

# SMD SPX0 2.5x2.0mm 1.8 - 5.0 VDC 32.768 kHz

## SERIES "SX0"

### FEATURES

- + Low power version / Stand-by current 1.5 µA max.
- + Frequency stability to ±25 ppm available
- + Available in 1.8, 2.5, 2.8, 3.3 and 5.0 VDC
- + New standard for small high performance low cost crystal oscillators
- + Low jitter for excellent performance

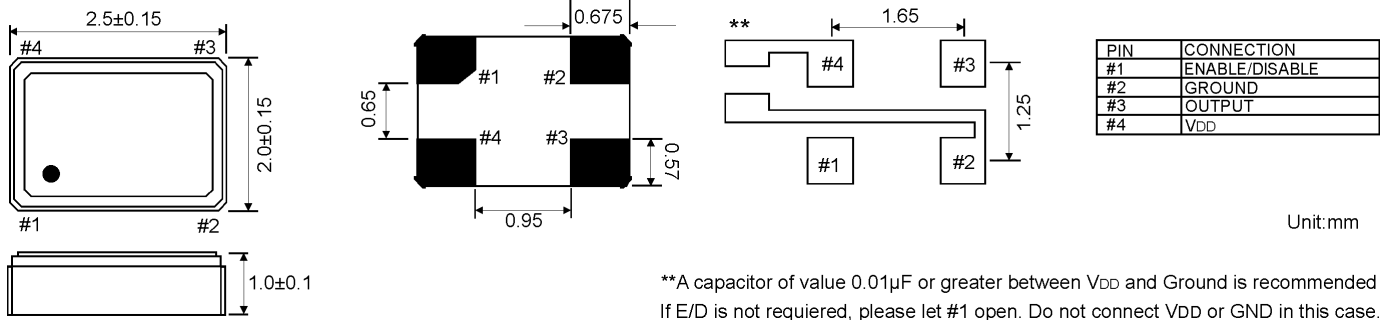


PB FREE / ROHS-2 2011/65/EU COMPLIANT

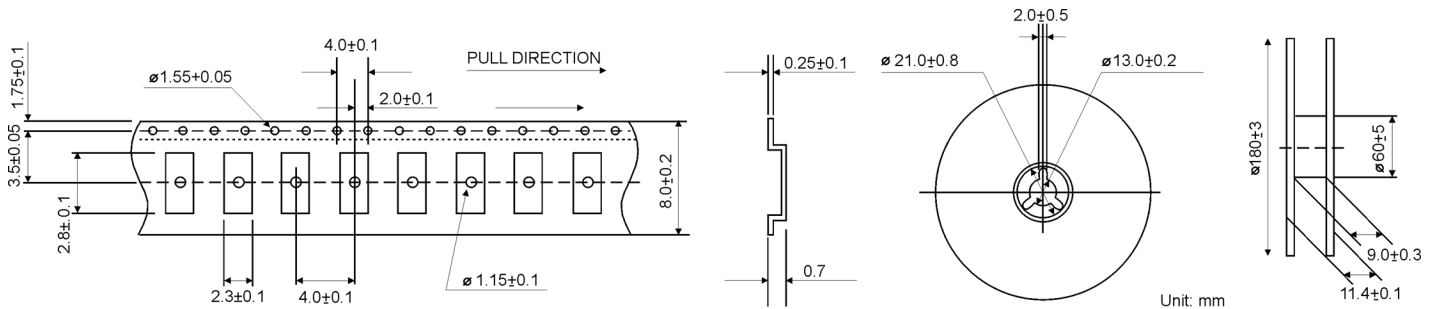
### GENERAL DATA

PARAMETERS		PRODUCT FEATURES AND CONDITIONS	
SMD-OSCILLATOR SERIES		SX0-02502	
PACKAGE		Ceramic package 2.5 x 2.0 x 0.9 mm <sup>3</sup>	
FREQUENCY		32.768 kHz	
FREQUENCY STABILITY		0/+70°C ~ -20/+70°C	±25 ~ ±100 ppm
		-40/+85°C	±50 ~ ±100 ppm
		-40/+105°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 ±3ppm max. per year.	
OPERATING TEMPERATURE RANGE		-10/+60°C ~ -40/+85°C	
STORAGE TEMPERATURE RANGE		-55/+125°C	
INPUT	VOLTAGE	+1.8 ~+5.0 VDC ±10%	
	CURRENT	50 µA max. (No Load) for +1.8,2.5,2.8,3.3VDC / 60 µA max. (No Load) for +5.0VDC	
OUPUT	SYMMETRY		45/55% at 50% VDD
	RISE AND FALL TIME		20 ns max. (10~90% VDD Level)
	"0" LEVEL	CMOS	10% VDD max.
	"1" LEVEL		90% VDD min.
LOAD	CMOS	15 pF max.	
