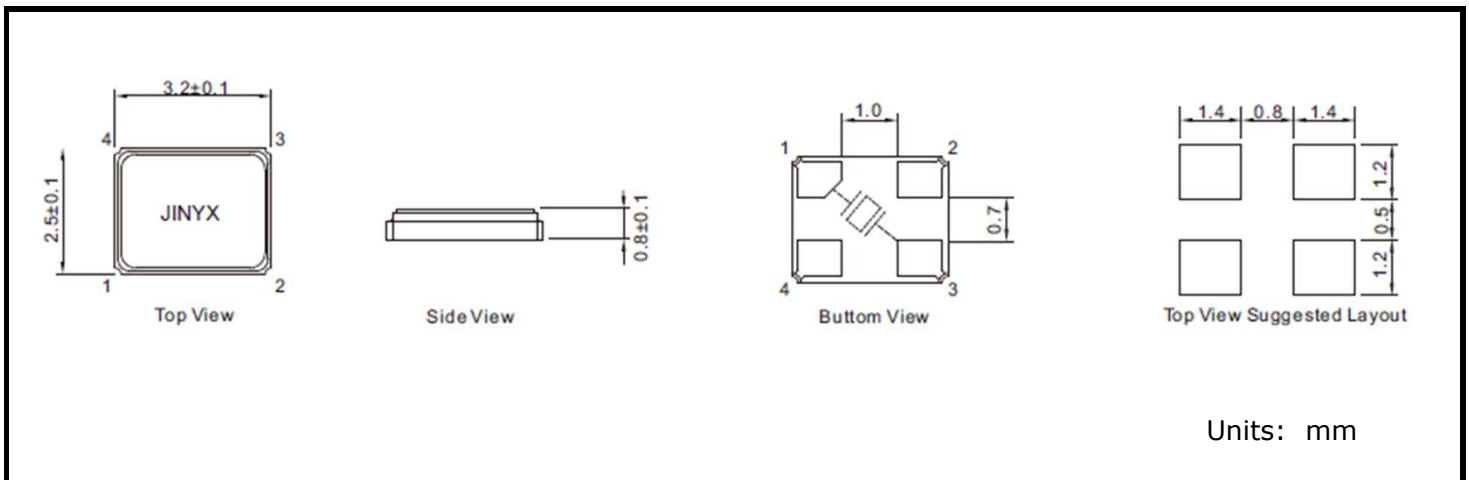
Electrical Specifications

Item/Type	GM32
Frequency Range	8~60MHz
Frequency Tolerance (at 25°C)	±10ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,±10ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	3 pF Max
Driver Level (Typical)	10μW typical(200μW max)
Load Capacitance(C _L)	6pF-32pF,or specify
Aging @25°C	±3ppm / year Max,or,±1ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental	
8~12.0MHz	150Ω Max
12.0~16.0MHz	100Ω Max
16.0~60.0MHz	60Ω Max

Dimensions



SERIES SM25 SEAM SEALED CERAMIC 2.5*2.0MM SURFACE MOUNT PACKAGE

Features

- .Reliable seam sealed ceramic package.
- .Wide operating temperature range.
- .Superior performance and stringent reliability in harsh environment.
- .Application: TPMS, ECM, ABS and sensor modules.
- .Compact size.
- .RoHS Compliant / Pb Free



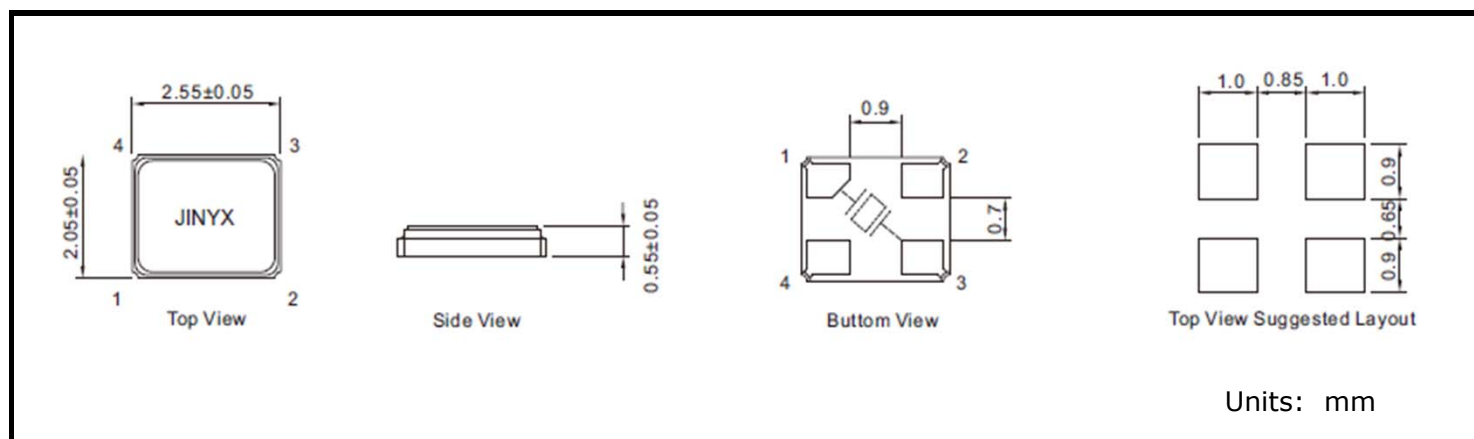
Electrical Specifications

Item/Type	SM25
Frequency Range	12~54MHz
Frequency Tolerance (at 25°C)	±10ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,±10ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	3 pF Max
Driver Level (Typical)	10μW typical(200μW max)
Load Capacitance(C _L)	6pF-32pF,or specify
Aging @25°C	±3ppm / year Max,or,±1ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental	
12.0~13.0MHz	150Ω Max
13.0~30.0MHz	100Ω Max
30.0~54.0MHz	60Ω Max

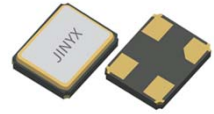
Dimensions



SERIES SM20 SEAM SEALED CERAMIC 2.0*1.6MM SURFACE MOUNT PACKAGE

Features

- .Extremely small SMD type crystal units.
- .High precision and high frequency stability.
- .Excellent heat resistance and environmental characteristics.
- .Application in PDA,DSC,DVC,PC,etc.
- .RoHS Compliant / Pb Free



