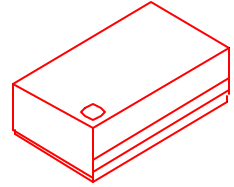




# SM1100B SERIES

- CMOS COMPATIBLE WITH TRI-STATE OUTPUT
- LEADLESS SURFACE MOUNT PACKAGE WITH GROUNDED PC BOARD BASE AND METAL COVER FOR LOW EMI
- IDEAL FOR **CUSTOM-DESIGNED** CLOCK OSCILLATORS OF **NON-STANDARD FREQUENCIES AND UNUSUAL SPECIFICATIONS**
- LAND PATTERN COMPATIBLE TO OUR ENTIRE SM1100X SERIES AND EPSON SG615



## STANDARD SPECIFICATIONS:

Frequency Range	650 kHz – 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)	5 Volt ± 10% is standard, but 3.3 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	Depends on the design.
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 3)	28 parts per tube or 24 mm tape, 330mm reel: 500 parts per reel

## PART NUMBERING GUIDE:

- The Pletronics part number for an SM1100B series oscillator consists of the following 3 elements:

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

SM1145B: ± 50 PPM;  
SM1144B: ± 25 PPM

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

SM1145B $\underline{Y}$ : standard specifications;  
SM1145B $\underline{E}$ : operating temperature range of -40 to +85°C;  
SM1145B $\underline{S}$ : 45/55% symmetry at 50% of Vcc;  
SM1145B $\underline{V}$ : operates at Vcc = 3.3V  
(There are other alphabet designators not listed here.)

### 3. Frequency of Operation in kHz or MHz

EXAMPLES: SM1145BV-50.000 MHz, SM1145BE-25.000 MHz, SM1144BY-50.000 MHz

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

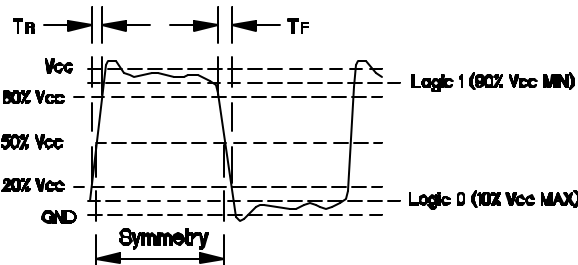
(continued)

# SM1100B SERIES

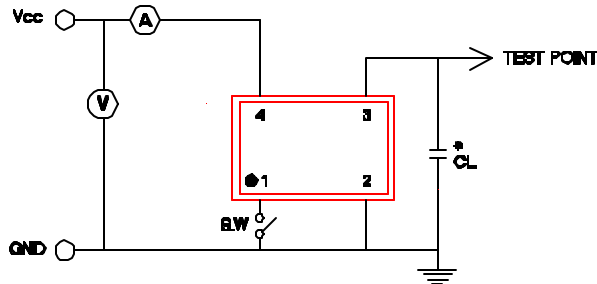
## Input Current (I<sub>cc</sub>), Rise and Fall time with 15pF Load & Jitter

Frequency Range (MHz)	I <sub>cc</sub> (mA)		Tr & Tf (nS)		Period Jitter RMS Values *contact factory	
	Typical	Maximum	Typical	Maximum	Typical	Maximum
0.650 – 19.999	8.0	10.0	4.0	5.0	*	*
20.000 – 27.999	13.0	15.0	2.0	3.0	*	*
28.000 – 34.999	15.0	20.0	2.0	3.0	*	*
35.000 – 49.999	20.0	25.0	2.0	3.0	*	*
50.000 – 69.999	33.0	37.0	2.0	3.0	*	*

### Waveform

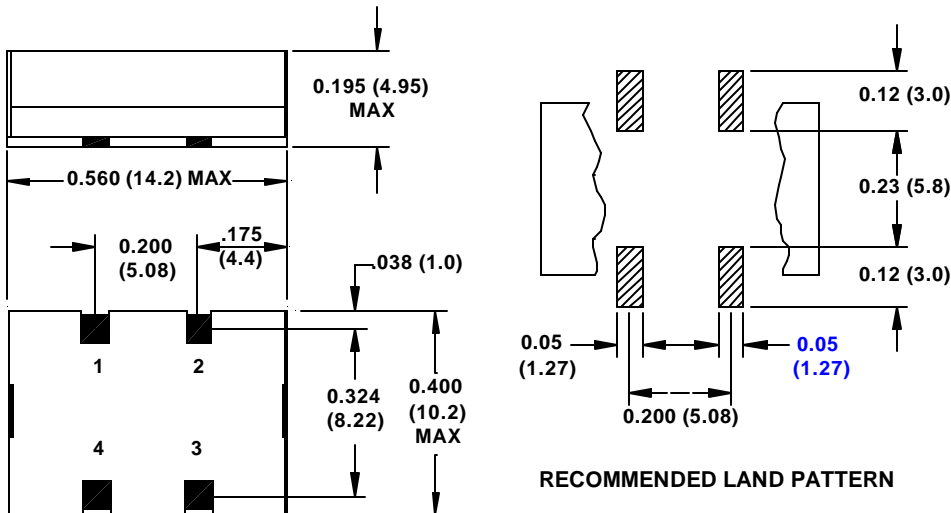


### Recommended Test Circuit with CMOS Load



\* 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 <sub>cc</sub>

INCHES (MILLIMETERS)

### RECOMMENDED LAND PATTERN