

SMD SPX0 7.0x5.0mm 1.8 - 5.0 VDC MHz

SERIES "SX0"

FEATURES

- + High reliability for low cost
- + Low-priced SMD-clock-oscillator
- + Frequency stability from ± 20 to ± 100 ppm available
- + Supply voltage of 1.8, 2.5, 2.8, 3.3 and 5.0 VDC deliverable
- + New standard for small low cost oscillators
- + Extended temperature range -40°C to $+125^{\circ}\text{C}$



PB FREE / ROHS COMPLIANT

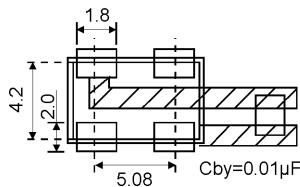
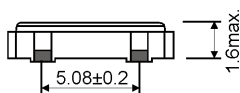
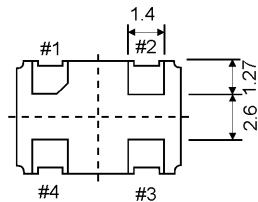
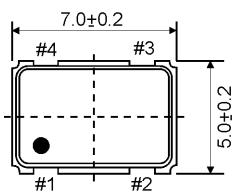
GENERAL DATA

| PARAMETERS | | PRODUCT FEATURES AND CONDITIONS | | |
|-----------------------------|------------|---|---------------------------|---------------------|
| SMD-OSCILLATOR SERIES | | SX0-0507 | | |
| PACKAGE | | Ceramic package 7.0 x 5.0 x 1.6 mm ³ | | |
| FREQUENCY RANGE | | 1.0~ 160.0 MHz | | |
| FREQUENCY STABILITY | | -10/+60°C ~ -10/+70°C | $\pm 20 \sim \pm 100$ ppm | |
| | | -20/+70°C ~ -40/+85°C | $\pm 25 \sim \pm 100$ ppm | |
| | | -40/+85°C ~ -40/+105°C | $\pm 50 \sim \pm 100$ ppm | |
| | | -40/+125°C | ± 100 ppm | |
| | | The frequency stability contains the frequency tolerance at 25°C, the temperature stability, supply voltage change and load change. The aging is ± 3 ppm max. per year. | | |
| OPERATING TEMPERATURE RANGE | | $-10/+60^{\circ}\text{C} \sim -40/+125^{\circ}\text{C}$ | | |
| STORAGE TEMPERATURE RANGE | | $-55/+125^{\circ}\text{C}$ | | |
| INPUT | CURRENT | FREQUENCY | +1.8 VDC $\pm 10\%$ | |
| | | 1.0~4.0 MHz | 10 mA max. | |
| | | 4.0~45.0 MHz | 30 mA max. | |
| | | 45.0~112.0 MHz | 45 mA max. | |
| | | 112.0~160.0 MHz | 90 mA max. | |
| | | FREQUENCY | +2.5 VDC $\pm 10\%$ | +2.8 VDC $\pm 10\%$ |
| | | 1.0~4.0 MHz | 10 mA max. | 10 mA max. |
| | | 4.0~45.0 MHz | 30 mA max. | 30 mA max. |
| | | 45.0~112.0 MHz | 45 mA max. | 45 mA max. |
| | | 112.0~160.0 MHz | 90 mA max. | 90 mA max. |
| | | FREQUENCY | +3.3 VDC $\pm 10\%$ | +5.0 VDC $\pm 10\%$ |
| | | 1.0~4.0 MHz | 10 mA max. | 10 mA max. |
| | | 4.0~45.0 MHz | 30 mA max. | 30 mA max. |
| | | 45.0~112.0 MHz | 45 mA max. | 45 mA max. |
| 112.0~160.0 MHz | 90 mA max. | 90 mA max. | | |

