

## SMD SPXO 2.5x2.0mm 2.8 VDC LP MHz

### FEATURES

- Low power version / Stand-by current 10  $\mu$ A max.
- Frequency stability to  $\pm 20$  ppm available
- Available in 1.8, 2.5, 2.8, 3.0 and 3.3 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

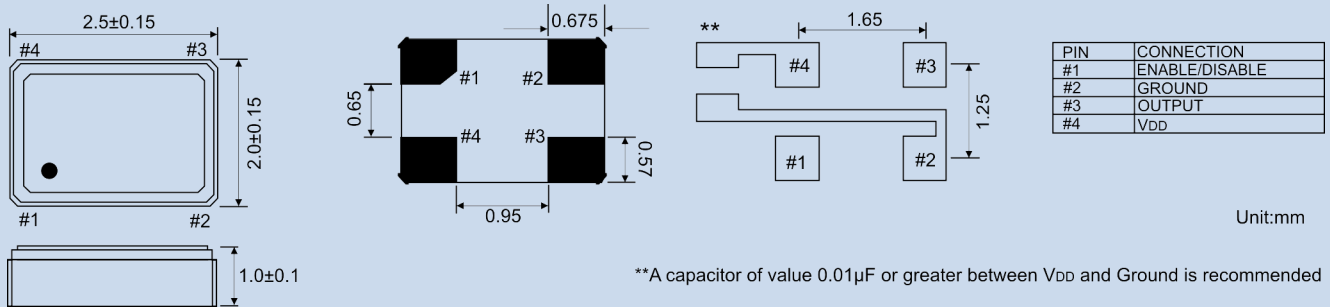
SMD-OSCILLATOR SERIES		SXO28LP-02502	
PACKAGE		Ceramic package 2.5 x 2.0 x 1.0 mm <sup>3</sup>	
FREQUENCY		0.2 ~ 157.0 MHz	
FREQUENCY STABILITY		-10/+60°C ~ -10/+70°C	$\pm 20 \sim \pm 100$ ppm
		-20/+70°C	$\pm 25 \sim \pm 100$ ppm
		-40/+85°C	$\pm 50 \sim \pm 100$ ppm
		The frequency stability contains the frequency tolerance at 25°C, the temperature stability, supply voltage change and load change. The aging is $\pm 3$ ppm max. per year.	
OPERATING TEMPERATURE RANGE		-10/+60°C ~ -40/+85°C	
STORAGE TEMPERATURE RANGE		-55/+125°C	
INPUT	VOLTAGE	+2.8 VDC $\pm 0.2$ VDC	
	CURRENT	0.2 ~ 32.0 MHz = 1.8 mA max. (No Load)	
		32.0 ~ 54.0 MHz = 2.5 mA max. (No Load)	
		54.0 ~ 125.0 MHz = 5.0 mA max. (No Load)	
125.0 ~ 157.0 MHz = 7.0 mA max. (No Load)			
OUPUT	SYMMETRY	STANDARD	40/60% at 50% VDD Level
		OPTION	45/55% at 50% VDD Level
	RISE AND FALL TIME	5 ns max. (LCMOS 15 pF = 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" ( $V_{IH} > 80\%$ VDC)	ACTIVE
		LOW "0" ( $V_{IL} < 20\%$ VDC)	HIGH IMPEDANCE
		OUTPUT DISABLE TIME	150 ns max.
		OUTPUT ENABLE TIME	1 ms max.
		Stand-by current 10 $\mu$ A max.	
DELIVERY FORM		Tape & Reel / 2.000 pcs. per reel, lower QTY possible	
<b>OTHER PARAMETERS ARE AVAILABLE ON REQUEST / CREATE HERE YOUR SPECIFICATION</b>			