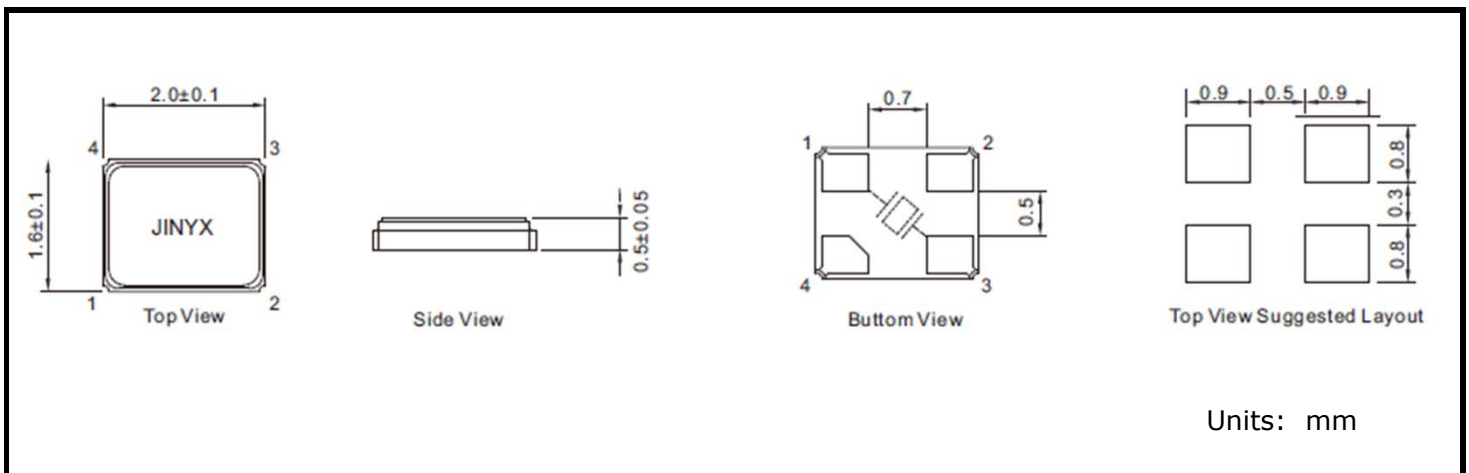
Electrical Specifications

Item/Type	SM20
Frequency Range	16~96MHz
Frequency Tolerance (at 25°C)	±10ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,±10ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	3 pF Max
Driver Level (Typical)	10μW typical(200μW max)
Load Capacitance(C _L)	6pF-32pF,or specify
Aging @25°C	±3ppm / year Max,or,±1ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental	
16.0~19.2MHz	150Ω Max
19.2~30.0MHz	100Ω Max
30.0~96.0MHz	80Ω Max

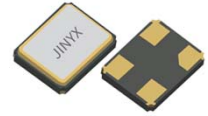
Dimensions



SERIES SM16 SEAM SEALED CERAMIC 1.6*1.2MM SURFACE MOUNT PACKAGE

Features

- .Extremely small SMD type crystal units.
- .High precision and high frequency stability.
- .Excellent heat resistance and environmental characteristics.
- .Application in PDA,DSC,DVC,PC,etc.
- .RoHS Compliant / Pb Free



Electrical Specifications

Item/Type	SM16
Frequency Range	24~60MHz
Frequency Tolerance (at 25°C)	±10ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,±10ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	3 pF Max
Driver Level (Typical)	10μW typical(200μW max)
Load Capacitance(C _L)	6pF-32pF,or specify
Aging @25°C	±3ppm / year Max,or,±1ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental	
24.0~30.0MHz	100Ω Max
30.0~60.0MHz	80Ω Max

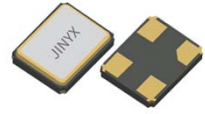
Dimensions

Units: mm

SERIES SM12 SEAM SEALED CERAMIC 1.2*1.0MM SURFACE MOUNT PACKAGE

Features

- .Extremely small SMD type crystal units.
- .High precision and high frequency stability.
- .Excellent heat resistance and environmental characteristics.
- .Application in PDA,DSC,DVC,PC,etc.
- .RoHS Compliant / Pb Free



Electrical Specifications

Item/Type	SM12
Frequency Range	24~54MHz
Frequency Tolerance (at 25°C)	±10ppm,or specify
Frequency Stability Over Operating Temperature Range	±30ppm,±10ppm,or specify
Operating Temperature Range	-20~+70°C,or specify
Shunt Capacitance (C ₀)	3 pF Max
Driver Level (Typical)	10μW typical(200μW max)
Load Capacitance(C _L)	6pF-32pF,or specify
Aging @25°C	±3ppm / year Max,or,±1ppm / year Max
Storage Temperature Range	-55~+125°C

Equivalent Series Resistance(ESR)

Fundamental	
24.0~27.12MHz	150Ω Max
27.12~38.4MHz	100Ω Max
38.4~54.0MHz	60Ω Max

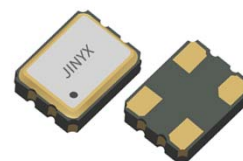
Dimensions

Units: mm

CRYSTAL OSCILLATORS SMD CMOS OUTPUT 7.0×5.0×1.3 4V70 SERIES

Features

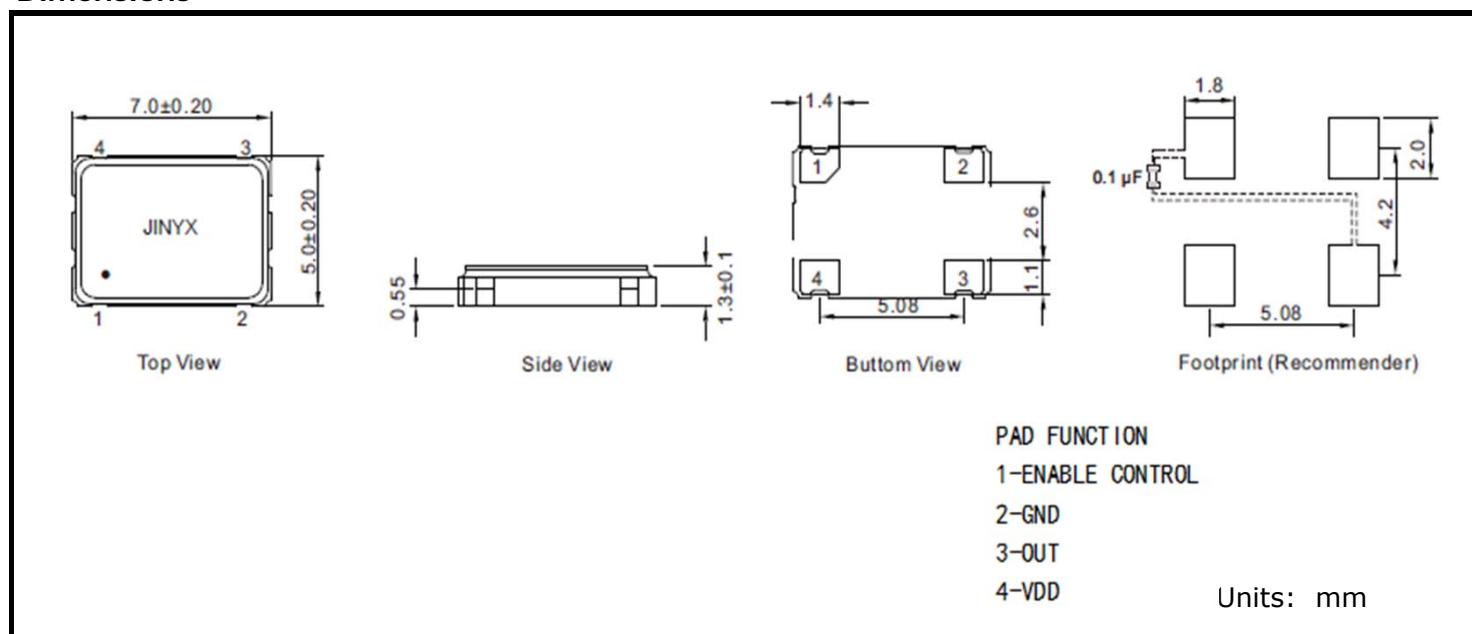
- .Small SMD seam sealed clock crystal oscillator units.
- .High precision characteristic covering up to wide frequency range.
- .Designed for automatic mounting and reflow soldering.
- .Tri-State function available.
- .Supply voltage range : 1.8 V ~ 5 V.
- .High stability, low jitter, low power consumption.
- .Main application : wireless communication, PC, and LCDM.
- .RoHS Compliant / Pb Free.



