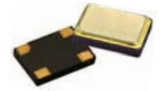


# 9200WC Series

Clock oscillator 32.768kHz, 7.0 x 5.0mm, HCMOS/TTL



REACH and RoHS compliant  
AT cut crystal provides high frequency stability

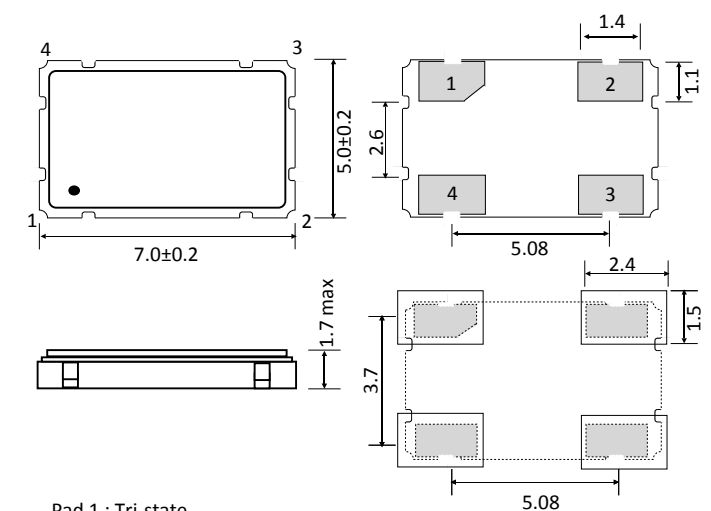


Parameters	Specification		Remarks
Frequency	F_nom	32.768kHz	
Supply voltage	Vcc	1.5V±5%, 1.8V±5%, 2.5V±5%, 3.3V±5%	
Frequency stability	F_stb	±20.0ppm ~ ±100.0ppm	Over operating temperature range
Aging	F_age	±5.0ppm max	25°C, 1 <sup>st</sup> year
Operating temperature range (°C)	Topr	0°C ~ +50°C to -40°C ~ +85°C	Table 1
Storage temperature (°C)	Tstg	-55°C ~ +125°C	
Output waveform		HCMOS	
Output load		15pF	
Output voltage high	Voh	90% Vcc min	
Output voltage low	Vol	10% Vcc max	
Rise time	Tr	20nsec max	Measured over 10% to 90% of waveform
Fall time	Tf	20nsec 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.

Temperature (°C)	Frequency stability (ppm)				
	±20.0	±25.0	±30.0	±50.0	±100.0
0 ~ +50	√	√	√	√	√
-10 ~ +60	√	√	√	√	√
0 ~ +70	√	√	√	√	√
-10 ~ +70	√	√	√	√	√
-20 ~ +70	√	√	√	√	√
-40 ~ +85	Enq.	√	√	√	√

Frequency	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

# 9200WC Series

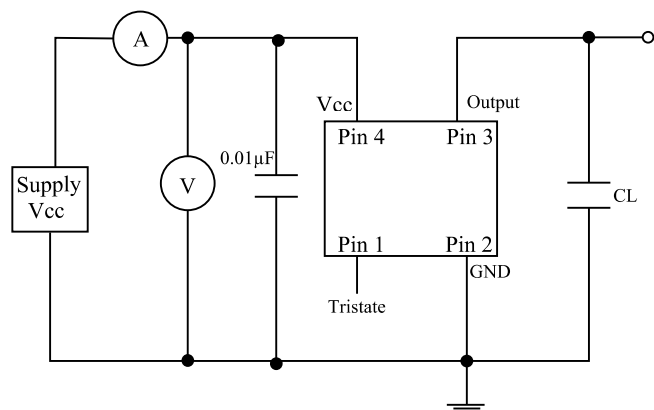
Clock oscillator 32.768kHz, 7.0 x 5.0mm, HCMOS/TTL



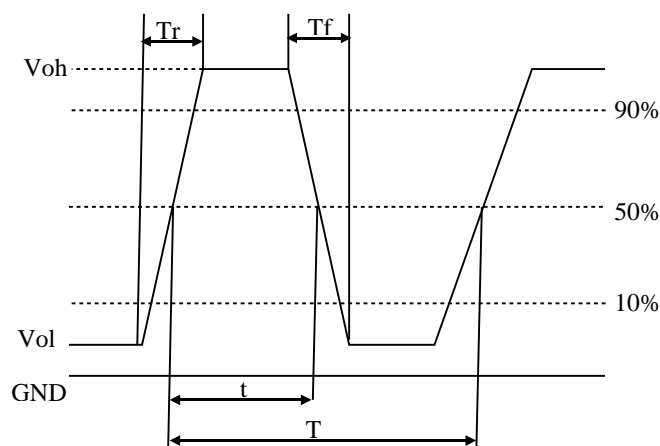
Part number generation									
RR	00003	B	B	I	S	E	P	L	-PF
ACT series Code	Frequency (MHz)	Frequency stability ( $\pm$ ppm)	Supply voltage (V)	Operating temp. range ( $^{\circ}$ C)	Duty Cycle (%/%)	Output wave	Tristate	Tape & Reel	RoHS Code
RR	5 digit require to specify kHz frequency.  $\leq 99.99$ kHz 10=00001 32.768=00003  $\geq 100$ kHz 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 ~ +50 = D -10 ~ +60 = F 0 ~ +70 = E -10 ~ +70 = C -20 ~ +70 = B -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 : **RR00003BBISEPL-PF [32.768kHz]**

### Test circuit

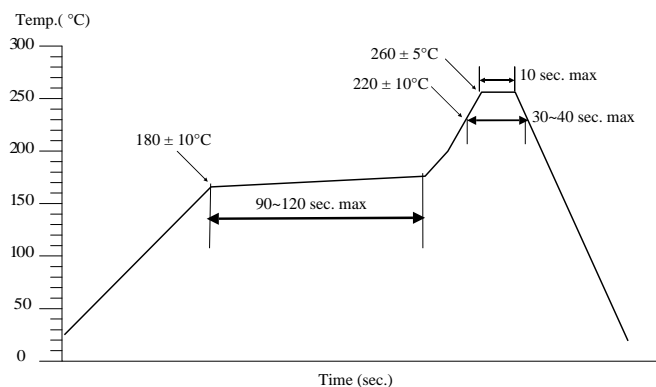


### Waveform



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

### Solder reflow profile



Drawing control: (Internal use only)  
Commodity code: 854370 90 99 for <1.8MHz or >67MHz  
Issue number : N1  
Date : 01/02/2017  
Internal reference : Skr