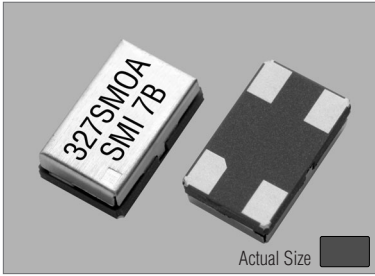


Crystal Clock Oscillators

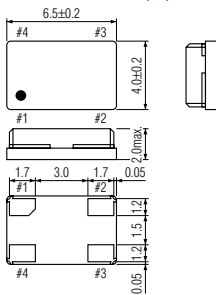
327SMO(A) (+3.3V 32.768 kHz MODEL)

STANDARD SMD CLOCK OSCILLATORS

327SMO(A)



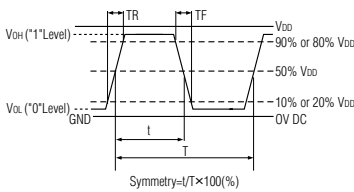
327SMO(A)



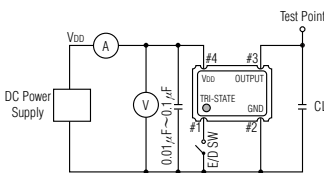
PIN	CONNECTION
1	"L" OPEN or "H"
2	GND
3	Z OUTPUT
4	V _{DD}

Z : high impedance

OUTPUT WAVEFORM

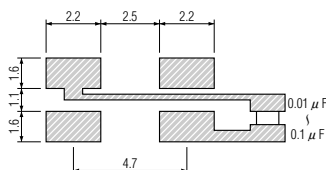


TEST CIRCUIT



CL : including fixture and probe capacitance.

SOLDERING PATTERN



STANDARD SPECIFICATIONS

32.768 kHz OSCILLATOR

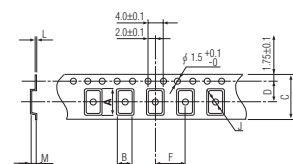
Item	Specifications
Part number	327SMO(A)
Output frequency	32.768 kHz
Frequency tolerance	+30 ppm to 0 ppm at VDD = +1.5V to +6.0V & +25°C
Temperature stability	-10°C to +60°C
	-40°C to +85°C
	327SMO(A) : +30 ppm to -60 ppm (VDD = +1.5V to +6.0V) 327SMO(A)W : +30 ppm to -150 ppm (VDD = +1.5V to +6.0V)
Operating Conditions	
Operating temperature	-10°C to +60°C (standard) -40°C to +85°C (W)
Input voltage (VDD)	+3.3V DC ±10% (standard) +1.5V to +6.0V (option)
Stand-by control voltage (Pin#1)	V _{IH} : 90%VDD min.
	V _{IL} : 10%VDD max.
Absolute Max. Ratings	
Supply voltage	-0.3V to +7.0V DC
Storage temperature	-50°C to +125°C
Input current (no load)	3 µA, Typical (5 µA max.) at VDD = +3.3V
Stand-by current*	1.7 µA, Typical (VDD = +3.3V & Pin#1=V _{IL})
Output (-40°C to +85°C)	
Symmetry	45% to 55% at 50%VDD level (VDD = +1.5V to +6.0V at +25°C)
Rise and fall times (10%VDD to 90%VDD level)	200 ns max.
"0" level	V _{OL} : 10%VDD max.
"1" level	V _{OH} : 90%VDD min.
Load	15 pF max. (CMOS)
Disable delay time	150 ns max.
Enable delay time	500 ms max.
Startup time	500 ms max. (VDD = +3.3V at +25°C)
Aging	±5 ppm max. at +25°C ±3°C for first year
Reflow condition	+250°C ±10°C for 10 seconds
	+170°C ±10°C for 1 to 2 minutes (preheating)

(*) Internal crystal oscillation to be halted (Pin #1=V_{IL}).

PACKAGE DATA

Item	Package	327SMO(A)
Cover		Metal
Base		Ceramic
Terminal		Tungsten (metalized)
Terminal plating		Gold / Nickel (surface) / (under)
RoHS		Compliant (Pb - free)

TAPE SPECIFICATIONS



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
7.6	4.6	12.0	5.5	8.0	1.6	0.4	3.1	330	1000pcs