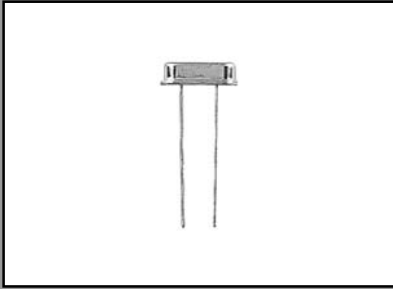
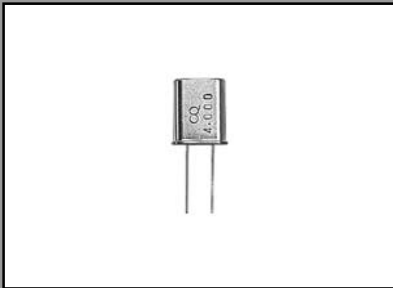


MICROS & CRYSTALS

LOW PROFILE CRYSTALS



QUARTZ CRYSTALS



CRYSTAL OSCILLATOR MODULES



CERAMIC RESONATORS



WATCH CRYSTALS

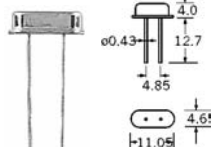


CERAMIC RESONATORS	2174
CRYSTAL MOUNTING PADS	2172
CRYSTAL OSSILATOR MODULES	2171
LOW PROFILE CRYSTALS	2172
WATCH CRYSTALS	2174

SQUIRES MODEL & CRAFT TOOLS

CRYSTALS

LOW PROFILE CRYSTALS a range of low profile crystals, with overall height when PCB mounted, of just 4mm. Suitable for use in microprocessor and other industrial applications. All types are parallel resonant types unless specified. Temperature range -20 to +70°C.

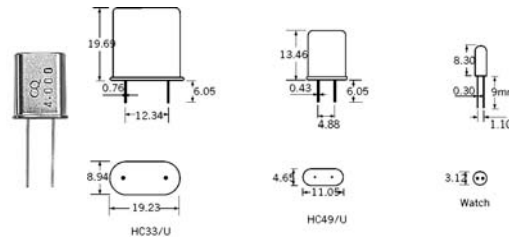


Technical Specification

Frequency	Case	Accuracy 25°C(ppm)	Temp stability	Load capacity
3.579545MHz	HC-49/S	30	50	20
3.6864MHz	HC-49/S	30	50	30
4.0MHz	HC-49/S	20	50	30
4.194304MHz	HC-49/S	30	30	13
4.433619MHz	HC-49/S	30	50	20
4.9152MHz	HC-49/S	30	50	30
5.00MHz	HC-49/S	30	50	30
6.0MHz	HC-49/S	30	50	16
7.3728MHz	HC-49/S	20	50	30
7.68MHz	HC-49/S	30	50	30
8.0MHz	HC-49/S	30	50	30
9.216MHz	HC-49/S	30	50	30
9.8304MHz	HC-49/S	30	50	30
10.0MHz	HC-49/S	30	50	30
11.0592MHz	HC-49/S	30	50	30
12.0MHz	HC-49/S	30	50	30
12.288MHz	HC-49/S	30	50	30
14.31818MHz	HC-49/S	30	50	30
14.7456MHz	HC-49/S	30	50	32
16.0MHz	HC-49/S	30	50	30
17.73447MHz	HC-49/S	30	50	30
18.432MHz	HC-49/S	30	50	30
19.6608MHz	HC-49/S	30	50	30
20.0MHz	HC-49/S	30	50	30
22.1184MHz	HC-49/S	30	50	30
24.0MHz	HC-49/S	30	50	30
24.576MHz	HC-49/S	30	50	30
25.00MHz	HC-49/S	30	50	30
32.00MHz	HC-49/S	50	100	30

