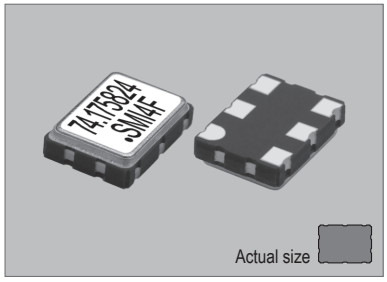
97SMOVH (+3.3V FIXED MODELS) 7.0x5.0 mm

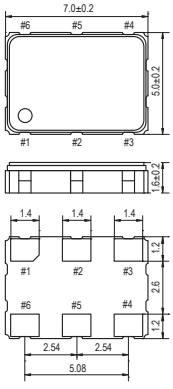
STANDARD SMD VCXO

97SMOVH



0.182 gm (wt.)

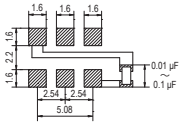
97SMOVH



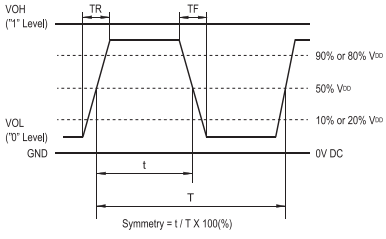
PIN	CONNECTION	
1	Vcontrol	
2	"L"	OPEN or "H"
3	GND	
4	Z	OUTPUT
5	N.C.	
6	V_{DD}	

Z : high impedance

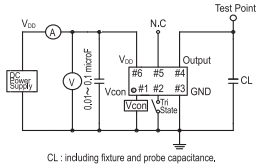
SOLDERING PATTERN



OUTPUT WAVEFORM



TEST CIRCUIT



CL : including fixture and probe capacitance.

STANDARD SPECIFICATIONS

- CMOS OUTPUT
- WIDE FREQUENCY RANGE
- PACKAGE SIZE 7.0x5.0 mm

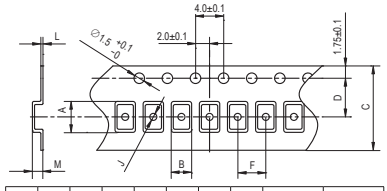
Item		Specifications
General part number		97SMOVH*1
Frequency range		1.250 MHz to 170.000 MHz
Frequency stability (over all conditions)		97SMOVH(3.3VB) : ±50 ppm over −20˚C to +70˚C 97SMOVH(3.3VC) : ±30 ppm over −20˚C to +70˚C 97SMOVH(3.3VD) : ±25 ppm over −20˚C to +70˚C 97SMOVH(3.3VE) : ±20 ppm over −20˚C to +70˚C 97SMOVH(3.3VBW) : ±50 ppm over −40˚C to +85˚C 97SMOVH(3.3VCW) : ±30 ppm over −40˚C to +85˚C 97SMOVH(3.3VDW) : ±25 ppm over −40˚C to +85˚C
		Vcon = 1/2 V_{DD}
Frequency pulling range	V_{DD} = +3.3V Vcon = +1.65V ±1.65V	±100 ppm min.
Frequency change vs. input voltage		±2 ppm max. (V_{DD} ±10%)
Operating Conditions	Operating temperature	−20˚C to +70˚C (Standard) −40˚C to +85˚C (W = Option)
	Supply voltage (V_{DD})	+3.3V DC ±10%
	Control voltage (Vcon = Pin#1)	+1.65V ±1.65V DC
	Stand−by control voltage (Pin#2)	V_{IH} : 70% V_{DD} min.
		V_{IL} : 30% V_{DD} max.*2
Absolute Max. Ratings	Supply voltage	−0.3V to +5.0V DC
	Vcontrol voltage	−0.5V to V_{DD} +0.5V DC
	Storage temperature	−40˚C to +100˚C
Input current (no load)		25 mA max.
Stand−by current (Pin#2 = "L")		10 µA max.
Output (−40˚C to +85˚C)	Symmetry	45% to 55% at 1/2 V_{DD} level
	Rise and fall times (10% V_{DD} to 90% V_{DD} level)	5 ns max.
	"0" Level	V_{OL} : 10% V_{DD} max.
	"1" Level	V_{OH} : 90% V_{DD} min.
	Load	15 pF max. (CMOS)
Start−up time		10 ms max.
Frequency linearity		10 % max.
Frequency slope		Positive
Modulation bandwidth (−3 dB)		10 kHz, Typical : 1.250 MHz to 30.000 MHz 20 kHz, Typical (15 kHz min.) : 30.000 MHz to 170.000 MHz
SSB phase noise (at V_{DD} = +3.3V & 155.520 MHz)		−162 dBc / Hz, Typical at 10 MHz offset
Disable delay time		200 ns max.
Enable delay time		2 ms max.
Vcon input impedance (Vcon−GND)		5 MΩ min. (1.250 MHz to 30.000 MHz) 10 MΩ min. (30.000 MHz to 170.000 MHz)
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)

(*1) Final part number to be assigned with package type, input voltage, frequency stability, operating temperature and frequency.
e.g. 97SMOVH(3.3VBW) 27.000 MHz
(*2) Internal crystal oscillation to be halted (Pin#2 = V_{IL}).

PACKAGE DATA

Item \ Package	97SMOVH
Lid	Metal
Base	Ceramic
Sealing	Seam
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
7.4	5.4	16.0	7.5	8.0	1.5	0.3	1.9	180	1000pcs