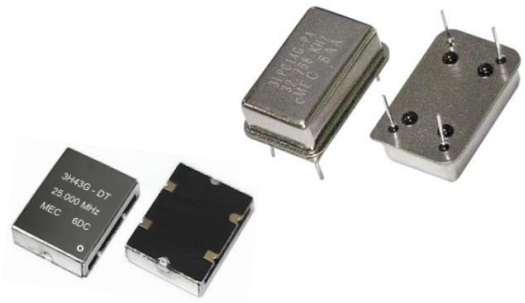
Crystal Oscillators — CMOS output

Thru - Hole		SMD		CMOS	1.0 V	1.8 V	3.3 V	Min.	Max.
H8	H14	H42	H43		1.2 V	2.5 V	5.0 V	27 KHz	160 MHz
12.8 * 12.8 * 5.5	20.2 * 12.8 * 5.0	11.4 * 9.6 * 2.5	11.4 * 9.6 * 3.0						

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]

Type		Thru - Hole type			SMD type		
Model (Dimensions)		**H8** (12.8 * 12.8 * 5.5 mm)	**H14** (20.2 * 12.8 * 5.0 mm)		**H42** (11.4 * 9.6 * 2.5 mm)	**H43** (11.4 * 9.6 * 3.0 mm)	
Input Voltage (V_{DD})		+ 1.0V ± 5% code is " 10 "	+ 1.2V ± 5% code is " 12 "	+ 1.8V ± 5% code is " 18 "	+ 2.5V ± 5% code is " 25 "	+ 3.3 V ± 10% code is " 3 "	+ 5.0V ±10% code is " 5 "
Frequency Range		750 KHz ~ 50 MHz		27.3 KHz ~ 160 MHz			27.3 KHz ~ 100 MHz
Output Logic " High " , " 1 "		0.9 V (min.)	1.08 V (min.)	1.62 V (min.)	2.25 V (min.)	2.97 V (min.)	4.5 V (min.)
Output Logic " Low " , " 0 "		0.1 V (max.)	0.12 V (max.)	0.18 V (max.)	0.25 V (max.)	0.33 V (max.)	0.5 V (max.)
Current Consumption	25 MHz	4 mA (max.)	4 mA (max.)	5 mA (max.)	5 mA (max.)	5 mA (max.)	5 mA (max.)
	50 MHz	5 mA (max.)	5 mA (max.)	8 mA (max.)	10 mA (max.)	12 mA (max.)	15 mA (max.)
	100 MHz	- - -	- - -	10 mA (max.)	15 mA (max.)	30 mA (max.)	40 mA (max.)
	160 MHz	- - -	- - -	15 mA (max.)	20 mA (max.)	35 mA (max.)	- - -
Disable Current		10 uA (Max.) at OE ≦ 0.3V					

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	

Output Load	15 pF Max. ; 30 pF load for frequencies up to 70 MHz ; Contact Mercury for 50 pF load
Rise Time (Tr)	10 n sec.(max.) ; 3 n sec.(typical) . Measured between 10% to 90% wave form (CL=15pF)
Fall Time (Tf)	10 n sec.(max.) ; 3 n sec.(typical) . Measured between 10% to 90% wave form (CL=15pF)
Duty Cycle	50% ± 10 % of wave form [50% ± 5% is also available , add " S " at the end of the part number]
Start -Up Time (Ts)	10 m sec. (max.) ; 5 m sec. (typical)
Storage Temperature	- 55°C to 150°C
Aging	± 5.0 ppm per year (max.)
Output Enable / Disable Function on pin1	70% of V_{DD} (min.) to enable output.
	30% of V_{DD} (max.) to disable output.
	Add " T " in part number for OE option

Part Number Format and Examples

[1]	[2]	-	[3]	[4]	-	[5]	-	[6]
Supply Voltage	Holder Type		Frequency Stability	T		Center Frequency		Customer Spec

Examples									
	(1)	18	H8	-	B	T	-	25.000	-	S
	(2)	5	H14	-	C30		-	10.000	-	50P
	(3)	3	H43	-	E	T	-	16.000		

Ex (1) : 18H8 - BT - 25.000 - S [1.8V , H8 type , ±50ppm from -10°C to 70°C , Output Enable , 25.000MHz , Duty cycle ± 5%]

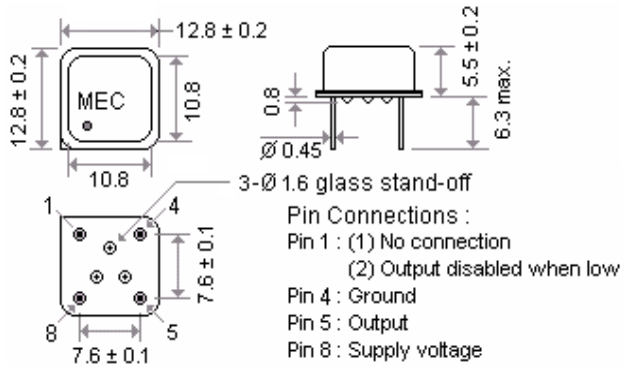
Ex (2) : 5H14 - C30 - 10.000 - 50P [5.0V , H14 type , ±30ppm from -10°C to 70°C , 10.000MHz , Output load , 50pF]