Electrical Specifications

Item/Type	4V70		
Output Type	CMOS		
Output Load	15 Pf	15 pF , 30 pF	15 pF , 50 pF
Oscillation Mode	Fundamental / 3rd Overtone		
Supply Voltage	1.8 V	2.5 V , 2.8 V , 3.3 V	5 V
Frequency Range	1 ~ 170 MHz		
Frequency Stability	± 25 ppm , ± 50 ppm		
Operating Temperature Range	- 10 ~ + 70°C , - 40 ~ + 85 °C		
Storage Temperature Range	- 55 ~ + 125°C		
Voltage Vol (Max.) / Voh (Min.)	0.1 VDD / 0.9 VDD		
Rise (Tr) / Fall (Tf) Time	8 ns Max.		
Supply Current	20 mA Max		
Symmetry	40 ~ 55 % , 40 ~ 60 %		
Start-up Time	5 ms Max		
Phase Jitter (12 KHz ~ 20 MHz)	1 ps Max		
Aging (at 25 °C)	±3 ppm / year Max		

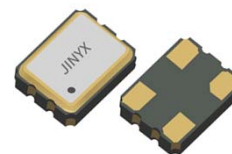
Dimensions



CRYSTAL OSCILLATORS SMD CMOS OUTPUT 5.0×3.2×1.1 4V50 SERIES

Features

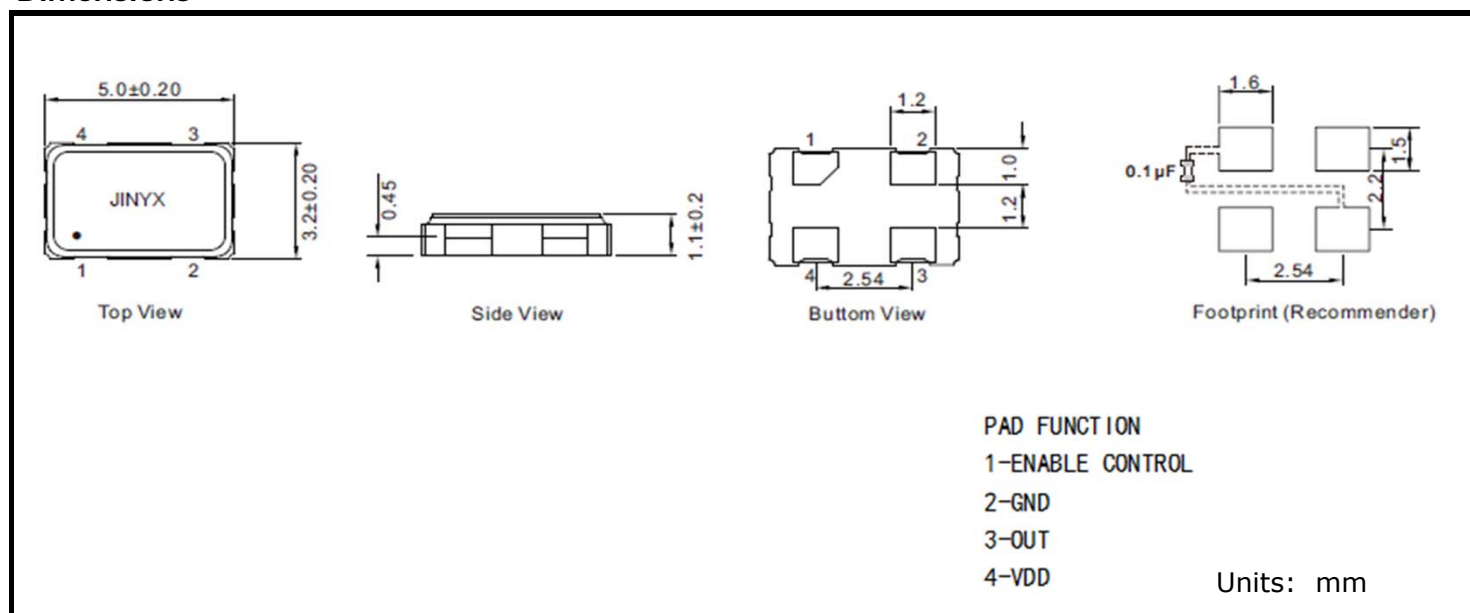
- .Small SMD seam sealed clock crystal oscillator units.
- .High precision characteristic covering up to wide frequency range.
- .Designed for automatic mounting and reflow soldering.
- .Tri-State function available.
- .Supply voltage range : 1.8 V ~ 5.0 V.
- .High stability, low jitter, low power consumption.
- .Main application : wireless communication set, PDA, and DSC.
- .RoHS Compliant / Pb Free



Electrical Specifications

Item/Type		4V50		
Output Type		CMOS		
Output Load		15 pF , 30 pF		
Oscillation Mode		Fundamental / 3rd Overtone		
Supply Voltage		1.8 V	2.5 V , 2.8 V , 3.3 V	5 V
Frequency Range		1 ~ 150 MHz		
Frequency Stability		± 20 ppm , ± 25 ppm , ± 30 ppm , ± 50 ppm		
Operating Temperature Range		- 10 ~ + 70℃ , - 40 ~ + 85℃		
Storage Temperature Range		- 55 ~ + 125℃		
Voltage Vol (Max.) / Voh (Min.)		0.1 VDD / 0.9 VDD		
Rise (Tr) / Fall (Tf) Time		8 ns Max.		
Supply Current	1~75MHz	5 mA Max	10 mA Max	20 mA Max
	75~150MHz	15 mA Max	20 mA Max	NA
Symmetry		40 ~ 60 %		
Start-up Time		5 ms Max		
Phase Jitter (12 KHz ~ 20 MHz)		1 ps Max		
Aging (at 25℃)		±3 ppm / year Max		

