

Crystal Oscillators

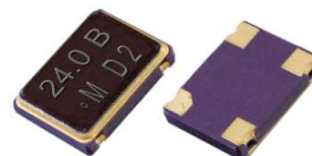
CMOS output

Surface Mount type

H22 2.5 * 2.0 * 0.95	H32 3.2 * 2.5 * 1.0	H53 5.0 * 3.2 * 1.2	SWO 7.0 * 5.0 * 1.4	TTL	1.0 V	1.8 V	3.3 V	Min.	Max.
				CMOS	1.2 V	2.5 V	5 V	25 KHz	160 MHz

Applications

- CPU , Graphics , Multimedia A / V clocks
- MPEG / DVD / HDTV clocks
- Laser engine pixel / set - top clocks
- SONET / SDH / ATM clocks
- Fast Ethernet and Gigabit Ethernet clocks
- NTSC / PAL encoder / decoder clocks
- PLL / synthesizer clocks
- Fibre channel and ADSL clocks



General Specifications [TA = +25°C , V_{DD} = at specified voltage , Load : 15 pF]

Model	"H22" ; "H32" ; "H53" and "SWO" series [Output Logic : TTL / CMOS]			
	"H22" series	"H32" series	"H53" series	"SWO" series
Dimensions	2.5 x 2.0 x 0.95 mm	3.2 x 2.5 x 1.0 mm	5.0 x 3.2 x 1.2 mm	7.0 x 5.0 x 1.4 mm
Available Frequency Range by Voltage	-----	1.0 V 0.25 MHz ~ 50 MHz	1.0 V 0.25 MHz ~ 50 MHz	1.0 V 0.25 MHz ~ 50 MHz
	1.8 V 0.156 MHz ~ 80 MHz	1.2 V 0.25 MHz ~ 50 MHz	1.2 V 0.25 MHz ~ 50 MHz	1.2 V 0.25 MHz ~ 50 MHz
		1.8 V 32.768 KHz	1.8 V 32.768 KHz	1.8 V 32.768 KHz
		2.5 V 0.312 MHz ~ 160 MHz	2.5 V 0.312 MHz ~ 160 MHz	2.5 V 0.312 MHz ~ 160 MHz
	3.3 V 0.312 MHz ~ 160 MHz	3.3 V 0.312 MHz ~ 160 MHz	3.3 V 0.312 MHz ~ 160 MHz	3.3 V 0.312 MHz ~ 160 MHz
		5.0 V 1.75 MHz ~ 50 MHz	5.0 V 0.375 MHz ~ 100 MHz	5.0 V 0.375 MHz ~ 100 MHz

Supply Voltage (V _{DD})	+1.0 V D.C.±5%	+1.2 V D.C.±5%	+1.8 V D.C.±5%	+2.5 V D.C.±5%	+3.3 V D.C.±5%	+5.0 V D.C.±10%
	code is " 10 "	code is " 12 "	code is " 18 "	code is " 25 "	code is " 3 "	code is " 5 "
High "1" (90% of V _{DD} min.)	0.9 V min.	0.9 V min.	1.62 V min.	2.25 V min.	2.97 V min.	4.5 V min.
Logic Low "0" (10% of V _{DD} max.)	0.1 V max.	0.1 V max.	0.18 V max.	0.25 V max.	0.33 V max.	0.5 V max.
Current Consumption	1.0 ~ 1.5 MHz 4 mA max.	1.0 ~ 1.5 MHz 4 mA max.	1.0 ~ 1.5 MHz 5 mA max.	0.3 ~ 1.5 MHz 5 mA max.	0.3 ~ 1.5 MHz 5 mA max.	0.3 ~ 1.5 MHz 5 mA max.
	1.5 ~ 20 MHz 4 mA max.	1.5 ~ 20 MHz 4 mA max.	1.5 ~ 20 MHz 8 mA max.	1.5 ~ 20 MHz 8 mA max.	1.5 ~ 20 MHz 8 mA max.	1.5 ~ 20 MHz 10 mA max.
	20.0 ~ 60 MHz 4 mA max.	20.0 ~ 60 MHz 4 mA max.	20.0 ~ 50 MHz 15 mA max.	20 ~ 50 MHz 15 mA max.	20.0 ~ 50 MHz 15 mA max.	20.0 ~ 50 MHz 20 mA max.
	-----	-----	50.1 ~ 160 MHz 22 mA max.	50.1 ~ 160 MHz 25 mA max.	50.1 ~ 160 MHz 35 mA max.	50.1 ~ 125 MHz 40 mA max.
Rise Time (Tr) / Fall Time (Tf)	6 n sec. (max.)	6 n sec. (max.)	7 n sec. (max.)	7 n sec. (max.)	10 n sec. (max.)	10 n sec. (max.)
	Measured between 10% ↔ 90% of wave form (CL = 15pF)					

Frequency Stability Codes	Frequency Stability over Operating Temperature Range	± 25 ppm	± 50 ppm	± 100 ppm	If non-standard , please enter the desired stability after the " C " or " I " . For example : " C20 " ±20 ppm over -10°C to +70°C ; " I30 " ± 30 ppm over -40°C to +85°C
	Commercial (-10°C to +70°C)	A	B	C	
	Industrial (-40°C to +85°C)	D	E	F	

Load	15 pF ; (30 pF and 50 pF load are also available for +3.3V and +5.0V V _{DD})
Duty Cycle	Standard: 50% ± 10%; Option: 50% ± 5%. Please add " S " at the end of the part number for ± 5% .
Start-up Time (Ts)	1.0 ~ 32.0 MHz : 5 m sec. (max.) ; 32.0 ~ 160.0 MHz : 10 m sec. (max.)
Storage Temperature	- 50°C to 100°C
Aging	± 3 ppm per year (max.)
Tri-state Function on pad No. 1	Output is high impedance when " 0 " is applied to pin 1 . Disable time is 150 n sec. max. Add " T " in part number for Tri-State option

Mercury www.mercury-crystal.com ■ Taiwan : Tel (886)-2-2406-2779 / sales-tw@mercury-crystal.com

■ U.S.A: Tel: (1)-909-466-0427 / sales-us@mercury-crystal.com ■ China: Tel: (86)-512-5763-8100 / sales-cn@mercury-crystal.com

