

Pletronic, Inc.

19013 36th Ave. West • Suite H • Lynnwood, WA 98036, USA

SM1100BD SERIES

- CMOS COMPATIBLE WITH TRI -STATE OUTPUT
- 3RD OVERTONE MODE CRYSTAL USED
- LOW JITTER (SEE TABLE NEXT PAGE)
- LEADLESS SURFACE MOUNT PACKAGE WITH PC BOARD BASE/ METAL COVER FOR LOW EMI
- MORE ECONOMICAL THAN OUR SM1100JD FOR 70 MHz AND HIGHER FREQUENCIES
- LAND PATTERN COMPATIBLE TO OUR ENTIRE SM1100X SERIES, EPSON SG615 & SG8002J

STANDARD SPECIFICATIONS:

Frequency Range	70.000 MHz – 125.000 MHz (up to 160.0 MHz under development) (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.			
Input Voltage (Vcc)	5 Volt ± 10% is standard, but 3.3 Volt ± 10% also available			
Symmetry (Duty Cycle) (See waveform for definition.)	40/60 - 60/40% is standard, but 45/55% symmetry is also available.			
Input Current (Icc) & Rise and Fall Time (Tr & Tf) & Jitter	Depends on the frequency and output load. See next page.			
Logic "1" & Logic "0" (See waveform)	90% of Vcc MIN.; 10% of Vcc MAX.			
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".			
Output Load	Can drive up to 50 pF			
Packaging (see page R1, Figure 3)	28 parts per tube or 24 mm tape, 330mm reel: 500 parts per reel			

PART NUMBERING GUIDE:

- The Pletronics part number for an SM1100BD series oscillator consists of the following 3 elements:
 - 1. Overall Frequency Stability over Operating Temperature Range:

SM11<u>45</u>BD: ± 50 PPM; SM1144BD: ± 25 PPM

2. Optional Alphabet Designator for Special Requirement:

SM1145BDY: standard specifications;

SM1145BDE: operating temperature range of -40 to +85°C;

SM1145BDS: 45/55% symmetry at 50% of Vcc;

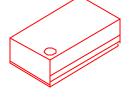
SM1145BDV: operates at Vcc = 3.3V

(There are other alphabet designators not listed here.)

3. Frequency of Operation in MHz

EXAMPLES: SM1145BDV-70.000 MHz, SM1145BDE-70.000 MHz, SM1144BDY-70.000 MHz

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

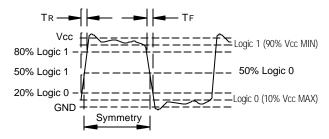


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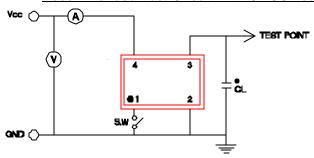
Input Current (Icc), Rise and Fall time with 15pF Load & Jitter

Frequency Range (MHz)	Icc (mA)		Tr & Tf (nS)		Period Jitter RMS Values *contact factory	
(IVITIZ)	Typical	Maximum	Typical	Maximum	Typical	Maximum
70.000 - 89.999	42.0	50.0	2.0	3.0	*	*
90.000 - 115.000	47.0	55.0	2.0	3.0	*	*
115.001 – 160.000	54.0	60.0	1.5	2.5	*	*

Waveform

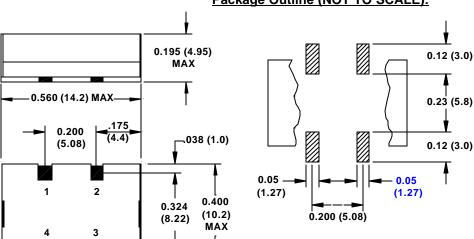


Recommended Test Circuit with CMOS Load



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

Package Outline (NOT TO SCALE):



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

INCHES (MILLIMETERS)

RECOMMENDED LAND PATTERN