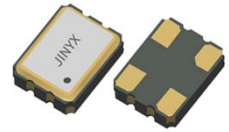
Dimensions



CRYSTAL OSCILLATORS SMD CMOS OUTPUT 3.2×2.5×1.0 4V32 SERIES

Features

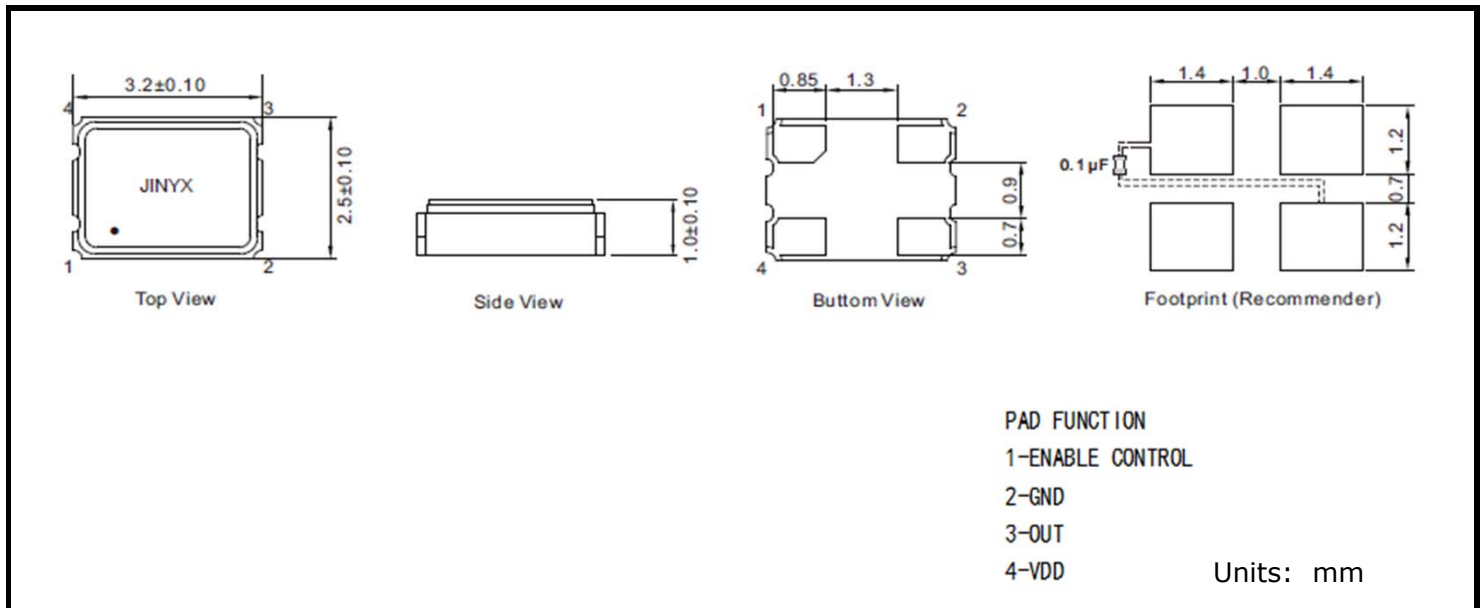
- .Ultra Small SMD seam sealed clock crystal oscillator units.
- .For applications in WLAN, Bluetooth, DSC, DSL and other IT product.
- .Tri-state function available.
- .RoHS Compliant / Pb Free.



Electrical Specifications

Item/Type	4V32
Output Type	CMOS
Output Load	15 pF , or specify
Oscillation Mode	Fundamental / 3rd Overtone
Supply Voltage	3.3 V (1.8V,2.5V available)
Frequency Range	1 ~ 125 MHz
Frequency Stability	± 25 ppm , ± 50 ppm
Operating Temperature Range	- 10 ~ + 70°C , - 40 ~ + 85 °C
Storage Temperature Range	- 55 ~ + 125°C
Voltage Vol (Max.) / Voh (Min.)	0.1 VDD / 0.9 VDD
Rise (Tr) / Fall (Tf) Time	8 ns Max.
Supply Current	15 mA Max
Symmetry	45 ~ 55 %
Start-up Time	5 ms Max
Phase Jitter (12 KHz ~ 20 MHz)	1 ps Max
Aging (at 25 °C)	±3 ppm / year Max

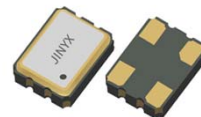
Dimensions



CRYSTAL OSCILLATORS SMD CMOS OUTPUT 2.5×2.0×0.8 4V25 SERIES

Features

- .Ultra Small SMD seam sealed clock crystal oscillator units.
- .For applications in WLAN, Bluetooth, DSC, DSL and other IT product.
- .Tri-state function available.
- .RoHS Compliant / Pb Free



Electrical Specifications

Item/Type	4V25
Output Type	CMOS
Output Load	15 pF , or specify
Oscillation Mode	Fundamental
Supply Voltage	3.3 V (1.8V,2.5V available)
Frequency Range	4 ~ 75 MHz
Frequency Stability	± 25 ppm , ± 50 ppm
Operating Temperature Range	- 20 ~ + 70℃ , - 40 ~ + 85 ℃
Storage Temperature Range	- 55 ~ + 125℃
Voltage Vol (Max.) / Voh (Min.)	0.1 VDD / 0.9 VDD
Rise (Tr) / Fall (Tf) Time	5 ns Max.
Supply Current	10 mA Max
Symmetry	45 ~ 55 %
Start-up Time	5 ms Max
Phase Jitter (12 KHz ~ 20 MHz)	1 ps Max
Aging (at 25 ℃)	±3 ppm / year Max

Dimensions

PAD FUNCTION

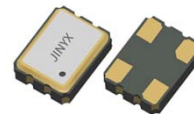
- 1-ENABLE CONTROL
- 2-GND
- 3-OUT
- 4-VDD

Units: mm

CRYSTAL OSCILLATORS SMD CMOS OUTPUT 2.0×1.6×0.70 4V20 SERIES

Features

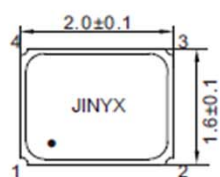
- .Extremely small SMD seam sealed clock oscillator unit.
- . Application for smart phone, sip module, variety of compact portable consumer products.
- .Tri-state function available.
- .High reliable environmental performance.
- .RoHS Compliant / Pb Free



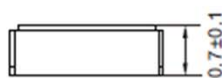
Electrical Specifications

Item/Type	4V20
Output Type	CMOS
Output Load	15 pF , or specify
Oscillation Mode	Fundamental
Supply Voltage	3.3 V (1.8V,2.5V available)
Frequency Range	4 ~ 54 MHz
Frequency Stability	± 25 ppm , ± 50 ppm
Operating Temperature Range	- 20 ~ + 70°C ,or specify
Storage Temperature Range	- 55 ~ + 125°C
Voltage Vol (Max.) / Voh (Min.)	0.1 VDD / 0.9 VDD
Rise (Tr) / Fall (Tf) Time	5 ns Max.
Supply Current	5 mA Max
Symmetry	45 ~ 55 %
Start-up Time	5 ms Max
Phase Jitter (12 KHz ~ 20 MHz)	1 ps Max
Aging (at 25 °C)	±3 ppm / year Max

