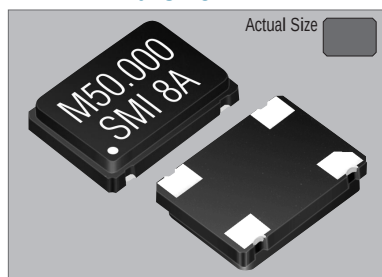
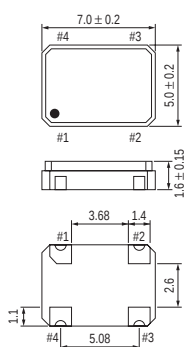


91SMO-LP



91SMO-LP



OSC WITHOUT TRI-STATE

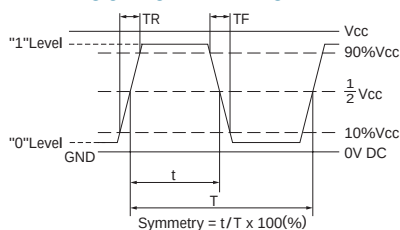
PIN	CONNECTION
1	N.C.
2	GND
3	OUTPUT
4	Vcc

OSC WITH TRI-STATE

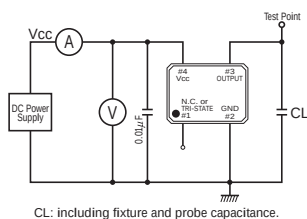
PIN	CONNECTION
1	"L" : "H" or OPEN
2	GND
3	Z : OUTPUT
4	Vcc

Z : high impedance

OUTPUT WAVEFORM



TEST CIRCUIT



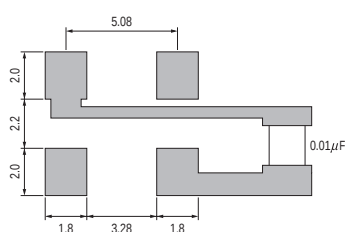
STANDARD SPECIFICATIONS

Part No.	91SMO(3VG)-LP	91SMO(3VJ)-LP	91SMO(M)-LP
Frequency Range	1.800 MHz to 66.666 MHz		1.800 MHz to 66.66 MHz
Standard Frequencies (MHz)	1.843200	8.192000	17.734475
	2.048000	9.830400	25.000000
	2.457600	10.000000	33.333000
	3.579545	11.059200	41.472000
	3.686400	12.000000	43.180000
	4.000000	12.288000	44.236800
	4.096000	12.441600	44.900000
	4.354500	12.500000	45.000000
	4.433619	13.330000	46.000000
	4.915200	13.600000	48.000000
	5.000000	14.318180	48.933000
	5.068800	14.745600	49.152000
	6.000000	15.000000	49.800000
	6.144000	15.360000	50.000000
	7.108000	16.000000	50.000000
	7.200000	16.384000	50.000000
Frequency Stability	91SMO(3VG)-LP	±100 ppm	91SMO(3VJ)-LP
	91SMO(3VJ)-LP	±100 ppm	91SMO(M)-LP
	91SMO(3VJ)-LP	±100 ppm	91SMO(M)-LP
Operating Conditions	91SMO(3VGH)-LP	±50 ppm	91SMO(MH)-LP
	91SMO(3VJH)-LP	±50 ppm	91SMO(MH)-LP
	91SMO(3VGS)-LP	±30 ppm	91SMO(MS)-LP
Operating Conditions	Operating temperature	-10°C to +70°C (±100ppm & ±50ppm) / -10°C to +60°C (±30ppm)	
	Storage temperature	-55°C to +125°C	
	Input voltage (Vcc)	+3.0V DC ±0.3V or +3.3V DC ±0.3V	
Tri-state control voltage	NO TRI-STATE	Pin#1=Open → #3=Output	Pin#1=Open → #3=Output
		Pin#1=Vcc X 0.9min. → #3=Output	Pin#1=2.2V min. → #3=Output
		Pin#1=Vcc X 0.1max. → #3=High Impedance	Pin#1=0.5V max. → #3=High Impedance
Input Current	8 mA max. (1.800 MHz to 34.000 MHz)		10 mA max. (1.800 MHz to 20.000 MHz)
	12 mA max. (34.000 MHz to 50.000 MHz)		20 mA max. (20.000 MHz to 50.000 MHz)
	15 mA max. (50.000 MHz to 66.666 MHz)		25 mA max. (50.000 MHz to 66.666 MHz)
Output (-10°C to +70°C)	Symmetry	50% ±10% at 1/2Vcc level	
	Rise and fall times	10 ns max.	10 ns max.
	"0" Level	Vcc X 0.1V max.	
Load	"1" Level	Vcc X 0.9V min.	
	15 pF max.		30 pF max.
Enable / Disable Phase delay time	NO TRI-STATE	150 ns max.	
Reflow Soldering Conditions		+240°C ±5°C for 10 seconds	
		+150°C ±10°C for 1 to 2 minutes (preheating)	

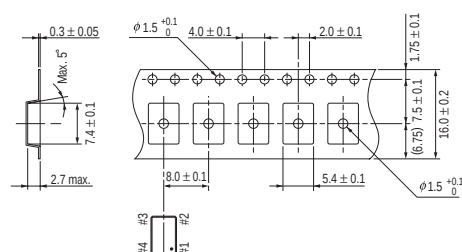
PACKAGE DATA

Item	Package	91SMO(3VG)-LP	91SMO(3VJ)-LP	91SMO(M)-LP
COVER		Ceramic	Ceramic	Ceramic
BASE		Ceramic	Ceramic	Ceramic
SEALING		Glass-frit	Glass-frit	Glass-frit
TERMINAL PLATING		Gold	Gold	Gold

SOLDERING PATTERN



TAPE SPECIFICATIONS



500pcs. per reel (178mm dia.)