CODE	TYPE	PRICE
750-438	Low Profile Crystal 3.579545MHz.....	£1.20
750-029	Low Profile Crystal 3.6864MHz.....	£1.20
750-030	Low Profile Crystal 4.0MHz.....	£1.20
750-032	Low Profile Crystal 4.194304MHz.....	£1.20
750-440	Low Profile Crystal 4.433619MHz.....	£1.20
750-034	Low Profile Crystal 4.9152MHz.....	£1.20
750-498	Low Profile Crystal 5.00MHz.....	£1.20
750-035	Low Profile Crystal 6.0MHz.....	£1.20
750-037	Low Profile Crystal 7.3728MHz.....	£1.20
750-500	Low Profile Crystal 7.68MHz.....	£1.20
750-039	Low Profile Crystal 8.0MHz.....	£1.20
750-502	Low Profile Crystal 9.216MHz.....	£1.20
750-442	Low Profile Crystal 9.8304MHz.....	£1.20
750-444	Low Profile Crystal 10.0MHz.....	£1.20
750-040	Low Profile Crystal 11.0592MHz.....	£1.20
750-446	Low Profile Crystal 12.0MHz.....	£1.20
750-504	Low Profile Crystal 12.288MHz.....	£1.20
750-448	Low Profile Crystal 14.31818MHz.....	£1.20
750-450	Low Profile Crystal 14.7456MHz.....	£1.20
750-042	Low Profile Crystal 16.0MHz.....	£1.20
750-510	Low Profile Crystal 17.73447MHz.....	£1.20
750-452	Low Profile Crystal 18.432MHz.....	£1.20
750-512	Low Profile Crystal 19.6608MHz.....	£1.20
750-454	Low Profile Crystal 20.0MHz.....	£1.30
750-514	Low Profile Crystal 22.1184MHz.....	£1.30
750-456	Low Profile Crystal 24.0MHz.....	£1.40
750-458	Low Profile Crystal 24.576MHz.....	£1.40
750-516	Low Profile Crystal 25.00MHz.....	£1.40
750-460	Low Profile Crystal 32.0MHz.....	£1.40

QUARTZ CRYSTALS a wide range of wire ended crystals of popular frequencies for use in microprocessor and other industrial applications. All types are parallel resonant types unless specified. Temperature range -20 to +70°C.



Technical Specification

Frequency(MHz)	Case	Frequency tolerancePPM	Temperature characteristicPPM	Load cap(pf)	RS max W
32.768kHz	Watch	20	-	12.5	-
1.843200	HC-49/U	30	50	32	500
2.000000	HC-49/U	30	50	20	350
2.457600	HC-49/U	30	50	32	300
3.276800	HC-49/U	30	30	16	150
3.579545	HC-49/U	30	30	18	90
3.6864	HC-49/U	30	50	30	-
4.000000	HC-49/U	30	30	32	100
4.194304	HC-49/U	30	30	12	100
4.433619	HC-49/U	30	30	20	80
4.915200	HC-49/U	30	30	32	70
5.00	HC-49/U	30	50	30	-
6.000000	HC-49/U	30	30	32	40
6.144	HC-49/U	30	30	30	-
7.3728	HC-49/U	30	30	30	-
8.000000	HC-49/U	30	30	32	35
9.8304	HC-49/U	30	30	32	-
10.000000	HC-49/U	30	30	32	30
11.0592	HC-49/U	30	30	32	-
12.000000	HC-49/U	30	30	32	30
14.31818	HC-49/U	30	30	30	-
14.31818	HC-49/U	30	30	Series	-
14.745600	HC-49/U	30	30	Series	30
16.0000	HC-49/U	30	30	32	20
17.73447	HC-49/U	30	30	30	30
18.432	HC-49/U	30	30	30	30
19.6608	HC-49/U	30	30	30	-
20.0	HC-49/U	30	30	30	-
24.0	HC-49/U	30	30	series	-
24.576	HC-49/U	30	30	30	-
27.00	HC-49/U	30	50	30	-