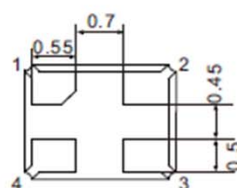
Dimensions



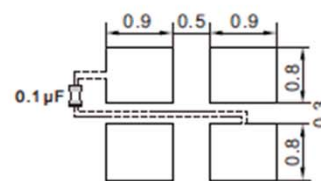
Top View



Side View



Bottom View



Footprint (Recommender)

PAD FUNCTION

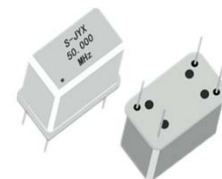
- 1-ENABLE CONTROL
- 2-GND
- 3-OUT
- 4-VDD

Units: mm

CRYSTAL OSCILLATORS CMOS/TTL OUTPUT FULL SIZE DVFO SERIES

Features

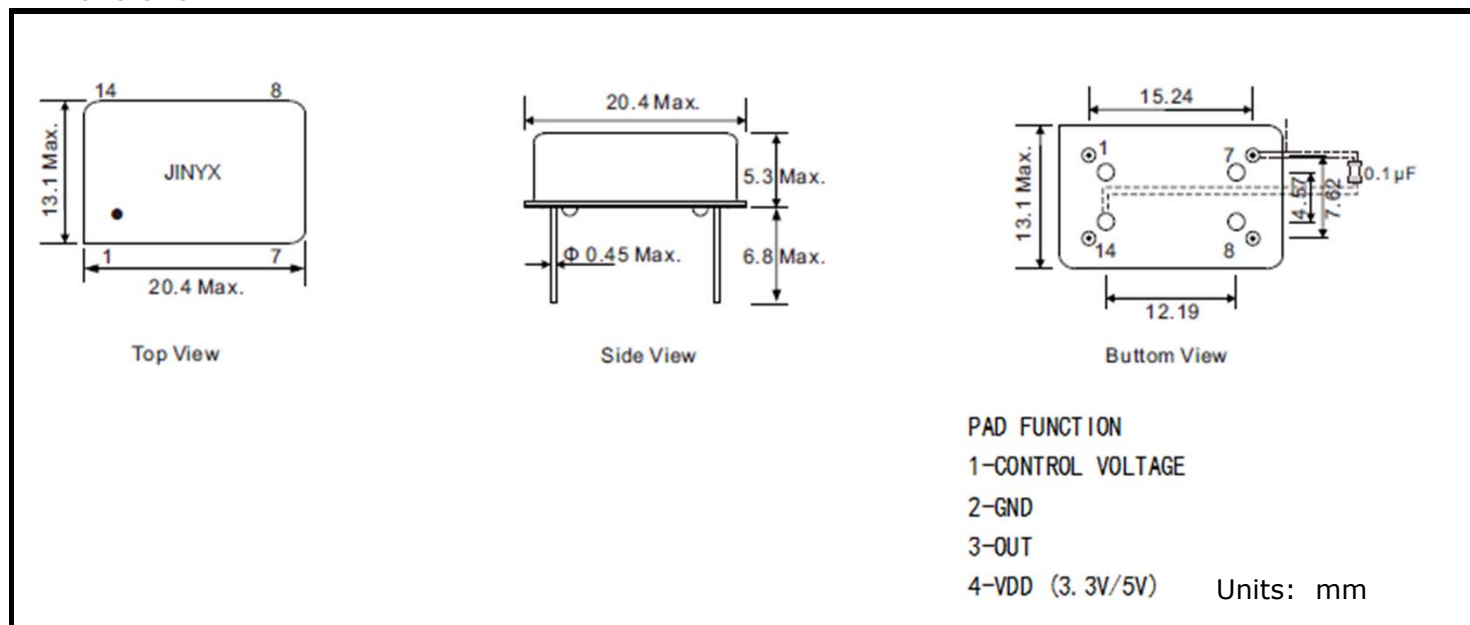
- .20.4 × 13.1 × 5.3mm.
- .Hybrid IC Circuit Construction.
- .CMOS compatible output.
- .5V and 3.3V supply model available.
- .All metal, hermetically sealed welded package.
- .High precision characteristic covering to high frequency range.
- .RoHS and Pb Free compliant.



Electrical Specifications

Item/Type	DVFO		
Output Type	TTL/CMOS	CMOS	
Output Load	10TTL / 15pF / 50pF	15pF	
Oscillation Mode	Fundamental / 3rd Overtone		
Supply Voltage	5V	3.3 V	
Frequency Range	0.25 ~ 180 MHz		
Frequency Stability	± 25 ppm , ± 50 ppm, or specify		
Operating Temperature Range	- 20 ~ + 70 °C , - 40 ~ + 85 °C , or specify		
Storage Temperature Range	- 55 ~ + 125 °C		
Voltage Vol (Max.) / Voh (Min.)	0.4V / 2.4V (TTL) ; 0.1 VDD / 0.9 VDD (CMOS)		
Rise (Tr) / Fall (Tf) Time	5ns Max.		
Supply Current	0.25MHz~24.000MHz	15 mA Max	10 mA Max
	24.000MHz~80.000MHz	35 mA Max	20 mA Max
	80.000MHz~180.000MHz	45 mA Max	30 mA Max
Symmetry	45 ~ 55 %		
Start-up Time	10 ms Max		
Aging (at 25 °C)	±3 ppm / year Max		

