

actual size

# Quartz Crystal · SS2

## Through Hole Quartz Crystal

### Features

- RoHS compliant
- consumer and automotive specifications

### General Data

type	SS2	
frequency range	4.1943 ~ 35.0 MHz	( fund. AT-cut )
	27.0 ~ 75.0 MHz	( 3rd OT AT-cut )
	30.0 ~ 50.0 MHz	( fund. BT-cut )
frequency tolerance at 25 °C	± 30 ppm	
load capacitance $C_L$	12 pF ~ 32 pF or series ( 30 pF standard )	
shunt capacitance $C_0$	< 5 pF	
storage temperature	-40 °C ~ +90 °C	
drive level max.	500 µW (100 µW recommended)	
aging	< ±5 ppm first year	

### ESR (series resistance Rs)

frequency in MHz	vibration mode	ESR max. in $\Omega$	ESR typ. in $\Omega$
4.19 ~ 9.9999	fund.- AT	50	25
10.0 ~ 13.999	fund.- AT	35	15
14.0 ~ 35.000	fund.- AT	30	10
27.0 ~ 75.000	3rd OT - AT	100	60
30.0 ~ 50.000	fund.- BT	30	15

### Frequency Stability vs. Temperature

		± 30 ppm	± 50 ppm	± 100 ppm	± 150 ppm	+10/-100 ppm
-20 °C ~ +70 °C	STD.	○	●			○ BT-cut
-40 °C ~ +85 °C	T1	○	○	●		
-40 °C ~ +105 °C	T2		○	○		
-40 °C ~ +125 °C	T3				○	

● standard  
 ○ on request

### Marking

frequency with load capacitance code  
company code / date code / internal code

	Jan.	Febr.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
2004	n	p	q	r	s	t	u	v	w	x	y	z
2005	A	B	C	D	E	F	G	H	J	K	L	M
2006	N	P	Q	R	S	T	U	V	W	X	Y	Z
2007	a	b	c	d	e	f	g	h	i	k	l	m

### Order Information

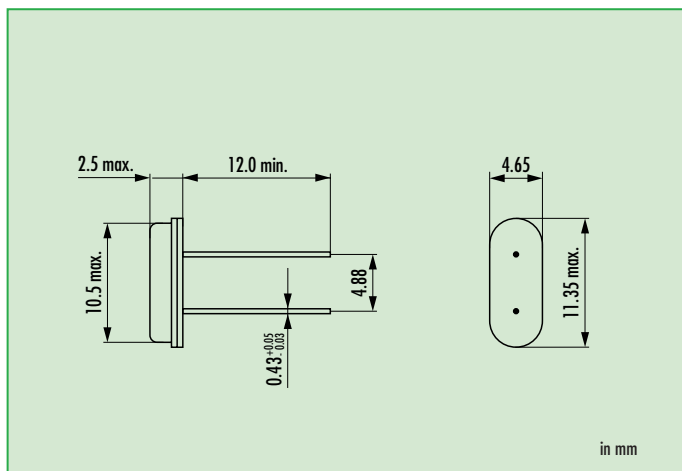
Q	frequency in MHz	type	load capacity in pF	stability at 25 °C in ppm	stability vs. temp. in ppm	option
Quartz	4.19 ~ 75.0 MHz	SS2	12 pF ~ 32 pF S for series	± 30 ppm standard	see table	blank = -20°C ~ +70°C FU = fundamental AT-cut 30T = 3rd overtone AT-cut BT = fundamental BT-cut T1 = -40°C ~ +85°C T2 = -40°C ~ +105°C T3 = -40°C ~ +125°C other see option table LF = Pb free contact pins / pads

Example: Q 30.0-SS2-30-30/50-FU

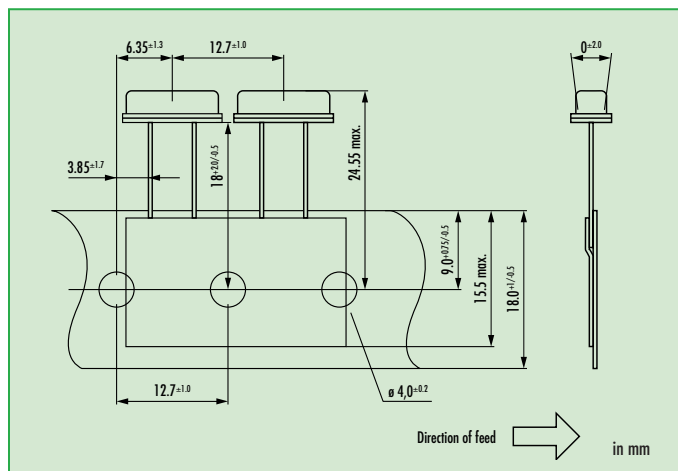


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## Dimensions



## Taping Specification



## Load Capacitance Codes

7 pF: m	13 pF: v	20 pF: c	32 pF: e
8 pF: k	14 pF: x	22 pF: g	series: s
9 pF: n	15 pF: j	24 pF: d	T: 3rd OT
10 pF: h	16 pF: b	25 pF: r	
11 pF: l	17 pF: t	27 pF: w	
12 pF: a	18 pF: f	30 pF: .	

example 4.0 MHz / 12 pF: 4a000

## Option Table

TR = taped	KIS = spacer
IS = insulation spacer	LL = lead length in mm

## Wave Soldering Profile