Ex (3) : 3H43 - ET - 16.000 [3.3V , H43 type , ±50ppm from -40°C to 85°C , Output Enable , 16.000MHz]

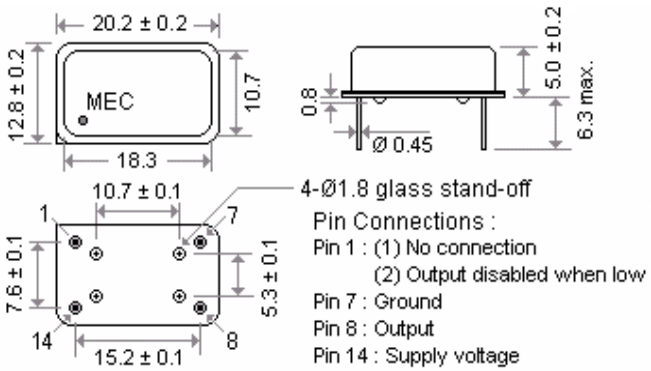
[1]	Supply voltage , " 1 " for +1.0V ;" 12 " for +1.2V ; " 18 " for +1.8V ;" 25 " for +2.5V ; " 28 " for +2.8V ; " 3 " for +3.3V ; " 5 " for +5.0V	
[2]	Holder Type	
[3]	-10°C ~ 70 °C	" A " ± 25ppm ; " B " ± 50ppm ; " C " ± 100ppm ;
		If non-standard please enter the desired stability after " C " , example " C15 " : represents ±15ppm over -10 to +70°C
	-40°C ~ 85 °C	" D " ± 25ppm ; " E " ± 50ppm ; " F " ± 100ppm ;
		If non-standard please enter the desired stability after " I " , example " I30 " : represents ± 30ppm over -40 to +85°C
[4]	" T " for Output Enable , Leave this space blank if no connection on pin 1 or pad 1	
[5]	Frequency in MHz	
[6]	Assigned by Mercury if customer spec , (1) : S ---- duty cycle ± 5% , ex : " - S " ; (2) : 50p ---- output load 50pF , ex : " - 50p "	

Outline Dimensions (Unit : mm) , Suggested pad Layout for SMDs

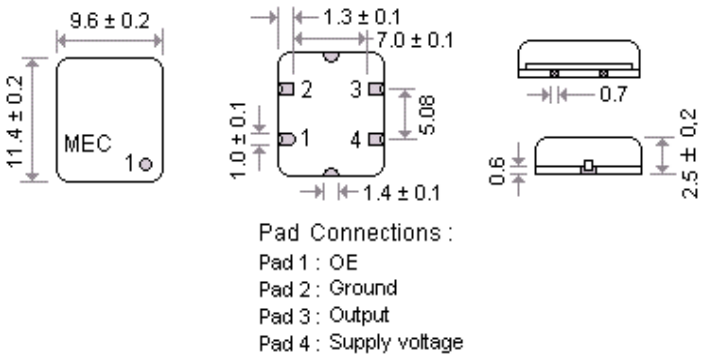
[H8]



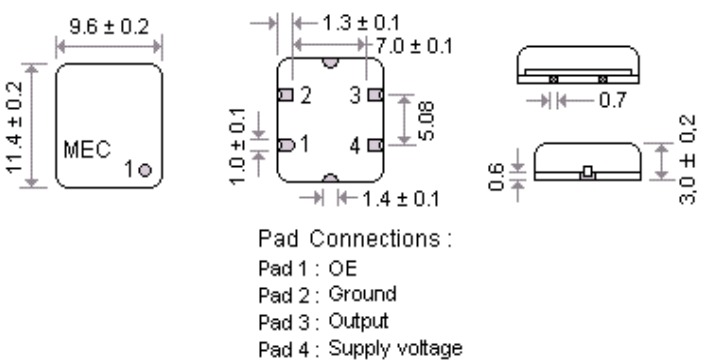
[H14]



[H42]