Dimensions



CRYSTAL OSCILLATORS CMOS/TTL OUTPUT HALF SIZE DVH0 SERIES

Features

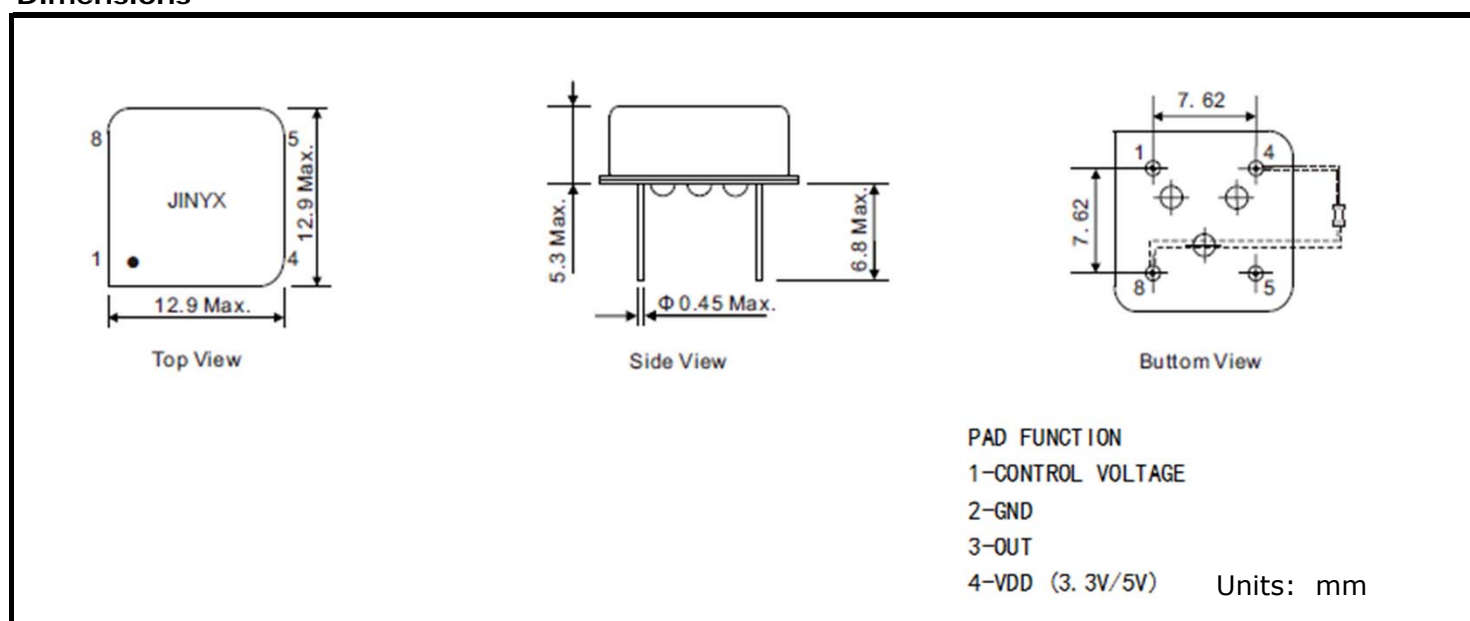
- .12.9×12.9×5.3mm.
- .Hybrid IC Circuit Construction.
- .CMOS compatible output.
- .5V and 3.3V supply model available.
- .All metal, hermetically sealed welded package.
- .High precision characteristic covering to high frequency range.
- .RoHS and Pb Free compliant.



Electrical Specifications

Item/Type		DVHO	
Output Type		TTL/CMOS	CMOS
Output Load		10TTL / 15pF / 50pF	15pF
Oscillation Mode		Fundamental / 3rd Overtone	
Supply Voltage		5V	3.3 V
Frequency Range		0.25 ~ 180 MHz	
Frequency Stability		± 25 ppm , ± 50 ppm, or specify	
Operating Temperature Range		- 20 ~ + 70℃ , - 40 ~ + 85 ℃, or specify	
Storage Temperature Range		- 55 ~ + 125℃	
Voltage Vol (Max.) / Voh (Min.)		0.4V /2.4V (TTL) ; 0.1 VDD / 0.9 VDD (CMOS)	
Rise (Tr) / Fall (Tf) Time		5ns Max.	
Supply Current	0.25MHz~24.000MHz	15 mA Max	10 mA Max
	24.000MHz~80.000MHz	35 mA Max	20 mA Max
	80.000MHz~180.000MHz	45 mA Max	30 mA Max
Symmetry		45 ~ 55 %	
Start-up Time		10 ms Max	
Aging (at 25 ℃)		±3 ppm / year Max	

Dimensions



SERIES DK80/60 TUNING FORK WATCH CRYSTAL 32.768KHz

Features

- .High shock tolerance.
- .Small size.
- .Good frequency stability
- .Application: Microprocessor systems, Consumer electronics, Instrumentation, Automotive electronics
- .RoHS Compliant / Pb Free



Electrical Specifications

Item/Type	DK80	DK60
Frequency Range	30.000~350KHz, 32.768KHz typical	
Frequency Tolerance (at 25°C)	±20ppm,or specify	
Operation Temperature Range	- 40 ~ + 85 °C,or specify	
Shunt Capacitance (C0)	1.5pF typical	
Motional Capacitance (C1)	3.0fF typical	
Insulation Resistance (IR)	100 MΩ Min	
Drive Level (DL)	1.0μW Max.	
Load Capacitance(CL)	6.0 pF , 7.0 pF , 9 pF , 12.5 Pf	
Turnover Temperature (Ti)	25±5 °C	
Parabolic Coefficient (B)	$(- 0.034 \pm 0.006) * 10^{-6} / ^\circ C^2$	
Aging @25°C	±5ppm / year Max,or,±3ppm / year Max	
Storage Temperature Range	- 55 ~ +125 °C	

Equivalent Series Resistance(ESR)

32~40KHz	40KΩ Max	70~200KHz	25KΩ Max
40~70KHz	30KΩ Max	200~350KHz	20KΩ Max

Dimensions

Units: mm

MODEL	A	B	C	D	E
DK80	3.1 Max	8.0 Max	0.3	10.0 MAX	1.1
DK60	2.1 Max	6.0 Max	0.2	7.0 MAX	0.7

SERIES MK60 SURFACE MOUNT PACKAGE FOR TUNING FORK 32.768KHz

Features

- .High shock tolerance.
- .Small size.
- .Good frequency stability
- .Application: Microprocessor systems, Consumer electronics, Instrumentation, Automotive electronics
- .RoHS Compliant / Pb Free



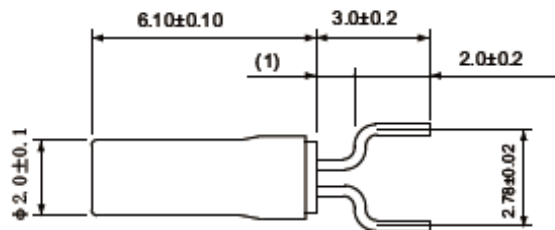
Electrical Specifications

Item/Type	MK60
Frequency Range	30.000~350KHz, 32.768KHz typical
Frequency Tolerance (at 25°C)	±20ppm,or specify
Operation Temperature Range	- 40 ~ + 85 °C,or specify
Shunt Capacitance (C0)	1.5pF typical
Motional Capacitance (C1)	3.0fF typical
Insulation Resistance (IR)	100 MΩ Min
Drive Level (DL)	1.0μW Max.
Load Capacitance(CL)	6.0 pF , 7.0 pF , 9 pF , 12.5 Pf
Turnover Temperature (Ti)	25±5 °C
Parabolic Coefficient (B)	(- 0.034± 0.006) * 10 ⁻⁶ / °C ²
Aging @25°C	±5ppm / year Max,or,±3ppm / year Max
Storage Temperature Range	- 55 ~ +125 °C

Equivalent Series Resistance(ESR)

32~40KHz	40KΩ Max	70~200KHz	25KΩ Max
40~70KHz	30KΩ Max	200~350KHz	20KΩ Max

Dimensions

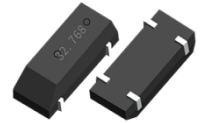


Units: mm

SERIES MK80 TUNING FORK WATCH CRYSTAL 32.768KHz

Features

- .High-density mounting-type SMD
- .Phptolithography finished allows uniform and stable performance.
- .Excellent reliability and environmental capability.
- .RoHS compliant /Pb Free.