CODE	TYPE	PRICE
750-044	Quartz Crystal 32.768kHz.....	£0.60
750-047	Quartz Crystal 1.843200.....	£0.65
750-049	Quartz Crystal 2.000000.....	£0.70
750-050	Quartz Crystal 2.457600.....	£0.75
750-052	Quartz Crystal 3.276800.....	£0.75
750-054	Quartz Crystal 3.579545.....	£0.75
750-518	Quartz Crystal 3.6864.....	£0.75
750-055	Quartz Crystal 4.000000.....	£0.75
750-056	Quartz Crystal 4.000000 20ppm.....	£0.75
750-057	Quartz Crystal 4.194304.....	£0.75
750-059	Quartz Crystal 4.433619.....	£0.80
750-060	Quartz Crystal 4.915200.....	£0.80
750-520	Quartz Crystal 5.00.....	£0.80
750-062	Quartz Crystal 6.000000.....	£0.80
750-063	Quartz Crystal 6.000000 20ppm.....	£0.80
750-064	Quartz Crystal 6.144.....	£0.80
750-065	Quartz Crystal 7.3728.....	£0.80
750-067	Quartz Crystal 8.000000.....	£0.80
750-068	Quartz Crystal 8.000000 20ppm.....	£0.80
750-069	Quartz Crystal 9.8304.....	£0.80
750-070	Quartz Crystal 10.000000.....	£0.80
750-072	Quartz Crystal 11.0592.....	£0.80
750-074	Quartz Crystal 12.000000.....	£0.80
750-075	Quartz Crystal 14.31818.....	£0.80
750-077	Quartz Crystal 14.31818(series).....	£0.80
750-079	Quartz Crystal 14.745600(series).....	£0.80
750-080	Quartz Crystal 16.000000.....	£0.80
750-081	Quartz Crystal 16.000000 20ppm.....	£0.80
750-462	Quartz Crystal 17.73447.....	£0.80
750-464	Quartz Crystal 18.432.....	£0.80

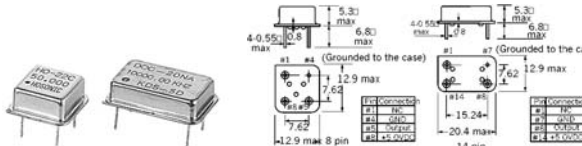
continued over

**FREE PARKING FOR 2 HOURS
OUTSIDE OF OUR SHOP**

SQUIRES MODEL & CRAFT TOOLS

750-466	Quartz Crystal 19.6608.....	£0.80
750-468	Quartz Crystal 20.0.....	£0.80
750-469	Quartz Crystal 20.000000 20ppm.....	£0.80
750-470	Quartz Crystal 24.0(series).....	£0.99
750-472	Quartz Crystal 24.576(series).....	£0.99
750-522	Quartz Crystal 27.00.....	£0.99

CRYSTAL OSCILLATOR MODULES a range of compact crystal oscillator modules housed in hermetically sealed metal packages available in either 8 pin DIL or 14 pin DIL formats. Outputs are TTL compatible and will drive up to 10 TTL loads. CMOS loads can also be driven if a pull up resistor of 2K2 is connected between the output and positive supply.



Technical Specification

Temperature stability	±100ppm
Output drive level	1 to 10 TTL gates
Supply Current	30mA < 24MHz 40mA ≥ 24MHz
OUTPUT LOGIC '0' LEVEL	+0.4V max
OUTPUT LOGIC '1' LEVEL	+2.4V min

CODE TYPE
8 pin DIL Format

CODE	TYPE	PRICE
750-536	Crystal Oscillator Module 1.8432MHz.....	£3.99
750-538	Crystal Oscillator Module 3.5795MHz.....	£3.99
750-476	Crystal Oscillator Module 4.0MHz.....	£3.99
750-478	Crystal Oscillator Module 8.0MHz.....	£3.99
750-542	Crystal Oscillator Module 10.0MHz.....	£3.99
25-0708	Crystal Oscillator Module 11.2896MHz.....	£3.99
750-480	Crystal Oscillator Module 12.0MHz.....	£3.99
25-0710	Crystal Oscillator Module 12.2888MHz.....	£3.99
750-482	Crystal Oscillator Module 16.0MHz.....	£3.99
750-552	Crystal Oscillator Module 16.9344MHz.....	£3.99
750-484	Crystal Oscillator Module 20.0MHz.....	£3.99
750-486	Crystal Oscillator Module 24.0MHz.....	£3.99
25-0712	Crystal Oscillator Module 24.576MHz.....	£3.99
25-0714	Crystal Oscillator Module 25.0MHz.....	£3.99
25-0716	Crystal Oscillator Module 27.0MHz.....	£3.99
750-490	Crystal Oscillator Module 40.0MHz.....	£3.99
750-082	Crystal Oscillator Module 50MHz.....	£3.99
750-494	Crystal Oscillator Module 100MHz.....	£4.99

