



actual size

Quartz Crystal · MTF38

Pin Type Crystal · 3.0 x 8.9 mm

- wave soldering temperature: 260 °C max.
- 3 x 8 mm cylinder type



General Data

type	MTF38	
frequency range	3.50 ~ 40.0 MHz	(fund. AT-cut)
	30.0 ~ 48.0 MHz	(3rd OT. AT-cut; ask, if higher frequencies are available)
frequency tolerance at 25 °C	± 15 ppm ~ ± 30 ppm	
load capacitance C_L	12 pF ~ 32 pF or series	
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 Ω	ESR typ. in Ω
3.50 ~ 3.6999	fund.- AT	180	80
3.70 ~ 4.0999	fund.- AT	150	60
4.10 ~ 5.9999	fund.- AT	120	40
6.00 ~ 9.9999	fund.- AT	70	30
10.0 ~ 13.999	fund.- AT	50	20
14.0 ~ 40.000	fund.- AT	40	15
30.0 ~ 48.000	3rd OT- AT	100	80

Frequency Stability vs. Temperature

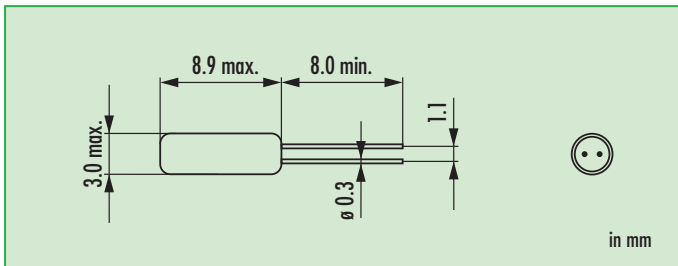
		± 20 ppm	± 30 ppm	± 50 ppm
-20 °C ~ +70 °C	STD.	○	●	
-40 °C ~ +85 °C	T1		○	●

● standard
 ○ available

Marking

frequency with load capacitance code		company code / date code											
		Jan.	Febr.	Mar.	Apr.	May	June	July	Aug.	Sept.	Okt.	Nov.	Dec.
2011	2015	a	b	c	d	e	f	g	h	i	k	l	m
2012	2016	n	p	q	r	s	t	u	v	w	x	y	z
2013	2017	A	B	C	D	E	F	G	H	J	K	L	M
2014	2018	N	P	Q	R	S	T	U	V	W	X	Y	Z

Dimensions



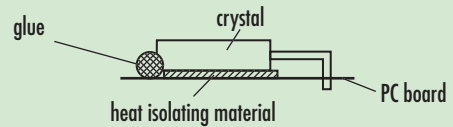
Load Capacitance Codes

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

Mounting

Mounting: if the crystal should be mounted vertically to your board (see picture), do not directly solder the metal can. The crystal may be overheated by the direct heat flow. Please use glue (hot-melt adhesive) or mechanical clamping to fasten the metal can.



Order Information

Q	frequency	type	load capacitance in pF	stability at 25 °C	stability vs. temp. range	option
Quartz	3.50 ~ 48.0 MHz	MTF38	30 pF standard 12 pF ~ 32 pF S for series	30 = ± 30 ppm std	see table	blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C FU = for fundamental frequencies ≥ 20 MHz 3OT = 3rd overtone

Example: Q 30.0-MTF38-30-30/30-FU