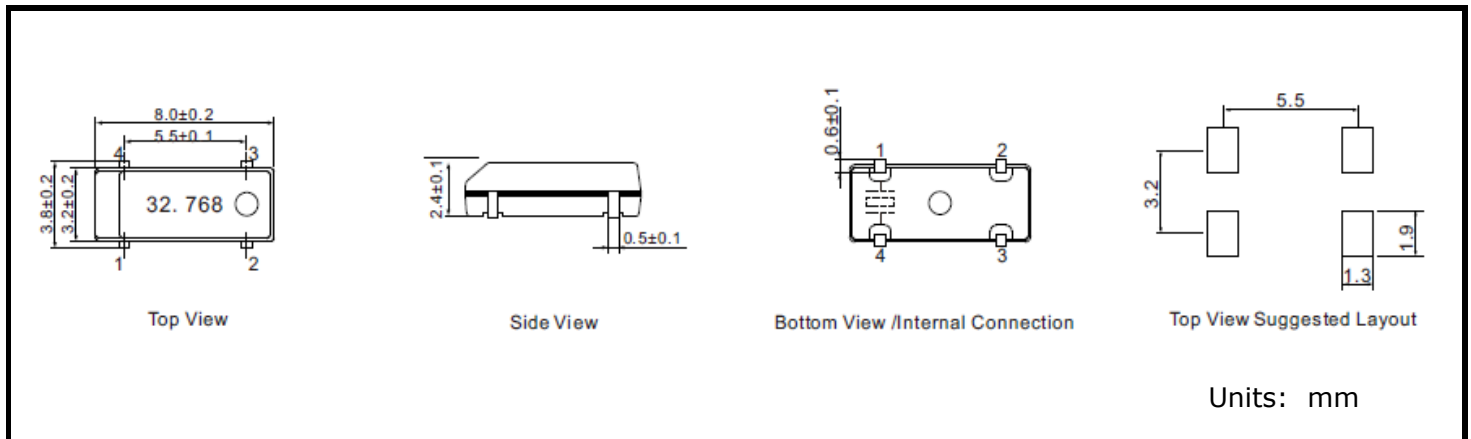
Electrical Specifications

Item/Type	MK80
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm,or specify
Operation Temperature Range	- 40 ~ + 85 °C,or specify
Shunt Capacitance (C0)	0.8pF typical
Motional Capacitance (C1)	1.9fF typical
Drive Level (DL)	1.0μW Max.
Load Capacitance(CL)	6.0 pF , 7.0 pF , 9 pF , 12.5 Pf
Turnover Temperature (Ti)	25±5 °C
Parabolic Coefficient (B)	(- 0.035± 0.005) * 10-6 / °C ²
Aging @25°C	± 3 ppm at first year
Storage Temperature Range	- 55 ~ +125 °C

Equivalent Series Resistance(ESR)

60KΩ Max

Dimensions



SERIES MK70 TUNING FORK WATCH CRYSTAL 32.768KHz

Features

- .Ultra thin type with height 1.4mm Max.
- .Application for Cellular phones ,PDA, Radio Communication Equipment, and Portable Applications etc.
- .High reliable environmental performance.
- .RoHS compliant /Pb Free.



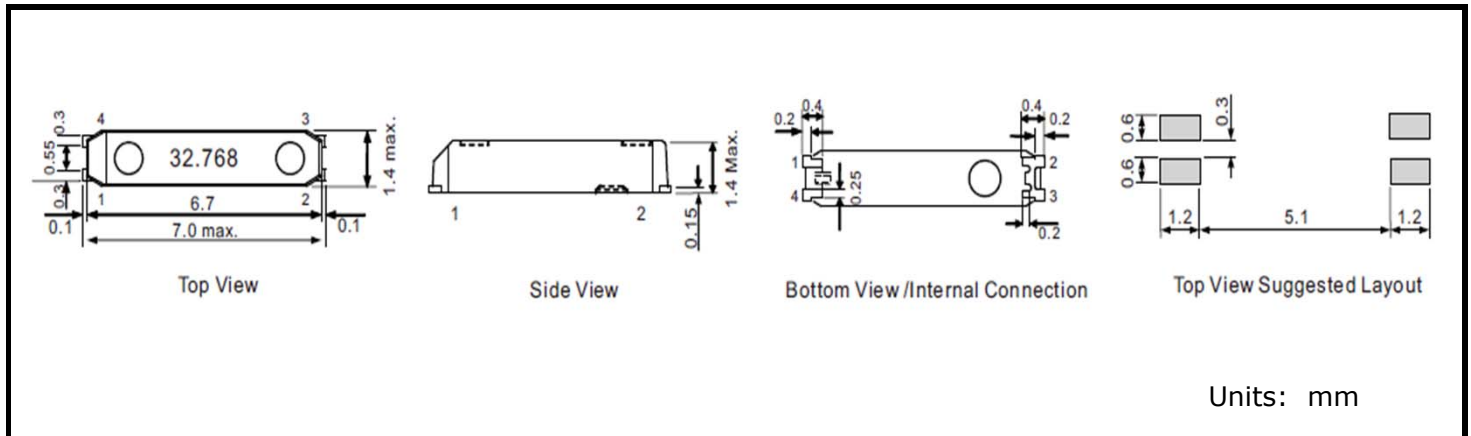
Electrical Specifications

Item/Type	MK70
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm, or specify
Operation Temperature Range	- 40 ~ + 85 °C, or specify
Shunt Capacitance (C0)	0.8pF typical
Motional Capacitance (C1)	1.9fF typical
Drive Level (DL)	1.0μW Max.
Load Capacitance(CL)	7.0 pF , 9 pF , 12.5 Pf
Turnover Temperature (Ti)	25±5 °C
Parabolic Coefficient (B)	(- 0.035± 0.005) * 10 ⁻⁶ / °C ²
Aging @25°C	± 3 ppm at first year
Storage Temperature Range	- 55 ~ +125 °C

Equivalent Series Resistance(ESR)

65KΩ Max

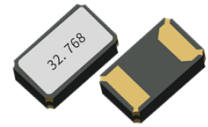
Dimensions



SERIES MK32 TUNING FORK WATCH CRYSTAL 32.768KHz

Features

- .2 pads surface mount package.
- .High reliable environmental performance.
- .RoHS compliant /Pb Free.
- .AECQ200 Certified for automotive
- .RTC applications