14 pin DIL Format

750-085	Crystal Oscillator Module 2.4576MHz.....	£3.99
750-087	Crystal Oscillator Module 3.2768MHz.....	£3.99
750-560	Crystal Oscillator Module 4.00MHz.....	£3.99
750-562	Crystal Oscillator Module 8.0MHz.....	£3.99
750-089	Crystal Oscillator Module 10.0MHz.....	£3.99
750-090	Crystal Oscillator Module 20.0MHz.....	£3.99
750-092	Crystal Oscillator Module 24.0MHz.....	£3.99
750-094	Crystal Oscillator Module 40.0MHz.....	£3.99
750-568	Crystal Oscillator Module 48.0MHz.....	£3.99

CRYSTAL MOUNTING PAD a plastic mounting pad for crystals with HC-49 style packages. The pads insulate the crystal case from tracks on the component side of a PCB and improve mechanical mounting stability. Because of the increased distance from the PCB, the pads also help to reduce the possibility of damage due to overheating during soldering. A matching mylar insulating washer is also available.



CODE	TYPE	PRICE
16-0610	Crystal Mounting Pad.....	£0.20
16-0612	Crystal Insulating Washer.....	£0.10

SPXO DIL CRYSTAL OSCILLATOR a range of through-hole SPXO (Simple Packaged Crystal Oscillator) devices that are available in several frequencies. Packaged in a 4-pin body that is 13.7 x 7.62 x 5.3mm these devices are pin compatible with a half-size metal can. They have an AT cut crystal and are designed for high-density mounting applications. The CMOS design enables low current consumption. With output enable function and a standby function.

Technical Specification

VCC (V):	5.0 ±0.5
Tolerance:	±50ppm
Output load condition:	50pF max.
Aging:	±5ppm/year
Operating temperature:	-20°C to +70°C
Storage temperature:	-55°C to +125°C

Nominal frequency range	Current consumption
4.000MHz	23mA max.
4.9152MHz	23mA max.
10.000MHz	23mA max.
12.000MHz	23mA max.
16.000MHz	23mA max.
20.000MHz	23mA max.
24.000MHz	23mA max.
32.000MHz	35mA max.
40.000MHz	35mA max.
50.000MHz	35mA max.



CODE	TYPE	PRICE
16-0410	Crystal Oscillator 4.000MHz SG531P.....	£4.99
16-1542	Crystal Oscillator 4.9152MHz SG531P.....	£4.99
16-0435	Crystal Oscillator 10.000MHz SG531P.....	£4.99
16-3030	Crystal Oscillator 12.000MHz SG531P.....	£4.99
16-0284	Crystal Oscillator 16.000MHz SG531P.....	£4.99
16-0455	Crystal Oscillator 20.000MHz SG531P.....	£4.99
16-0288	Crystal Oscillator 24.000MHz SG531P.....	£4.99
16-0290	Crystal Oscillator 32.000MHz SG531PH.....	£4.99
16-3034	Crystal Oscillator 40.000MHz SG531PH.....	£4.99
16-0292	Crystal Oscillator 50.000MHz SG531PH.....	£4.99

PROGRAMMABLE 8 PIN CRYSTAL OSCILLATOR a range of programmable crystal oscillators in 8-pin DIL packages with HCMOS output. Each device has two outputs, the original and a divided frequency. An output disable is also provided. The divider is controlled by three binary inputs.

