



actual size

# Quartz Crystal · SMQ32SL

SMD Tuning Fork Crystal · 8.0 x 3.8 mm

- 32.768 kHz standard
- reflow soldering temperature: 260 °C max.
- package height 2.5 mm max.



## General Data

type	SMQ32SL
frequency	32.768 kHz (30.0 ~ 80.0 kHz on request)
frequency tolerance at 25 °C ± 5 °C	± 20 ppm
load capacitance $C_L$	12.5 pF (6 pF ~ 12.5 pF)
temperature constant	-0.04 · 10 <sup>-6</sup> / °C <sup>2</sup> max. -0.034 · 10 <sup>-6</sup> / °C <sup>2</sup> typical
frequency temperature characteristic	$f \text{ (ppm)} = -0.04 (25 \text{ °C} - T)^2$ T = requested temperature
operating temperature range	-20 °C ~ +70 °C / -40 °C ~ +85 °C
shunt capacitance $C_0$	1.3 pF typical
series resistance max. ( ESR )	50 kΩ
storage temperature	-40 °C ~ +90 °C
drive level max.	1 μW
aging first year	< ± 3 ppm

## Frequency Stability vs. Temperature

		- 80 ppm	- 160 ppm
-20 °C ~ +70 °C	STD.	●	
-40 °C ~ +85 °C	T1		●
● standard			

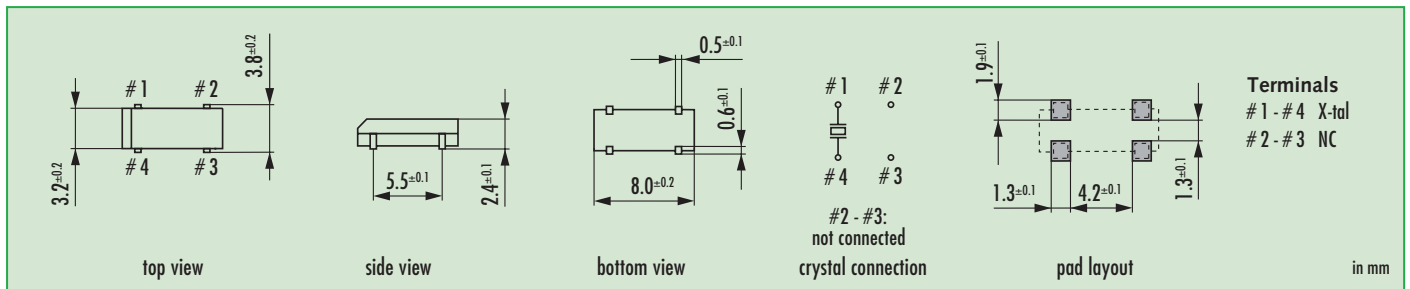
## Marking

32.768  
company code / date code

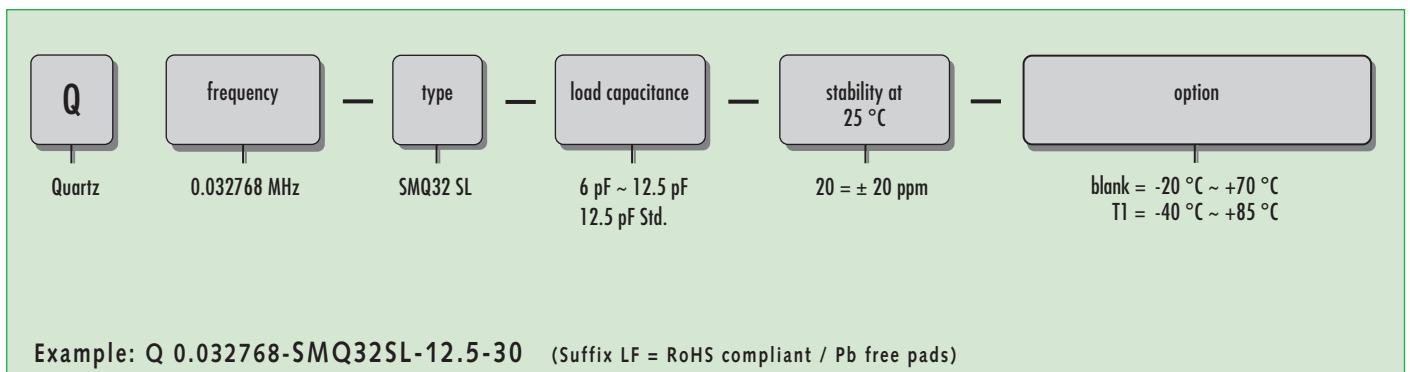
date code:  
A ~ M: Jan. - Dec.  
5: 2005  
6: 2006  
7: 2007

Jan.	Febr.	Mar.	Apr.	May	June
A	B	C	D	E	F
July	Aug.	Sept.	Oct.	Nov.	Dec.
G	H	J	K	L	M

## Dimensions

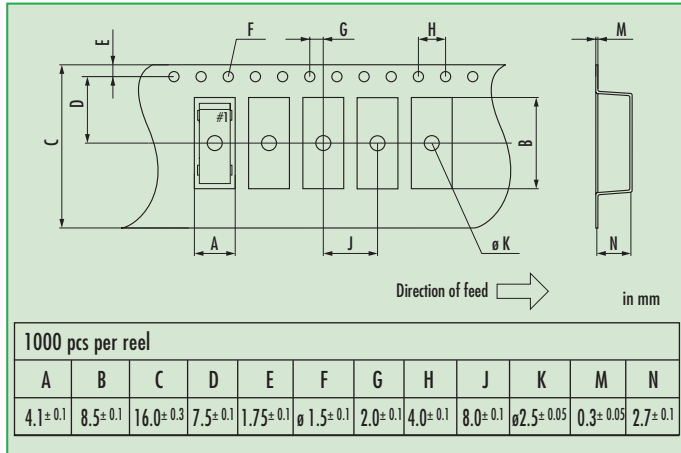


## Order Information



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## Taping Specification



## Reflow Soldering Profile