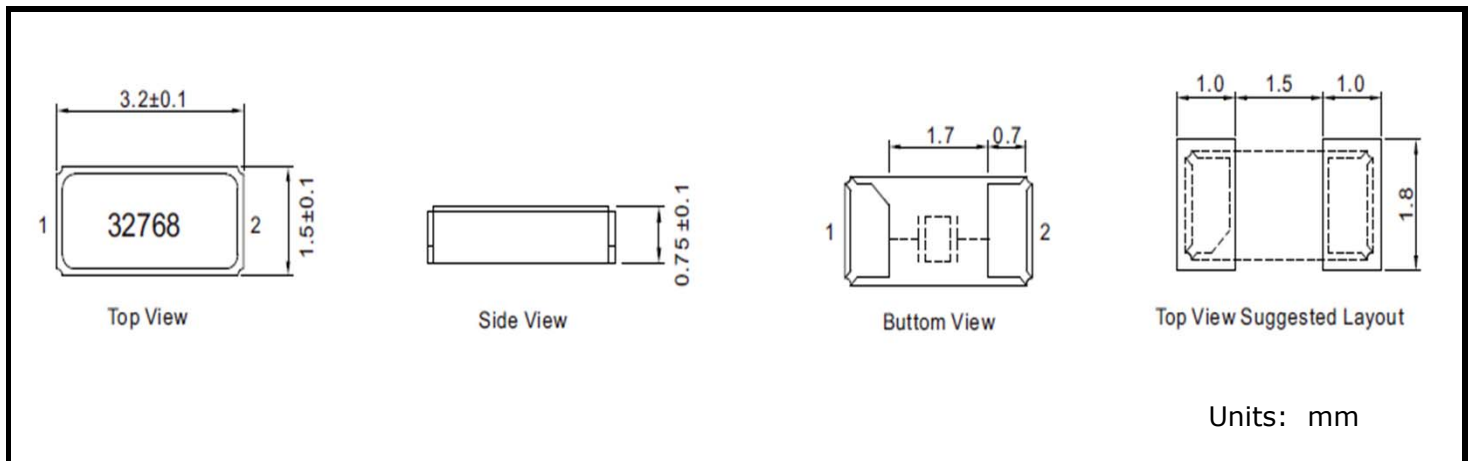
Electrical Specifications

Item/Type	MK32
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm, or specify
Operation Temperature Range	- 40 ~ + 85 °C, or specify
Shunt Capacitance (C0)	1.1pF typical
Motional Capacitance (C1)	3.5fF typical
Drive Level (DL)	0.5μW Max.
Load Capacitance(CL)	6.0 pF , 7.0 pF , 9 pF , 12.5 Pf
Turnover Temperature (Ti)	25±5 °C
Parabolic Coefficient (B)	(- 0.03± 0.01) * 10-6 / °C ²
Aging @25°C	± 3 ppm at first year
Storage Temperature Range	- 55 ~ +125 °C

Equivalent Series Resistance(ESR)

70KΩ Max

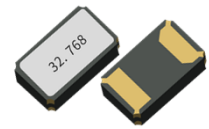
Dimensions



SERIES MK20 TUNING FORK WATCH CRYSTAL 32.768KHz

Features

- .Small size.
- .Applications in mobile phone, Notebook and DSC.
- .RoHS Compliant / Pb Free.



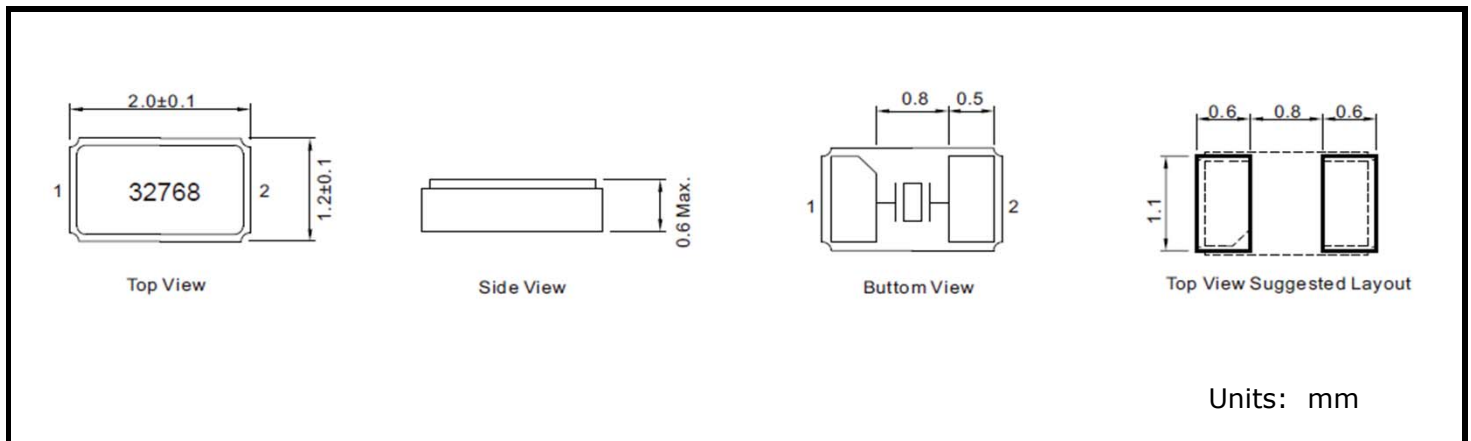
Electrical Specifications

Item/Type	MK20
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm,or specify
Operation Temperature Range	- 40 ~ + 85 °C,or specify
Shunt Capacitance (C0)	1.3pF typical
Motional Capacitance (C1)	5.0fF typical
Insulation Resistance (IR)	500 MΩ Min
Drive Level (DL)	0.5μW Max.
Load Capacitance(CL)	4.0 pF ,6.0 pF , 7.0 pF , 9 pF , 12.5 Pf
Turnover Temperature (Ti)	25±5 °C
Parabolic Coefficient (B)	(- 0.03± 0.01) * 10-6 / °C ²
Aging @25°C	± 3 ppm at first year
Storage Temperature Range	- 55 ~ +125 °C

Equivalent Series Resistance(ESR)

90KΩ Max

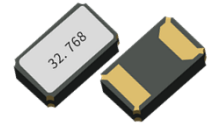
Dimensions



SERIES MK16 TUNING FORK WATCH CRYSTAL 32.768KHz

Features

- .Small size.
- .2 pads surface mount package.
- .Application for NB, Smart Phone, variety of compact portable consumer products reference clocks.
- .High reliable environmental performance.
- .RoHS compliant /Pb Free.



Electrical Specifications

Item/Type	MK16
Frequency Range	32.768KHz
Frequency Tolerance (at 25°C)	±20ppm,or specify
Operation Temperature Range	- 40 ~ + 85 °C,or specify
Shunt Capacitance (C0)	1.2pF typical
Motional Capacitance (C1)	5.0fF typical
Drive Level (DL)	0.5μW Max.
Load Capacitance(CL)	6.0 pF , 7.0 pF , 9 pF , 12.5 Pf
Turnover Temperature (Ti)	25±5 °C
Parabolic Coefficient (B)	(- 0.03± 0.01) * 10-6 / °C ²
Aging @25°C	± 3 ppm at first year
Storage Temperature Range	- 55 ~ +125 °C

Equivalent Series Resistance(ESR)

90KΩ Max

Dimensions