GENERAL DATA (CONTINUED)

| PARAMETERS | | PRODUCT FEATURES AND CONDITIONS | | | |
|--|--------------------|--|--------------------------|----------------|---------------|
| OUTPUT | SYMMETRY | STANDARD | 40/60% | | |
| | | OPTION | 45/55% | | |
| | RISE AND FALL TIME | | 5 ns typical /10ns max. | | |
| | "0" LEVEL | TTL | 0.4 V max. | | |
| | "1" LEVEL | | +2.4 V min. | | |
| | "0" LEVEL | CMOS | 10% VDD min. | | |
| | "1" LEVEL | | 90% VDD max. | | |
| | LOAD | | +1.8 VDC ~ +2.8 VDC ±10% | +3.3 VDC ±10% | +5.0 VDC ±10% |
| TTL | | 1 ~ 5 TTL | 1 ~ 10 TTL | 1 ~ 10 TTL | |
| CMOS | | 15 pF max. | 15 ~ 30pF (15pF typical) | 15 ~ 50pF | |
| PIN1 | STANDARD | WITHOUT ENABLE / DISABLE FUNCTION | | | |
| | OPTION | WITH ENABLE / DISABLE FUNCTION | | | |
| ENABLE / DISABLE FUNCTION | | PIN #1 (E/D CONTROL) | | PIN #3 (OUPUT) | |
| | | OPEN | | ACTIVE | |
| | | HIGH "1" (VIH >70%VDC) | | ACTIVE | |
| | | LOW "0" (VIL <30%VDC) | | HIGH IMPEDANCE | |
| | | OUTPUT DISABLE TIME | | 150 ns max. | |
| | | OUTPUT ENABLE TIME | | 10 ms max. | |
| DELIVERY FORM | | Tape and Reel / 1.000 pcs. per reel, other quantities are available on request | | | |
| OTHER PARAMETERS ARE AVAILABLE ON REQUEST / CREATE HERE YOUR SPECIFICATION | | | | | |

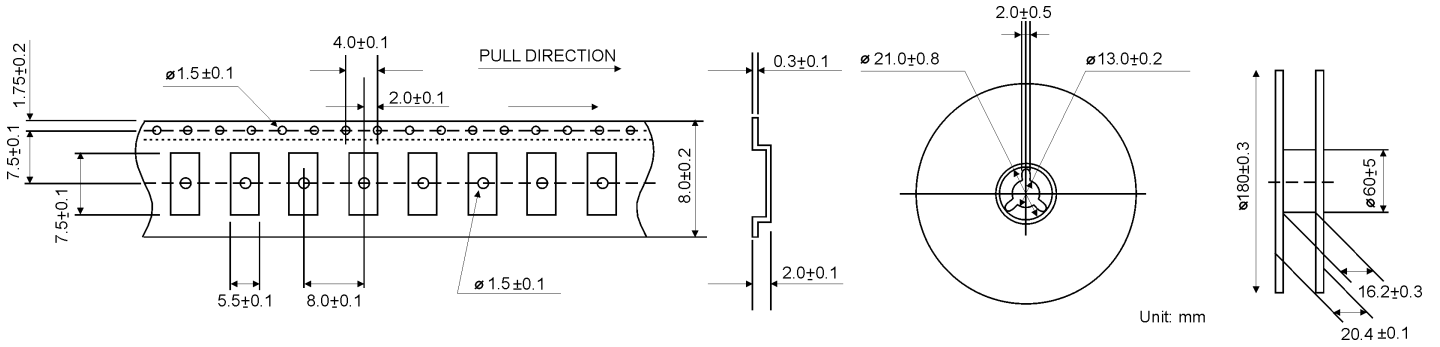
OUTLINE DRAWING



| PIN | FUNCTION |
|-----|--------------------------|
| #1 | N.C. OR ENABLE / DISABLE |
| #2 | GND |
| #3 | OUTPUT |
| #4 | VDD |

