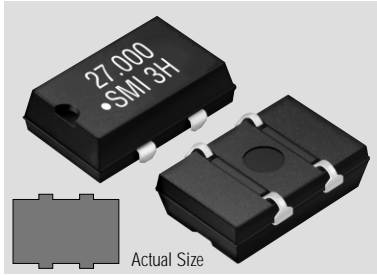
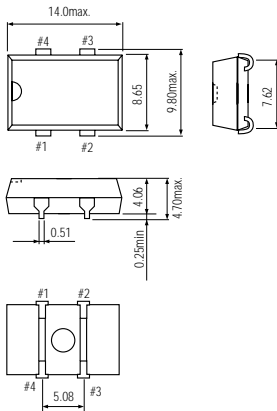


### 90SMO



Actual Size

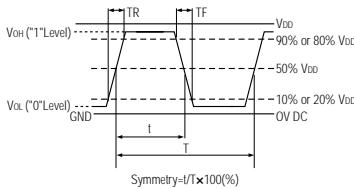
### 90SMO



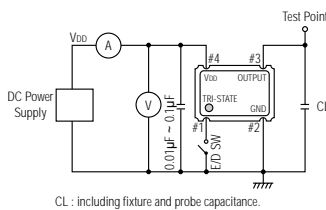
PIN	CONNECTION
1	"L" OPEN or "H"
2	GND
3	Z OUTPUT
4	V <sub>DD</sub>

Z: high impedance

### OUTPUT WAVEFORM

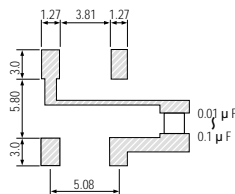


### TEST CIRCUIT



CL: including fixture and probe capacitance.

### SOLDERING PATTERN



## STANDARD SPECIFICATIONS

Item	Specifications	
Generic part number	90SMO	
Frequency range	1.500 MHz to 80.000 MHz	
Frequency stability (0°C to +70°C)	90SMO(3.3VC) ..... ± 100 ppm 90SMO(3.3VD) ..... ± 50 ppm over all conditions	90SMO(CE) ..... ± 100 ppm 90SMO(CD) ..... ± 50 ppm over all conditions
Operating Conditions	0°C to +70°C	
Operating temperature	0°C to +70°C	
Input voltage (V <sub>DD</sub> )	+3.0V DC ± 0.3V	+5V DC ± 0.5V
OE control voltage	V <sub>IH</sub> : +2.4V <sub>DD</sub> min. V <sub>IL</sub> : +0.2V <sub>DD</sub> max.	V <sub>IH</sub> : +3.5V <sub>DD</sub> min. V <sub>IL</sub> : +0.8V <sub>DD</sub> max.
Internal crystal	oscillation (Pin#1 = V <sub>IL</sub> )	
Absolute Max. Rating	-0.5V to +7.0V	
Supply voltage	-55°C to +125°C	
Storage temperature		
Input current (+25°C)	10 mA max. (1.5 MHz to 26.0 MHz) 25 mA max. (26.0 MHz to 40.0 MHz) 35 mA max. (40.0 MHz to 70.0 MHz) 45 mA max. (70.0 MHz to 80.0 MHz)	15 mA max. (1.5 MHz to 26.0 MHz) 35 mA max. (26.0 MHz to 50.0 MHz) 50 mA max. (50.0 MHz to 70.0 MHz) 60 mA max. (70.0 MHz to 80.0 MHz)
Output (0°C to +70°C)	40% to 60% at 50%V <sub>DD</sub> level	
Symmetry		
Rise and fall times	6 ns max. (1.5 MHz to 36.0 MHz) 4 ns max. (36.0 MHz to 80.0 MHz) (20%V <sub>DD</sub> to 80%V <sub>DD</sub> level)	12 ns max. (1.5 MHz to 26.0 MHz) 10 ns max. (26.0 MHz to 50.0 MHz) 6 ns max. (50.0 MHz to 80.0 MHz) (10%V <sub>DD</sub> to 90%V <sub>DD</sub> level)
"0" level	V <sub>OL</sub> : 10%V <sub>DD</sub> max.	V <sub>OL</sub> : 0.4V max.
"1" level	V <sub>OH</sub> : 90%V <sub>DD</sub> max.	V <sub>OH</sub> : V <sub>DD</sub> - 0.4V min.
Load	30 pF max. (CMOS)	50 pF max. (1.5 MHz to 26.0 MHz) 30 pF max. (26.0 MHz to 50.0 MHz) 15 pF max. (50.0 MHz to 80.0 MHz)
Enable/Disable delay time	100 ns max.	
Startup time	10 ms max.	
Aging	± 5 ppm max. at +25°C ± 3°C for first year	
Reflow soldering condition	+ 240°C ± 5°C for 10 seconds + 150°C ± 10°C for 1 to 2 minutes (preheating)	

## PACKAGE DATA

Item	Package	90SMO
Lid		Plastic
Sealing		Press-fit (3 × 9mm built-in)
Terminal lead frame		Copper
Terminal plating		Solder

## TAPE SPECIFICATIONS

