

FIRST COLUMN			
TEMPERATURE		FREQUENCY	
CODE	RANGE °C	CODE	TOLERANCE ppm
A	-55 to +105	A	±100
B	-40 to +90	B	±50
C	-30 to +80	C	±30
D	-25 to +75	D	±25
E	-20 to +70	E	±20
F	-15 to +65	F	±15
G	-10 to +60	G	±10
H	- 5 to +55	H	±7.5
J	0 to +50	J	±5
K	+ 5 to +45	M	±4
L	+10 to +40	K	±3
		L	±2

OVENIZED CRYSTAL CODES
STABILITY ±0.5ppm PER °C OVER ±2°C

CODE	TEMPERATURE
TR	45
TS	50
TT	55
TU	60
TV	65
TW	70
TX	75
TY	80
TZ	85

SECOND COLUMN	
CODE	CALIBRATION TOLERANCE ppm
01	±50
02	±30
03	±20
04	±15
05	±10
06	±7.5
07	±5
08	+45 to +65
09	+35 to +55
10	+25 to +45
11	+20 to +40
12	+15 to +35
13	+10 to +30
14	+ 5 to +25
15	0 to +20
16	- 5 to +15
17	- 15 to + 5
18	- 20 to 0
19	- 25 to - 5
20	- 30 to -10
21	- 35 to -15
22	- 40 to -20
23	- 45 to -25
24	- 50 to -30
25	- 55 to -35
26	- 60 to -40
27	- 65 to -45
28	- 70 to -50
29	- 75 to -55

THIRD COLUMN	
CODE	CCT CONDITION pF
A	10
B	15
C	20 Refer Note 1
D	25
E	30 Refer Note 1
F	32
G	40
H	45
I	—
J	50
K	60
L	70
M	80
N	90
O	—
P	100
Q	18
R	150
S	Series Refer Note 1
T	35
U	55
V	65
W	75
X	85
Y	95
Z	12

Note 1.
These are preferred values

The Three Column Code
The first column consists of two letters, specifying the operating temperature range and frequency stability over that range. The stability is quoted as a frequency tolerance in parts per million (ppm) relative to the actual frequency at the reference temperature. For non-temperature controlled crystal units, the reference temperature is 25°C, otherwise it is the nominal oven temperature.

The second column is a 2-digit code giving the preferred value of the calibration tolerance (in ppm ppm). This is a tolerance to which the crystal frequency will be set at the reference temperature.

The third column is a single letter giving the preferred value of load capacity (in pF).

AVAILABLE FIRST COLUMN CODE COMBINATIONS <small>Refer Note 2</small>												
TEMPERATURE °C	A ±100	B ±50	C ±30	D ±25	E ±20	F ±15	G ±10	H ±7.5	J ±5	M ±4	K ±3	L ±2
A - 55 to + 105	1	1	2	2	4							
B - 40 to + 90	1	1	2	2	2	3	4					
C - 30 to + 80	1	1	1	2	2	2	3	4				
D - 25 to + 75	1	1	1	1	2	2	2	3	4			
E - 20 to + 70	1	1	1	1	2	2	2	3	4			
F - 15 to + 65	1	1	1	1	2	2	2	3	3	4		
G - 10 to + 60	1	1	1	1	1	2	2	2	3	3	4	
H - 5 to + 55	1	1	1	1	1	1	2	2	2	3	3	4
J 0 to + 50	1	1	1	1	1	1	2	2	2	2	3	4
K + 5 to + 45	1	1	1	1	1	1	1	1	2	2	2	2
L + 10 to + 40	1	1	1	1	1	1	1	1	1	1	2	2

Available Combinations
It is important to note that crystal unit cost increases with degree of manufacturing difficulty. As this table shows, the degree of manufacturing difficulty increases rapidly as requirements on operating temperature range (first letter of first column) and frequency tolerance (second letter of first column) are tightened.

Special Requirements
In cases where the Hy-Q 3-column ordering code is insufficient to describe a particular set of requirements, please contact our sales office for assistance.

Note 2 :- Some Three Column Code combinations are not available in all packages

Degree of manufacturing difficulty

1	2	3	4	
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Consult our technical department

Minimum Order Information

- ◆ Nominal Frequency
- ◆ Overtone order - Fundamental 3rd, 5th or 7th.
- ◆ Holder Style
- ◆ Three Column Code
- ◆ Quantity Required

Examples:-

1. Temperature range and frequency tolerance: -10°C to +60°C and ±15ppm. Calibration tolerance: ±20ppm. Circuit condition: 32pF input capacity. Code = GF 03 F
2. Temperature and frequency tolerance: +70°C (±2°C) and ±1ppm. Calibration tolerance: ±10ppm. Circuit condition: Series resonance. Code = TW 05 S