PIN1	STANDARD	WITH ENABLE/DISABLE FUNCTION	
ENABLE / DISABLE FUNCTION		PIN #1 (E/D CONTROL)	PIN #3 (OUPUT)
		OPEN	ACTIVE
		HIGH "1" (VIH >80%VDD)	ACTIVE
		LOW "0" (VIL <20%VDD)	HIGH IMPEDANCE
		OUTPUT DISABLE TIME	150 ns max.
		OUTPUT ENABLE TIME	2 ms max.
		Stand-by current 1.5 µA max. (up to -40/+85°C)	
PERIOD JITTER RMS		15 ps typ.	
DELIVERY FORM		Tape and Reel / 2.000 pcs. per reel, lower QTY possible	
OTHER PARAMETERS ARE AVAILABLE ON REQUEST / CREATE HERE YOUR SPECIFICATION			

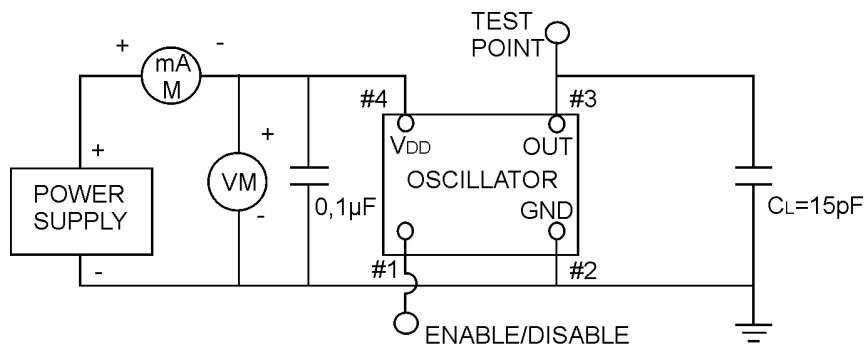
## OUTLINE DRAWING



## REEL SPECIFICATION



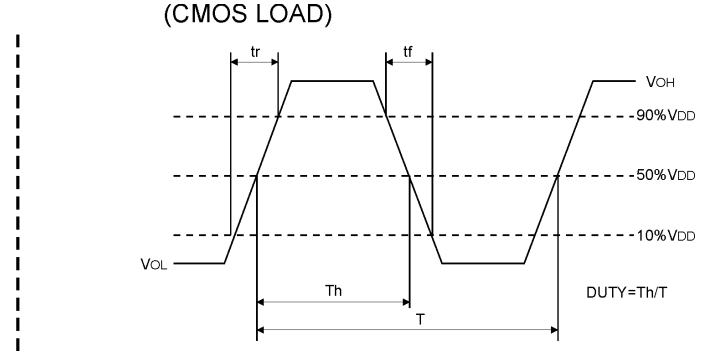
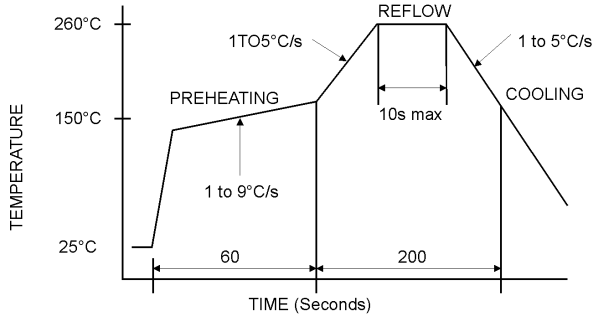
## TEST CIRCUIT CMOS



NOTE: CL includes probe and fixture capacitance

## REFLOW SOLDER PROFILE

## OUTPUT WAVE FORM CMOS



## 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**  
 "25" = ±25ppm  
 "50" = ±50PPM  
 "-" = ±100PPM

**FREQUENCY RANGE**  
 32.768 kHz

SX018-02502-S-E-25-M-32.768kHz-T

**PACKAGE SIZE**  
 "02502" = 2.5X2.0 MM

**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

**DELIVERY FORM**  
 "T" = TAPE AND REEL

EXAMPLE: SX018-02502-S-E-25-M-32.768kHz-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.