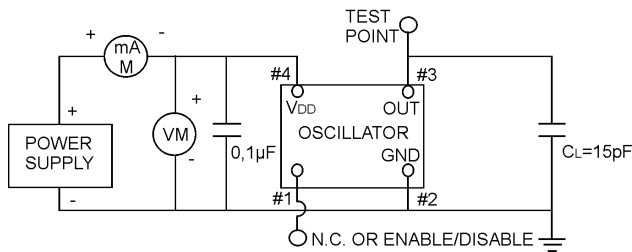
Unit:mm

REEL SPECIFICATION

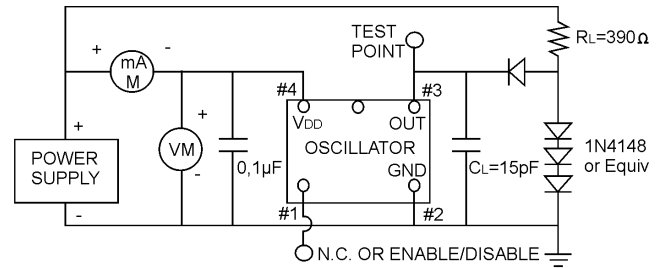


TEST CIRCUIT FOR CMOS

TEST CIRCUIT FOR TTL



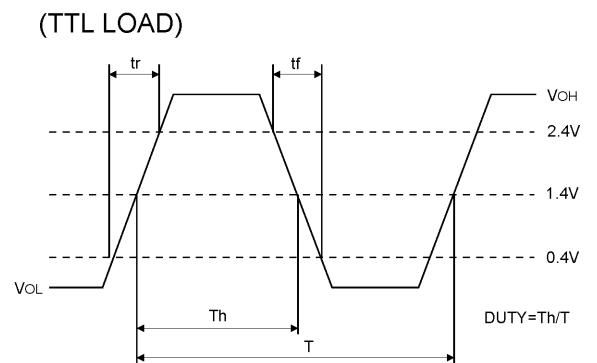
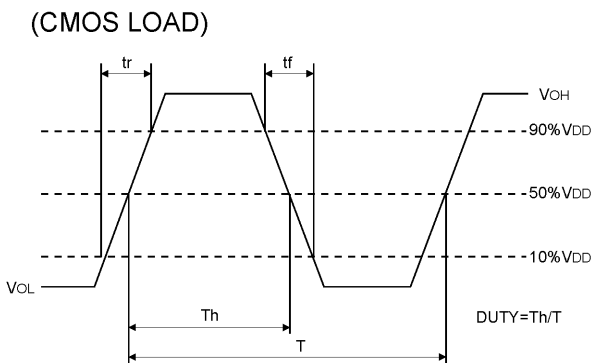
NOTE: CL includes probe and fixture capacitance



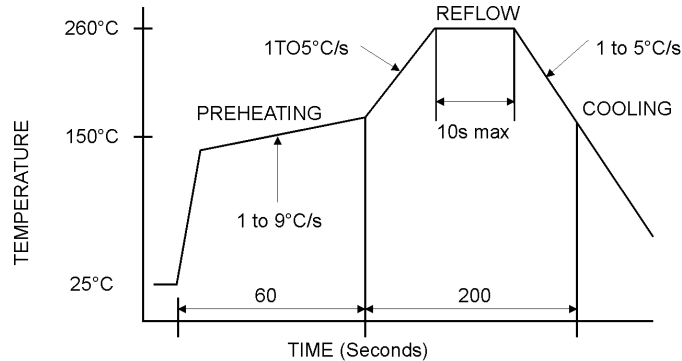
NOTE: CL includes probe and fixture capacitance

OUTPUT WAVE FORM CMOS

OUTPUT WAVE FORM TTL LOAD



REFLOW SOLDER PROFILE



Oscillators can be soldered according to the norm JEDEC J-STD-020C.

ORDERING INFORMATION

SERIES & VOLTAGE
SX018 = 1.8V
SX025 = 2.5V
SX028 = 2.8V
SX03 = 3.3V
SX0 = 5.0V

SYMMETRY
"- " = 40/60%
"S" = 45/55%

FREQUENCY STABILITY
"20" = ±20PPM
"25" = ±25ppm
"50" = ±50PPM
"- " = ±100PPM

FREQUENCY RANGE
1.0 - 160.0 MHz

SX018-0507-S-E-20-M-27.000MHz-T

PACKAGE SIZE
"0507" = 7.0x5.0MM

PIN1
"- " = NOT CONNECTED
"E" = ENABLED/DISABLED

TEMPERATURE RANGE
"- " = 0/+70°C
"N" = -10/+60°C
"M" = -20°/+70°C
"W" = -40°/+85°C
"Y" = -40°/+105°C
"Z" = -40°/+125°C

DELIVERY FORM
"T" = TAPE AND REEL

EXAMPLE: SX018-0507-S-E-20-M-27.000MHz-T
PLEASE INDICATE YOUR REQUIRED PARAMETERS



PREMIUM QUALITY BY PETERMANN-TECHNIK



OUR COMPANY IS CERTIFIED ACCORDING TO ISO 9001:2015 IN OCTOBER 2016 BY THE DMSZ CERTIFIKATION GMBH.

THIS IS FOR YOU TO ENSURE THAT THE PRINCIPLES OF QUALITY MANAGEMENT ARE FULLY IMPLEMENTED IN OUR QUALITY MANAGEMENT SYSTEM AND QUALITY CONTROL METHODS ALSO DOMINATE OUR QUALITY STANDARDS.