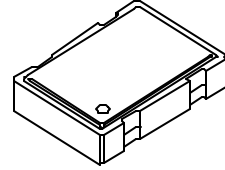




# SM7700H SERIES



- CMOS COMPATIBLE WITH TRI-STATE OUTPUT
- SURFACE MOUNT OSCILLATORS IN CERAMIC PACKAGE (7x5x1.9 mm)

## STANDARD SPECIFICATIONS:

Frequency Range	1.500 MHz – 69.999 MHz (Consult factory for specific available frequencies)		
Frequency Stability over Operating Temperature Range	± 50 PPM is standard, but ± 25 PPM is also available for certain frequencies.		
Operating Temperature Range	0 - 70°C is standard, but can be extended to -40 to +85°C for certain frequencies		
Operable Supply Voltage (Vcc)	1.500 MHz – 30.000 MHz	30.001 MHz – 69.999 MHz	
	SM7700HY	SM7700HY	SM7700HV
	5 Volt ± 10% or 3.3 Volt ± 10%	5 Volt ± 10% only	3.3 Volt ± 10% only
Symmetry (Duty Cycle) (See next page for definition.)	40/60 - 60/40% is standard, but 45/55% symmetry at 50% of Vcc is also available.		
Input Current (Icc) & Rise & Fall Time (Tr & Tf) & Jitter	Depends on frequency and output load. See next page.		
Logic "1" & Logic "0" (See next page)	90% of Vcc MIN.; 10% of Vcc MAX.		
Output Load	15 pF is standard. Contact factory for heavier loads.		
Tri-state Output	Normal output when pin #1 is open (no connection); Normal output when pin #1 is at logic "1"; High-Impedance Output when pin #1 is at logic "0".		
Packaging (see page R1, Figure 4)	16 mm tape, 178 mm, 254 mm or 330 mm reel: 1000 parts per reel. For quantities <250: 100 parts per tray		

## PART NUMBERING GUIDE:

- The Pletronics part number for an SM7700H series oscillator consists of the following 3 elements:

### 1. Overall Frequency Stability over Operating Temperature Range:

SM7745H: ± 50 PPM;  
SM7744H: ± 25 PPM

### 2. Optional Alphabet Designator for Special Requirement:

SM7745HY: standard specifications;  
SM7745HE: operating temperature range of -40 to +85°C;  
SM7745HS: 45/55% symmetry at 50% of Vcc (CMOS);  
SM7745HV: operates at Vcc = 3.3V (only needed for over 30.000MHz)  
(There are other alphabet designators not listed here.)

### 3. Frequency of Operation in MHz

EXAMPLES: SM7745HV-50.000 MHz; SM7745HE-10.000 MHz; SM7744HY-50.000 MHz

- When customer's requirements are non-standard, a special engineering part number will be assigned.

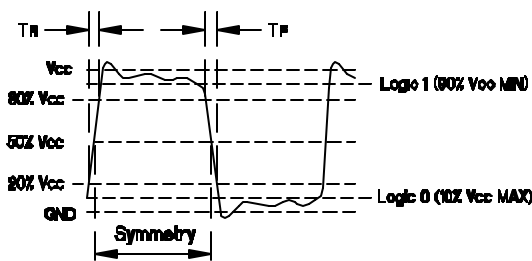
(continued)

# SM7700H SERIES

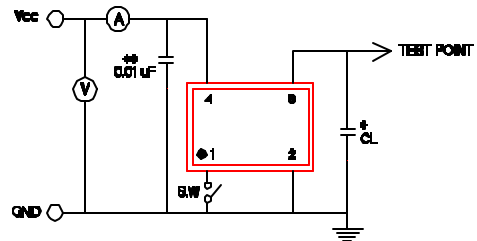
## Input Current (I<sub>cc</sub>), Rise and Fall time with 15pF Load & Jitter

Frequency Range (MHz)	I <sub>cc</sub> (mA)		Tr & Tf (nS)		Period Jitter RMS Values (pS: $1 \times 10^{-12}$ Sec)	
	Typical	Maximum	Typical	Maximum	Typical	Maximum
1.500 – 10.999	5.0	10.0	4.0	5.0	75.0	100.0
11.000 – 23.999	10.0	15.0	4.0	5.0	50.0	75.0
24.000 – 29.999	15.0	20.0	3.0	4.0	50.0	75.0
30.000 – 45.999	20.0	25.0	3.0	4.0	25.0	40.0
46.000 – 69.999	37.0	45.0	3.5	4.5	15.0	25.0

### Waveform



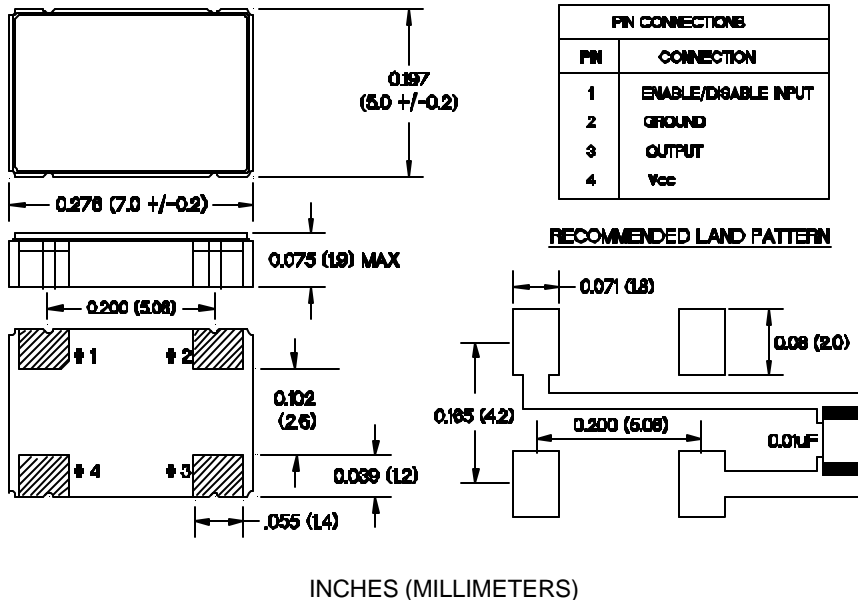
### Recommended Test Circuit with CMOS Load



\* CL (Capacitive Load): Includes the input capacitance

\*\* 0.01µF external by-pass filter is recommended.

### Package Outline (NOT TO SCALE):



January 2000