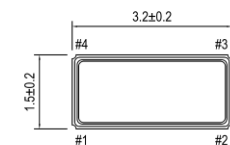


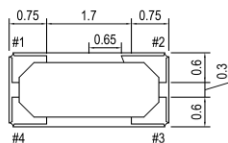
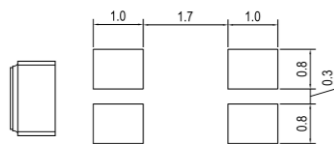
1. Part No. : 327SMO(J)
2. Output frequency : 32.768 kHz
3. Frequency tolerance: ± 3 ppm max.(at +25°C, V_{DD}= 3.3V \pm 10%)
4. Frequency stability (referred to +25°C):
 - 327SMO(JXX) ... ± 50 ppm over -40°C to +85°C
 - 327SMO(JTT) ... ± 30 ppm over -40°C to +85°C
 - 327SMO(JSS) ... ± 25 ppm over -40°C to +85°C
 - 327SMO(JRR) ... ± 20 ppm over -40°C to +85°C
 - 327SMO(JQQ) ... ± 15 ppm over -40°C to +85°C
 - 327SMO(JOO) ... ± 10 ppm over -40°C to +85°C
5. Operating Conditions
 - Operating temperature: -40°C to +85°C
 - Supply voltage (V_{DD}): 1.5V to 3.63V (compensated)^{※1}
 - Stand-by control voltage(Pin#1):^{※2} 20%V_{DD} max. (ViL)
80%V_{DD} min. (ViH)
6. Absolute Maximum Ratings
 - Supply voltage: -0.3V to +4.5V
 - Stand-by control voltage(Pin#1): -0.3V to V_{DD}+0.3V
 - Storage temperature: -40°C to +105°C
7. Input current (at +3.3V, no load): 1.3 μ A, Typical (2.5 μ A max.)
8. Stand-by current: 2.5 μ A max.
9. Output (-40°C to +85°C)
 - Symmetry(CL= 30 pF): 40% to 60% at 1/2V_{DD}
 - Rise and fall times(CL = 30 pF): 40 ns max.(10% to 90% V_{DD} level)
 - "0" level: 10%V_{DD} max. (VoL)
 - "1" level: 90%V_{DD} min. (VoH)
 - Load: CMOS 30 pF max.
10. Frequency voltage coefficient: ± 1 ppm/V max.(V_{DD}= +1.5V to +3.63V)
11. Start-up time: 0.5 sec. max. (+25°C, 3.3V)
12. Aging: ± 3 ppm max. (+25°C, 3.3V, first year)

※1 Supply voltage(V_{DD}) should be set to 0V for 0.5 ms min. for smooth oscillation start-up at 10 ms/V max.

Dimensions



Soldering Pattern

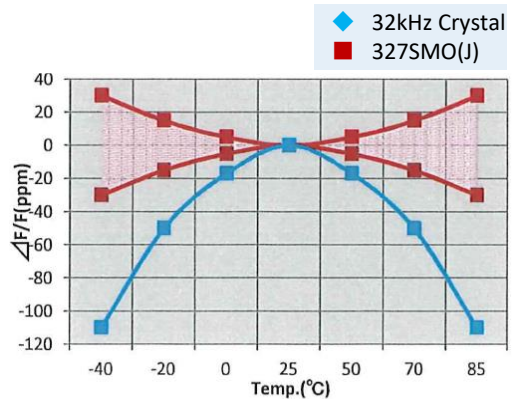


Pin	Connection	
1	"H"	"L"
2	GND	
3	Output	Z
4	VDD	

Z: High Impedance

※2 Keep the voltage level of 80%V_{DD} min applied to Pin#1 always if the stand-by operation is not in use.

Temperature characteristic



mm

ISSUED

CHECKED

APPROVAL



A. Ishiyama



Hiroshi



[Signature]



ITEM.

32.768 kHz TEMPERATURE COMPENSATED CRYSTAL OSCILLATORS

No.

SO-11020C