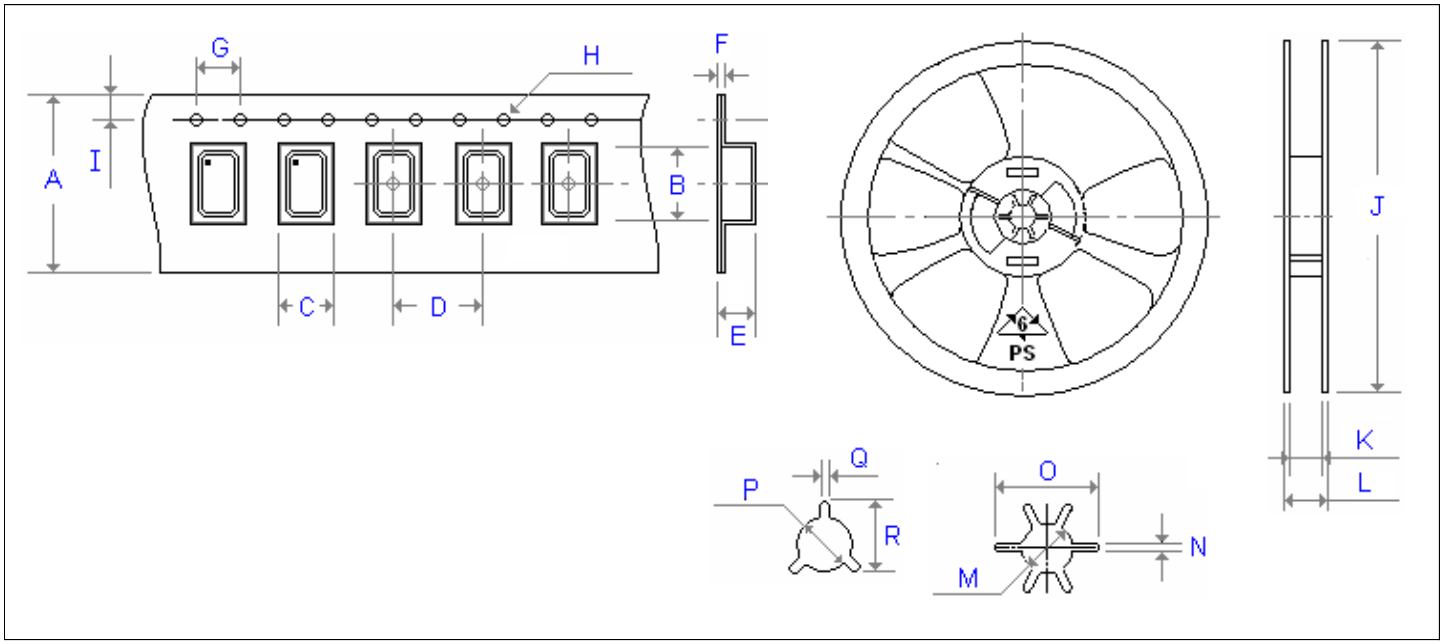


[H43]



Emboss Taping and Reel Specifications

[Crystal Oscillator Units]



Carrier Type Dimensions (unit : mm)

	A	B	C	D	E	F	G	H	I	pcs / reel
H_22	8.0	2.8	2.3	4.0	1.1	0.3	4.0	Ø 1.50	1.75	3000
H_32	8.0	3.4	2.7	4.0	1.4	0.3	4.0	Ø 1.50	1.75	3000
H_53	12.0	5.3	3.6	8.0	1.4	0.3	4.0	Ø 1.55	1.75	1000
H_57	16.0	7.3	5.3	8.0	1.9	0.3	4.0	Ø 1.55	1.75	1000
SWO	16.0	7.2	5.4	8.0	1.8	0.3	4.0	Ø 1.55	1.75	1000
H_576	16.0	7.2	5.4	8.0	1.8	0.3	4.0	Ø 1.55	1.75	1000
HP_576	16.0	7.2	5.4	8.0	1.8	0.3	4.0	Ø 1.55	1.75	1000
HD_576	16.0	7.2	5.4	8.0	1.8	0.3	4.0	Ø 1.55	1.75	1000
H_42	24.0	12.4	10.3	16.0	5.1	0.3	4.0	Ø 1.55	1.75	500
H_43	24.0	12.4	10.3	16.0	5.1	0.3	4.0	Ø 1.55	1.75	500

Reel Dimensions (unit : mm)

	J	K	L	M	N	O	P	Q	R	pcs / reel
H_22	180.0	9.0	12.0	-	-	-	13.2	2.1	-	3000
H_32	180.0	9.0	12.0	-	-	-	13.2	2.1	-	3000
H_53	180.0	13.0	16.0	-	-	-	13.2	2.5	-	1000
H_57	180.0	17.2	19.3	-	-	-	13.3	2.2	22.0	1000
SWO	180.0	17.2	19.3	-	-	-	13.3	2.2	22.0	1000
H_576	180.0	17.2	19.3	-	-	-	13.3	2.2	22.0	1000
HP_576	180.0	17.2	19.3	-	-	-	13.3	2.2	22.0	1000
HD_576	180.0	17.2	19.3	-	-	-	13.3	2.2	22.0	1000
H_42	330.0	30.0	25.0	-	-	-	13.4	2.5	19.5	500
H_43	330.0	30.0	25.0	-	-	-	13.4	2.5	19.5	500