Technical Specification

fTOL:	-100 to +100x10-6
VDD:	4.5 to 5.5V
IDD max.:	20mA
Symmetry:	40 to 60%
tr/ff:	15ns
Output load:	50pF
Temperature range:	-10°C to +70°C

fo (MHz)	fo+2 (MHz)	fo+4 (MHz)	fo+8 (MHz)	fo+16 (kHz)	fo+32 (kHz)	fo+64 (kHz)	fo+128 (kHz)	fo+256 (kHz)
14.31818	7.15909	3.579545	1.789772	894.88	447.44	223.72	111.86	55.93
16	8	4	2	1000	500	250	125	62.5
19.6608	9.8304	4.9152	2.4576	1228.8	614.4	307.2	153.6	76.8
20	10	5	2.5	1250	625	312.5	156.25	78.125



CODE	TYPE	PRICE
16-1264	Programmable Oscillator 14.31818MHz.....	£7.99
16-1266	Programmable Oscillator 16.00MHz.....	£7.99
16-1268	Programmable Oscillator 19.66MHz.....	£7.99
16-1270	Programmable Oscillator 20.00MHz.....	£7.99

SQUIRES MODEL & CRAFT TOOLS

THROUGH HOLE 27MHz HCMOS/TTL VCXO - WIDE PULL
 these 27MHz ACT7000 series Voltage Controlled Crystal Oscillators (VCXO) are 4-pin, through hole devices that give a HCMOS/TTL level output and feature up to ± 100 ppm of pulling ability. These devices are housed in industry standard full size (DIL-14 sized) and half size (DIL-8 sized) metal cans that are suitable for densely packed application where either surface mount is not desirable or screening is required. Applications for these VCXOs include video, MPEG2, STB and DVD. The package is seam welded for long term reliability and lid grounded via package to reduce EMI issues. Supply voltage 3.3V.

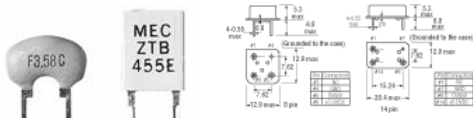


Technical Specification

Stability: ± 50 ppm
 Operating temperature: -10°C to $+70^{\circ}\text{C}$
 Storage temperature: -40°C to $+85^{\circ}\text{C}$
 Supply voltage: 3.3V
 Supply current max.: 45mA
 Output: HCMOS/TTL
 Pulling range: ± 100 ppm
 Pulling control voltage: 0.3V to 3.0V DC
 Duty cycle: 50% $\pm 20\%$
 Rise and fall time max.: 5ns
 Aging: ± 5 ppm/year
 Dimensions: 12.8 x 10.8 x 5.08mm (half size can)
 20.2 x 12.8 x 5.08mm (full size can)

CODE	TYPE	PRICE
16-1260	Through Hole 27MHz VCXO 4 PIN DIL-8.....	£8.99
16-1262	Through Hole 27MHz VCXO 4 PIN DIL-14.....	£8.99

CERAMIC RESONATORS a range of ceramic resonators for use in oscillator circuits providing a cost effective compact device in a shock resistant, lightweight package. Specifically designed for use in MOS circuits. Frequency tolerance $\pm 0.5\%$.



	L	H	W	D	P	S2	t
Case 1	4.0	9.0	7.0	3.5	5.0	1.0	0.25
Case 1a	6.0	9.3	7.9	3.6	5.0	0.6	0.25
Case 1b	4.0	9.0	7.0	3.5	5.0	5.0	1.0
Case 2	11.0	8.0	5.0	5.0	5.0	0.6	0.2
Case 3	5.0	10.0	12.0	4.5	5.0	0.6	0.2

CODE	TYPE	CASE	PRICE
750-394	Ceramic Resonator 400kHz	1a.....	£0.65
750-000	Ceramic Resonator 455MHz	1.....	£0.65
750-002	Ceramic Resonator 500kHz	1.....	£0.65
750-396	Ceramic Resonator 560kHz	1b.....	£0.65
750-398	Ceramic Resonator 1.0MHz	2.....	£0.65
750-004	Ceramic Resonator 2.0MHz	2.....	£0.65
750-007	Ceramic Resonator 3.58MHz	2.....	£0.65
750-009	Ceramic Resonator 3.68MHz	2.....	£0.65
750-010	Ceramic Resonator 4.0MHz	2.....	£0.65
750-400	Ceramic Resonator 5.0MHz	1.....	£0.65
750-011	Ceramic Resonator 6.0MHz	1.....	£0.65
750-012	Ceramic Resonator 8.0MHz	1.....	£0.65
750-402	Ceramic Resonator 7.37MHz	1.....	£0.65
750-015	Ceramic Resonator 8.0MHz	3.....	£0.65
750-017	Ceramic Resonator 10.0MHz	3.....	£0.65
750-404	Ceramic Resonator 12.0MHz	3.....	£0.65
750-408	Ceramic Resonator 20.0MHz	3.....	£0.65
750-412	Ceramic Resonator 27.0MHz	3.....	£0.65
750-414	Ceramic Resonator 32.0MHz	3.....	£0.65

