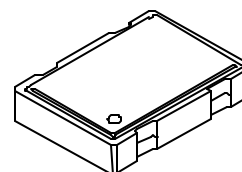




# SM7700D SERIES

- CMOS COMPATIBLE WITH TRI-STATE OUTPUT
- LEADLESS SURFACE MOUNT OSCILLATOR IN 7 x 5mm CERAMIC PACKAGE
- 3RD OVERTONE CRYSTAL USED
- LOW JITTER (SEE TABLE NEXT PAGE)



## STANDARD SPECIFICATIONS:

Frequency Range	70.000 MHz – 160.000 MHz (Consult factory for specific available frequencies)
Frequency Stability over Operating Temperature Range	± 50 PPM is standard, but ± 25 PPM is also available.
Operating Temperature Range	0 - 70°C is standard, but can be extended to -40 to +85°C for certain frequencies.
Input Voltage (Vcc)	5 Volt ± 10% is standard, but 3.3 Volt or 2.5 Volt ± 10% also available.
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 and 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	Can drive up to 15pF
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, 254 mm reel: 1000 parts per reel. For quantities <250: 100 parts per tray.

## PART NUMBERING GUIDE:

- The Pletronics part number for an SM7700D series oscillator consists of the following 3 elements:

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

SM7745D: ± 50 PPM;

SM7744D: ± 25 PPM

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

SM7745DY: standard specifications;

SM7745DE: operating temperature range of -40 to +85°C;

SM7745DS: 45/55% symmetry at 50% of Vcc;

SM7745DV: Operates at Vcc = 3.3 V;

SM7745DW: Operates at Vcc = 2.5 V

(There are other alphabet designators not listed here.)

### 3. Frequency of Operation in MHz

EXAMPLES: SM7745DSV-106.250 MHz; SM7745DW-125.000 MHz; SM7744DY-100.000 MHz

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

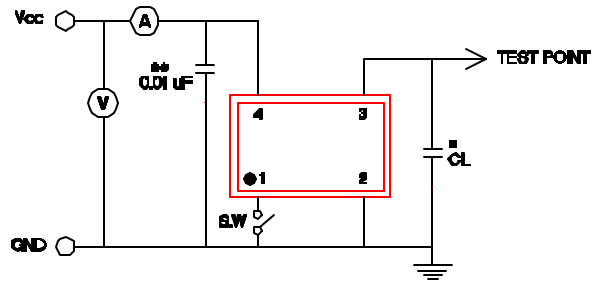
(continued)

# SM7700D SERIES

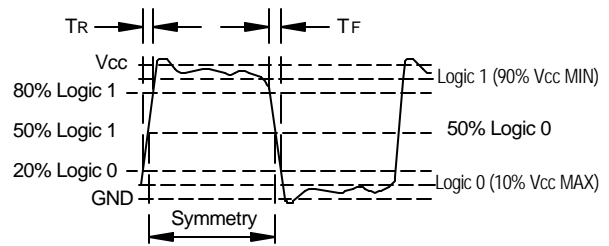
## Input Current (I<sub>cc</sub>), Rise and Fall time with 15pF Load & Jitter

Frequency Range (MHz)	I <sub>cc</sub> (mA)		Tr & Tf (nS)		Period Jitter RMS Values (pS) *contact factory	
	Typical	Maximum	Typical	Maximum	Typical	Maximum
70.000 – 79.999	40.0	45.0	2.0	3.0	*	*
80.000 – 110.000	75.0	80.0	0.5	1.0	2.6	2.9
110.001 – 119.999	80.0	90.0	0.5	1.0	*	*
120.000 – 160.000	90.0	95.0	0.5	1.0	1.8	1.9

### Recommended Test Circuit with CMOS Load



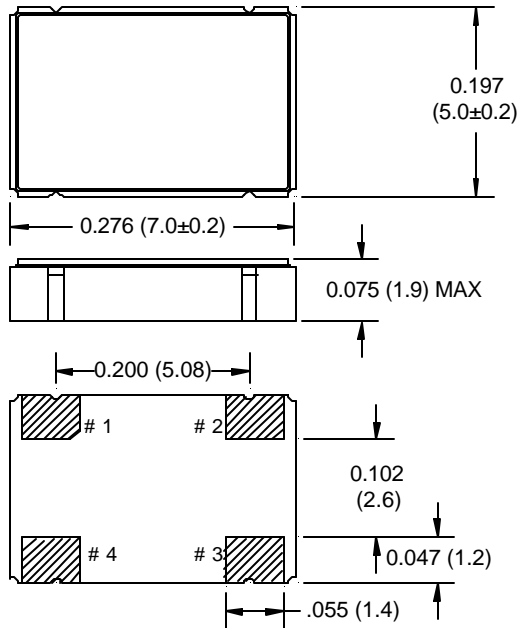
### Waveform



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

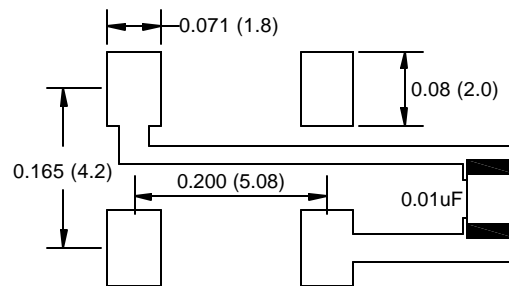
\*\* 0.01 μF external by-pass filter is recommended.

### Package Outline (NOT TO SCALE):



PIN CONNECTIONS	
PIN	CONNECTION
1	ENABLE/DISABLE INPUT
2	GROUND
3	OUTPUT
4	V <sub>cc</sub>

### RECOMMENDED LAND PATTERN



INCHES (MILLIMETERS)

October 2000

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Pletronics:

[SM7744DEW-133.333M](#) [SM7745DSV-125MHZ](#)