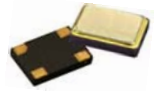


9353 Series

Clock oscillator, 5.0 x 3.2mm, HCMOS



REACH and RoHS compliant
Low supply voltage available



Parameters	Specification		Remarks
Frequency range	F_nom	1.0MHz ~ 156.250MHz	
Supply voltage	Vcc	1.8V, 2.5V, 3.3V, 5.0V	±5% tolerance
Frequency stability	F_stb	±20.0ppm ~ ±100.0ppm	Includes initial tolerance, stability over temperature, load, Vcc
Aging	F_age	±3.0ppm max	25°C, 1 st 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 typical	
Output voltage high	Voh	90% Vcc min	
Output voltage low	Vol	10% Vcc max	±10% tolerance
Rise time	Tr	Table.3	Measured over 10% to 90% of waveform
Fall time	Tf	Table.3	
Duty cycle		50% ± 10%, 50% ± 5%,	Measured at 50% of waveform
Current consumption	Icc	Table 2	
Start-up time	T_str	10.0msec max	
Phase jitter (RMS)		1psec max	12kHz to 20MHz integrated
Moisture sensitive level	MSL	1	
ESD sensitive device		Yes	
Tristate		Pad 1	If tristate is not required then leave pad 1 disconnected

Table 1. Frequency stabilities vs Operating temperature range

Temperature (°C)	Frequency stability					
	±15.0	±20.0	±25.0	±30.0	±50.0	±100.0
0 ~ +50	Enq.	√	√	√	√	√
-10 ~ +60	Enq.	√	√	√	√	√
-10 ~ +70	Enq.	√	√	√	√	√
-20 ~ +70	Enq.	√	√	√	√	√
-30 ~ +85	Enq.	√	√	√	√	√
-40 ~ +85	Enq.	√	√	√	√	√

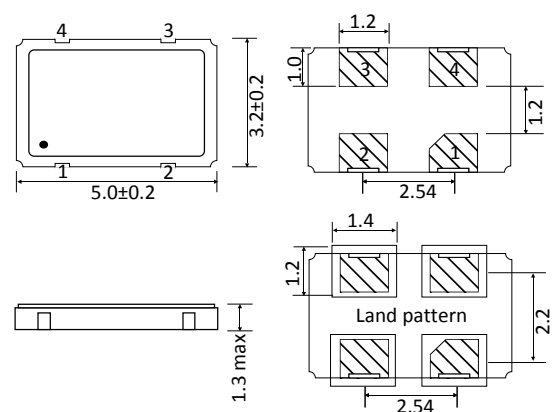
Table 2. Current consumption (mA max)

Frequency (MHz)	Supply voltage			
	1.8V	2.5V	3.3V	5.0V
1.000 ~ 25.000	3.0mA	4.0mA	5.0mA	7.0mA
25.001 ~ 40.000	4.0mA	5.0mA	7.0mA	10.0mA
40.001 ~ 80.000	13.0mA	17.0mA	20.0mA	25.0mA
80.001 ~ 100.000	17.0mA	20.0mA	25.0mA	-
100.001 ~ 125.000	20.0mA	30.0mA	40.0mA	-
125.001 ~ 156.250	37.0mA	50.0mA	70.0mA	-

Table 3. Frequency vs Rise/Fall time

Frequency (MHz)	Rise/Fall time (nsec)	Frequency (MHz)	Rise/Fall time (nsec)
1.000 ~ 39.999	7.0	80.00 ~ 100.000	3.0
40.000 ~ 79.999	4.0	100.001 ~ 56.250	2.5

Dimensions(Unit:mm)



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

9353 Series

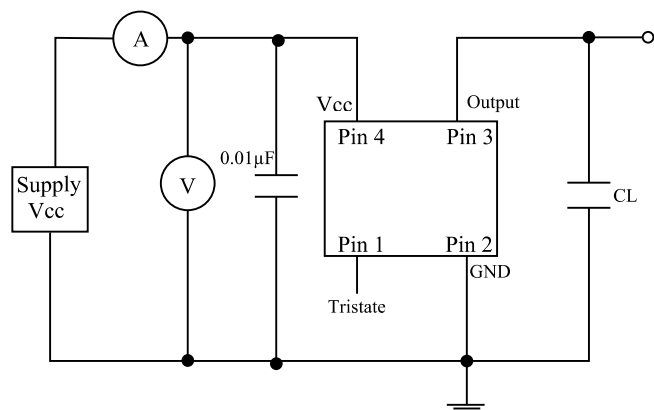
Clock oscillator, 5.0 x 3.2mm, HCMOS



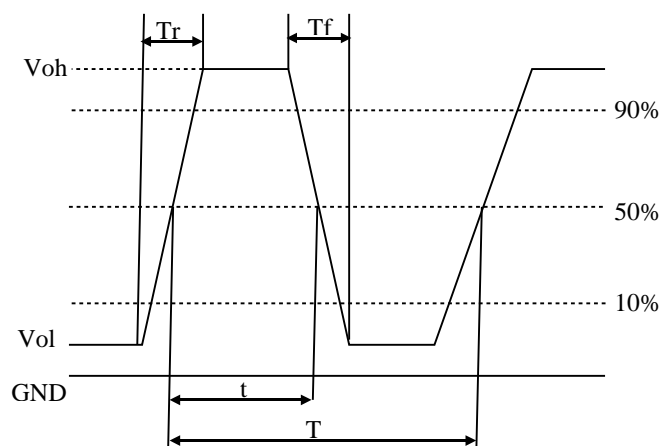
Part number generation									
SH	2600	B	B	I	S	E	P	L	-PF
ACT series Code	Frequency (MHz)	Frequency stability (±ppm)	Supply voltage (V)	Operating temp. range (°C)	Duty Cycle (%/%)	Output wave	Tristate	Tape & Reel	RoHS Code
SH	< 100MHz First 4 digit of frequency > 100MHz First 5 digit of frequency Ex. 26.00MHz = 2600 8.00MHz = 0800 14.7456MHz = 1474	15 = D 20 = I 25 = C 30 = H 50 = B 100 = A	1.8 = D 2.5 = C 3.3 = B 5.0 = A	0~+50 = D -10 ~ +60 = E -10 ~ +70 = C -20 ~ +70 = B -30 ~ +85 = P -40 ~ +85 = I	40/60 = S 45/55 = H	HCMOS 15pF = E	Tristate = P	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 : SH2600BBISEPL-PF [26MHz], SH1474BBISEPL-PF [14.7456MHz]

Test circuit

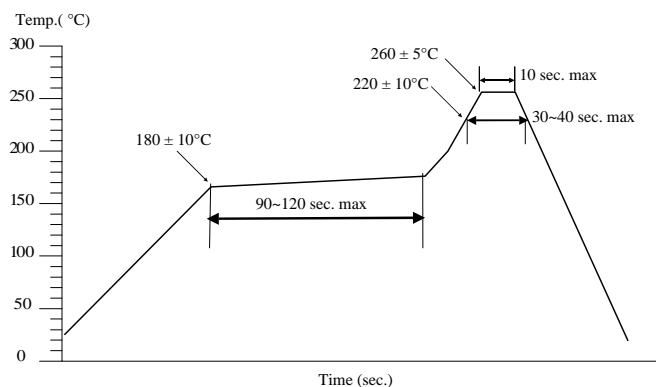


Waveform



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

Solder reflow profile



Drawing control: (Internal use only)
Commodity code:
854370 90 45 for 1.8MHz ~ 67MHz
854370 90 99 for <1.8MHz or >67MHz
Issue number : N1
Date : 01/02/2017
Internal reference : Skr