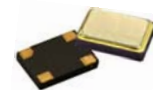


9300WC Series

Clock oscillator 32.768kHz, 5.0 x 3.2mm, HCMOS



REACH and RoHS compliant
AT cut crystal provides high stability



Parameters	Specification	Remarks
Frequency	F_nom 32.768kHz	
Supply voltage	Vcc 1.5V, 1.8V, 2.5V, 3.3V	±5% tolerance
Frequency stability	F_stb ±20.0ppm ~ ±100.0ppm	Over operating temperature
Aging	F_age ±5.0ppm max	25°C, 1 st year
Operating temperature range (°C)	Topr 0°C ~ +70°C to -40°C ~ +85°C	Table 1
Storage temperature (°C)	Tstg -55°C ~ +125°C	
Output waveform	HCMOS	
Output load	15pF typical	
Output voltage high	Voh 90% Vcc min	
Output voltage low	Vol 10% Vcc max	
Rise time	Tr 200nsec max	Measured over 10% to 90% of waveform
Fall time	Tf 200nsec max	
Duty cycle	45%/55%, 40%/60%	Measured at 50% of waveform
Current consumption	Icc Table 2	
Start-up time	T_str 3.0msec max	
Moisture sensitive level	MSL 1	
ESD sensitive device	Yes	
Tristate	Pad 1	70% of Vcc min to Enable Output 30% of Vcc max to disable output - high imp.

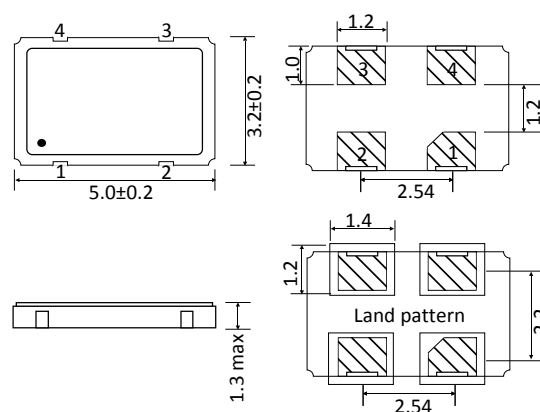
Table 1. Frequency stabilities vs Operating temperature range

Temperature (°C)	Frequency stability (ppm)					
	±15.0	±20.0	±25.0	±30.0	±50.0	±100.0
0 ~ +70	Enq.	√	√	√	√	√
-10 ~ +70	Enq.	√	√	√	√	√
-20 ~ +70	Enq.	√	√	√	√	√
-30 ~ +85	Enq.	√	√	√	√	√
-40 ~ +85	Enq.	√	√	√	√	√

Table 2. Current consumption (mA max)

Frequency (MHz)	Supply voltage			
	1.5V	1.8V	2.5V	3.3V
32.768kHz	0.7mA	0.7mA	1.5mA	1.5mA

Dimensions(Unit:mm)



Pad 1 : Tri-state
Pad 2 : Ground
Pad 3 : Output
Pad 4 : Supply voltage

9300WC Series

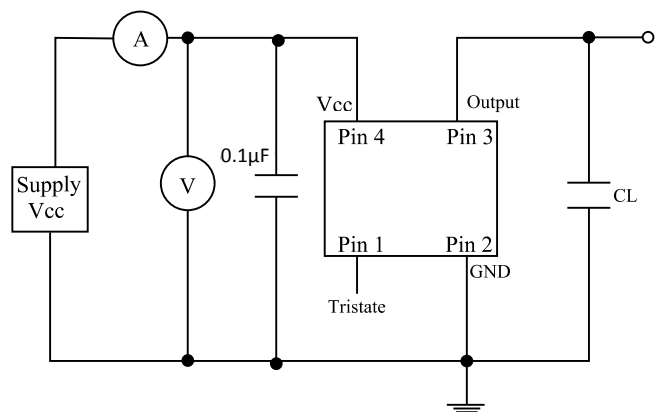
Clock oscillator 32.768kHz, 5.0 x 3.2mm, HCMOS



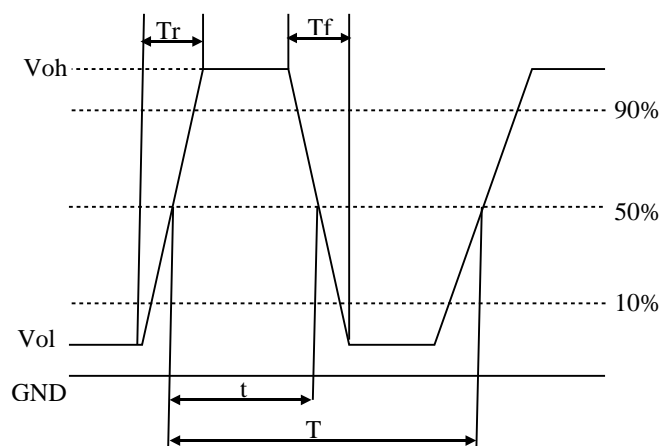
Part number generation									
SVW	00003	B	B	I	S	E	P	L	-PF
ACT series Code	Frequency (MHz)	Frequency stability (±ppm)	Supply voltage (V)	Operating temp. range (°C)	Duty Cycle (%/%)	Output wave	Tristate	Tape & Reel	RoHS Code
SVW	5 digit require to specify kHz frequency. ≤ 99.99kHz 10=00001 32.768=00003 ≥ 100kHz 100=00010 250=00025	20 = I 25 = C 30 = H 50 = B 100 = A	1.5 = N 1.8 = D 2.5 = C 3.3 = B	0~+70 = E -10 ~ +70 = C -20 ~ +70 = B -30 ~ +85 = P -40 ~ +85 = I	40/60 = S 45/55 = H	HCMOS 15pF = E	Tristate = P None = N	Loose = L 1000 = C	-PF

Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below.
Full Example part number : **SVW00003BBISEPL-PF [32.768kHz]**

Test circuit

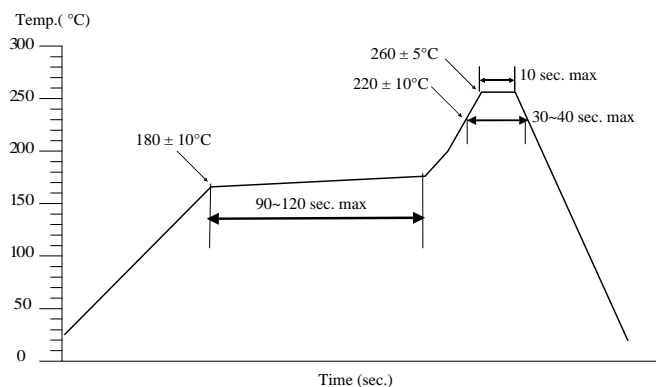


Waveform



$$\text{Duty cycle} = (t/T) \times 100\%$$

Solder reflow profile



Drawing control: (Internal use only)
Commodity code: 854370 90 99 for <1.8MHz
Issue number : N1
Date : 01/02/2017
Internal reference : Skr