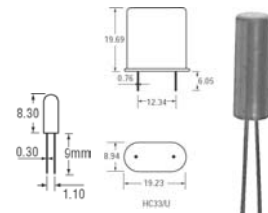
3-PIN CERAMIC RESONATORS a range of 3 pin ceramic resonators supplied with built-in capacitors therefore removing the need for load capacitance when making up oscillator circuits. Leads 2.5mm pitch spacing.



CODE	TYPE	PRICE
750-416	3 Pin Ceramic Resonator 2.00MHz.....	£0.65
750-019	3 Pin Ceramic Resonator 3.58MHz.....	£0.65
750-020	3 Pin Ceramic Resonator 4.00MHz.....	£0.65
750-022	3 Pin Ceramic Resonator 4.19MHz.....	£0.65
750-420	3 Pin Ceramic Resonator 5.00MHz.....	£0.65
750-024	3 Pin Ceramic Resonator 6.00MHz.....	£0.65
750-025	3 Pin Ceramic Resonator 8.00MHz.....	£0.65
750-424	3 Pin Ceramic Resonator 10.00MHz.....	£0.65
750-426	3 Pin Ceramic Resonator 11.06MHz.....	£0.65
750-027	3 Pin Ceramic Resonator 12.00MHz.....	£0.65
750-428	3 Pin Ceramic Resonator 16.00MHz.....	£0.65
750-430	3 Pin Ceramic Resonator 20.00MHz.....	£0.65
750-432	3 Pin Ceramic Resonator 24.00MHz.....	£0.65

WATCH CRYSTALS

WATCH CRYSTALS A range of watch crystal operating at 32.768kHz and available in through the hole and surface mount versions. All types offer high stability with excellent ageing, shock and vibration characteristics. The surface mount types are ideal for portable equipment with high density PCBs and low power consumption.



Technical Specification

	Thro'hole	Thro'hole	SM	SM
Size	3x8mm	2x6mm	6x3mm	8x3mm
Frequency	32.768kHz	32.768kHz	32.768kHz	32.768kHz
Tolerance	± 20 ppm	± 20 ppm	± 20 ppm	± 20 ppm
Equivalent series resistance	35k Ω	35k Ω	65k Ω	50k Ω
Load capacitance	12.5pF	6/12.5pF*	12.5pF	12.5pF
Drive level	1 μ W max	1 μ W max	1 μ W max	1 μ W max
Ageing	± 3 ppm	± 3 ppm	± 3 ppm	± 3 ppm
Temperature coefficient	(0.034 \pm 0.006ppm/ $^{\circ}\text{C}$) *Available in 6pF and 12.5pF			

CODE	TYPE	PRICE
750-528	Watch Crystal 32.768kHz 2x6mm 6pF.....	£0.85
750-530	Watch Crystal 32.768kHz 2x6mm 12pF.....	£0.50
750-534	Watch Crystal 32.768kHz SM 8x3mm.....	£1.75

WATCH CRYSTAL 32.768kHz C-TYPE a watch crystal that operates at 32.768kHz. It is photolithographically finished enabling uniform and stable performance and makes this device ideal for use in watches, clocks and microcomputers. The tuning fork cut crystal is housed in a 3.1 x 8.0mm cylindrical package.



Technical Specification

Nominal frequency range:	32.768kHz
Tolerance:	± 20 ppm
Drive level:	1.0 μ W max.
Load capacitance:	6pF
ESR typ.:	18k Ω
ESR max.:	35k Ω
Ageing max.:	± 3 ppm/year
Operating temperature:	-10°C to $+60^{\circ}\text{C}$
Storage temperature:	-20°C to $+70^{\circ}\text{C}$

CODE	TYPE	PRICE
16-0244	32.768kHz C-type Watch Crystal.....	£0.60