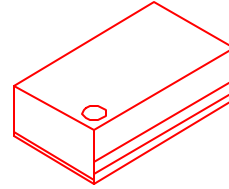




SM1100BD SERIES



- 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:

SM1145BD: ± 50 PPM;
SM1144BD: ± 25 PPM

2. Optional Alphabet Designator for Special Requirement:

SM1145BD \underline{Y} : standard specifications;
SM1145BD \underline{E} : operating temperature range of –40 to +85°C;
SM1145BD \underline{S} : 45/55% symmetry at 50% of Vcc;
SM1145BD \underline{V} : 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

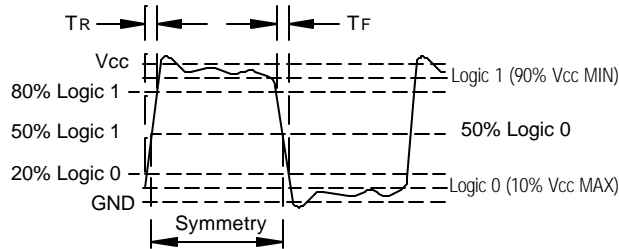
- When customer’s requirements are non-standard, a special engineering part number will be assigned.
(continued)

SM1100BD SERIES

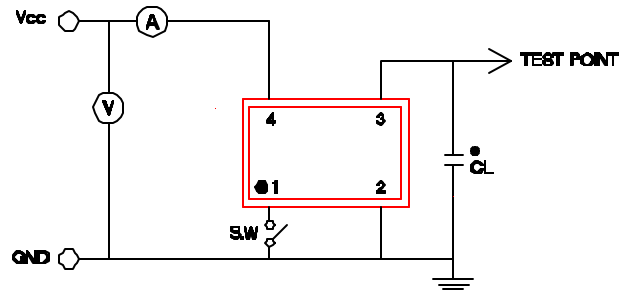
Input Current (I_{cc}), Rise and Fall time with 15pF Load & Jitter

Frequency Range (MHz)	I _{cc} (mA)		Tr & Tf (nS)		Period Jitter RMS Values *contact factory	
	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

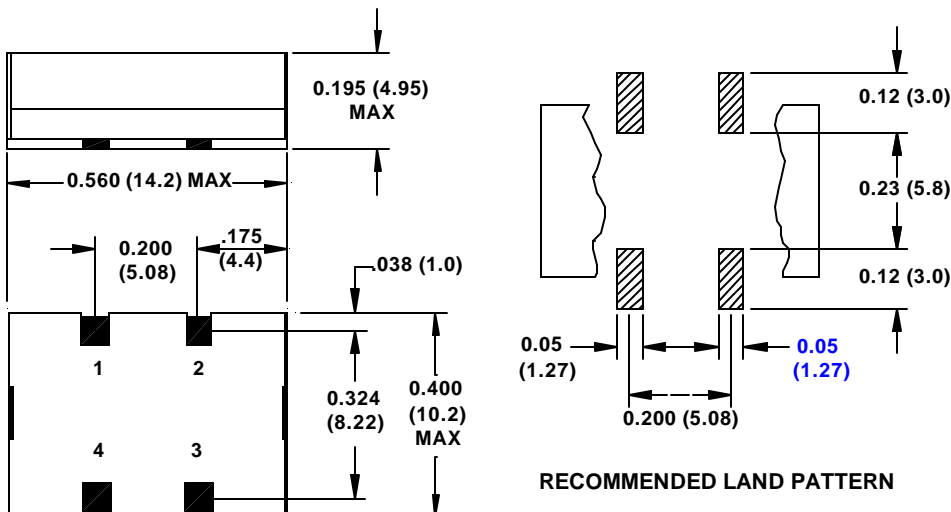


Recommended Test Circuit with CMOS Load



* 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	V _{cc}

INCHES (MILLIMETERS)

October 2000