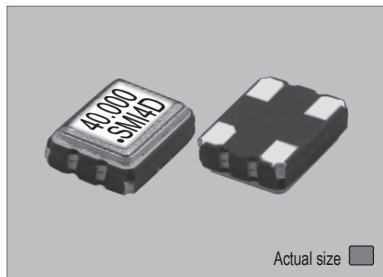
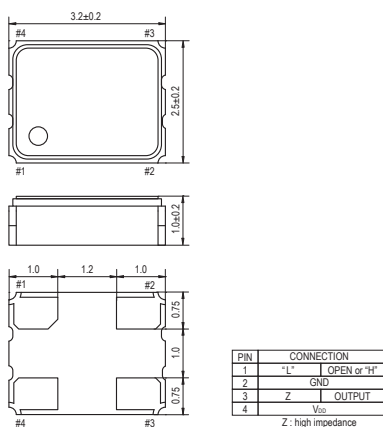


#### 32SMOHG

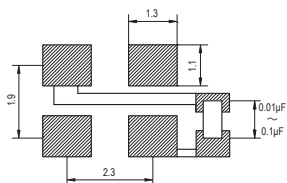


Actual size 0.025 gm (wt.)

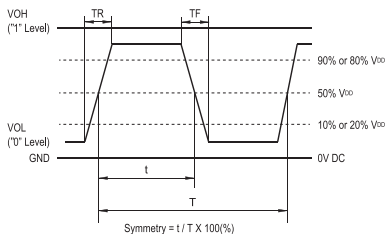
#### 32SMOHG



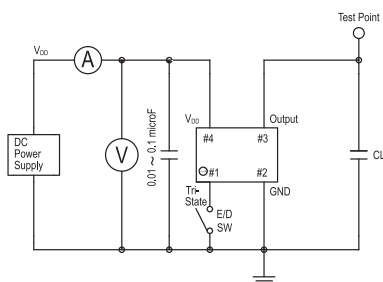
#### SOLDERING PATTERN



#### OUTPUT WAVEFORM



#### TEST CIRCUIT



CL: including fixture and probe capacitance.

## STANDARD SPECIFICATIONS

● HIGH STABILITY CMOS OUTPUT  
● PACKAGE SIZE 3.2x2.5 mm

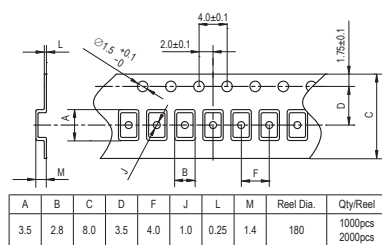
Item	Specifications	
General part number	32SMOHG*1	
Frequency range	4.000 MHz to 55.000 MHz	
Standard frequencies (MHz)	5.000, 10.000, 12.000, 16.000, 20.000, 24.000, 32.000, 40.000, 44.000	
Frequency stability*2 (over all conditions)	32SMOHG(F): ±15 ppm over -40°C to +85°C 32SMOHG(G): ±10 ppm over -40°C to +85°C 32SMOHG(H): ±8 ppm over -40°C to +85°C	
Operating Conditions	Operating temperature	-40°C to +85°C (Standard)
	Supply voltage (V <sub>DD</sub> )	+1.8V, +2.5V, +3.0V or +3.3V DC ± 10%
	Stand-by control voltage (Pin#1)	V <sub>HI</sub> : 70% V <sub>DD</sub> min. V <sub>LI</sub> : 30% V <sub>DD</sub> max.*3
Absolute Max. Ratings	Supply voltage	-0.3V to +4.0V DC
	Storage temperature	-40°C to +85°C
Input current (Pin#1 = Open or V <sub>HI</sub> )	7 mA max. (no load)	
Stand-by current*3	10 µA max. (Pin#1 = V <sub>LI</sub> )	
Output (-40°C to +85°C)	Symmetry	45% to 55% at 1/2 V <sub>DD</sub> level
	Rise and fall times	5 ns max. (10% V <sub>DD</sub> to 90% V <sub>DD</sub> level)
	"0" Level	V <sub>OL</sub> : 10% V <sub>DD</sub> max.
	"1" Level	V <sub>OH</sub> : 90% V <sub>DD</sub> min.
Load	15 pF max. (CMOS)	
Disable delay time	100 ns max.	
Enable delay time	10 ms max.	
Start-up time	10 ms max.	
SSB phase noise (at V <sub>DD</sub> = +3.3V & 48.000 MHz)	-136 dBc / Hz, Typical at 1 kHz offset	
	-160 dBc / Hz, Typical at 1 MHz offset	
RMS jitter (12 kHz to 20.000 MHz band)	168 fs, Typical (at V <sub>DD</sub> = +3.3V & 48.000 MHz)	
Reflow condition	+250°C ±10°C for 10 seconds	
	+170°C ±10°C for 1 to 2 minutes (preheating)	

(\*1) Final part number to be assigned with package type, input voltage, frequency stability, operating temperature and frequency. e.g. 32SMOHG(3.0VG) 44.000MHz  
 (\*2) The frequency stability is inclusive of frequency tolerance (+25°C), temperature stability (-40°C to +85°C), input voltage change, load change, reflow frequency shift and aging (1st year at +25°C).  
 (\*3) Internal crystal oscillation to be halted (Pin#1 = V<sub>LI</sub>)

## PACKAGE DATA

Item	Package	32SMOHG
Lid		Metal
Base		Ceramic
Sealing		Seam
Terminal		Tungsten (metalized)
Terminal plating		Gold / Nickel (surface) / (under)
RoHS		Compliant (Pb-free)

## TAPE SPECIFICATIONS



XTAL

CLK OSC

VCXO

TCXO

OCXO

MCF