Pletronics, Inc.
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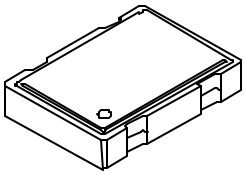
SM7700D SERIES



- 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:**
   SM77<u>45</u>D: ± 50 PPM;
   SM77<u>44</u>D: ± 25 PPM
2. **Optional Alphabet Designator for Special Requirement:**
   SM7745D<u>Y</u>: standard specifications;
   SM7745D<u>E</u>: operating temperature range of -40 to +85°C;
   SM7745D<u>S</u>: 45/55% symmetry at 50% of Vcc;
   SM7745D<u>V</u>: Operates at Vcc = 3.3 V;
   SM7745D<u>W</u>: Operates at Vcc = 2.5 V
   (There are other alphabet designators not listed here.)
3. **Frequency of Operation in MHz**

<u>EXAMPLES: SM7745DSV-106.250 MHz; SM7745DW-125.000 MHz; SM7744DY-100.000 MHz</u>

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

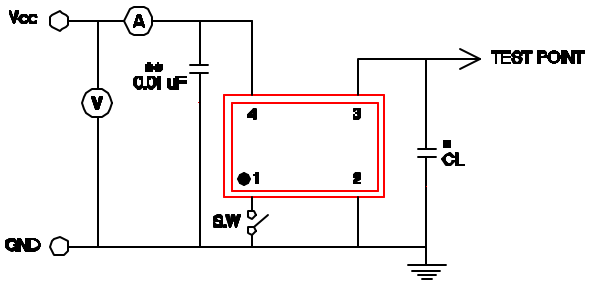
(continued)

SM7700D SERIES

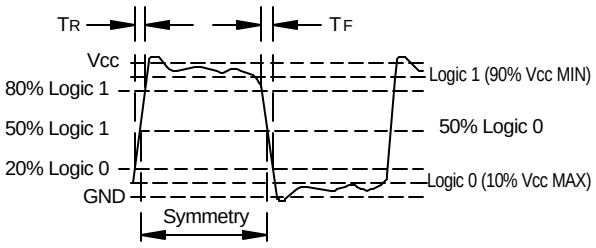
Input Current (Icc), Rise and Fall time with 15pF Load & Jitter

Frequency Range (MHz)	Icc (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

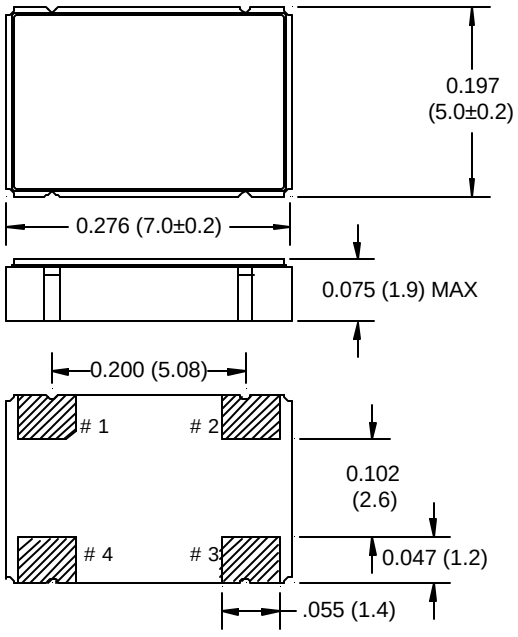


Waveform



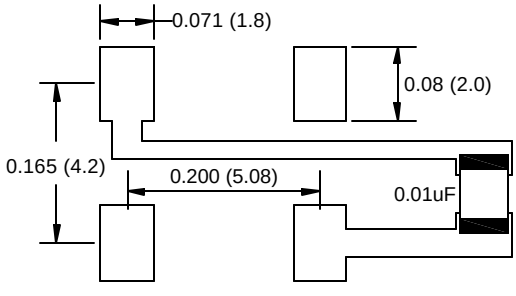
*CL (Capacitive Load): Includes the input capacitance of oscilloscope.
** 0.01µF **external** by-pass filter is recommended.

Package Outline (NOT TO SCALE):



PIN CONNECTIONS	
PIN	CONNECTION
1	ENABLE/DISABLE INPUT
2	GROUND
3	OUTPUT
4	Vcc

RECOMMENDED LAND PATTERN



INCHES (MILLIMETERS)

October 2000