CRYSTALS  
 OSCILLATORS  
 CERAMIC RESONATORS

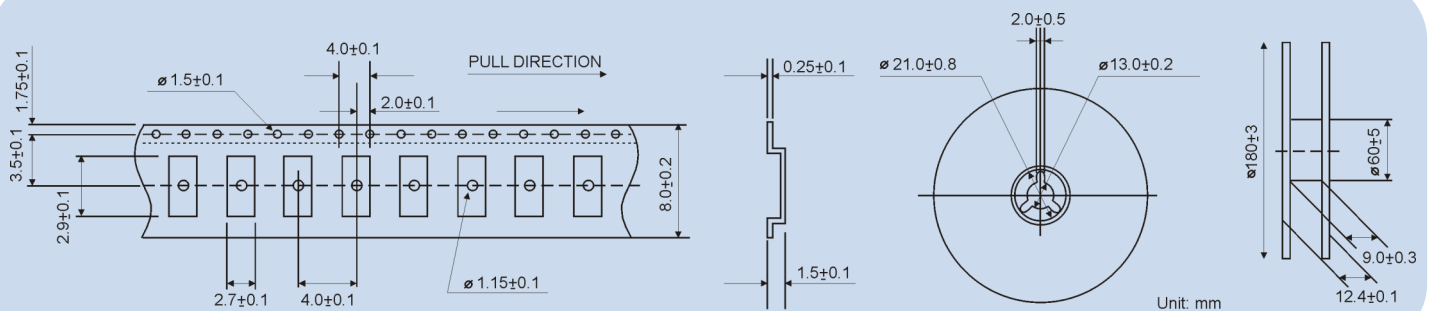


CERAMIC FILTERS  
 SAW COMPONENTS

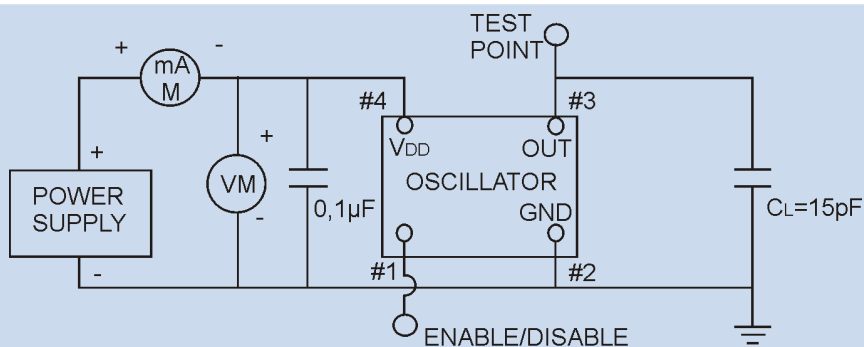
## OUTLINE DRAWING



## REEL SPECIFICATION



## TEST CIRCUIT CMOS



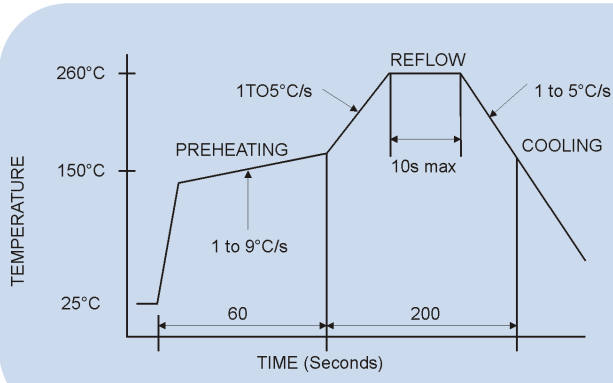
NOTE: CL includes probe and fixture capacitance

**CRYSTALS**  
**OSCILLATORS**  
**CERAMIC RESONATORS**

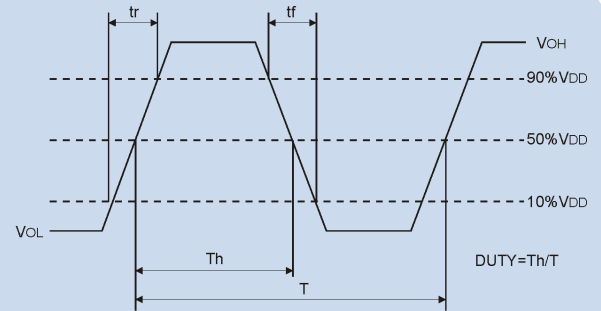
  
**Premium Quality by**  
**PETERMANN-TECHNIK**

**CERAMIC FILTERS**  
**SAW COMPONENTS**  
 Spec.01 • REV.00 • August 2013

## REFLOW SOLDER PROFILE



## OUTPUT WAVE FORM CMOS



## ORDERING INFORMATION

Series & Voltage	Symmetry	PIN1	Frequency Stability	Temperature Range Options	Frequency	Delivery Form
SXO28LP-02502	B*=40/60% or S=45/55%	E = E/D	B*= 100ppm or O=20~50ppm	B*= 0+70°C N=-10+60°C M=-20+70°C W=-40+85°C	27.000 MHz	T

**Example: SXO28LP-02502-S-E-50-W-27.000MHz-T**

PLEASE INDICATE YOUR REQUIRED PARAMETERS

\*B=BLANK, S=SPECIAL, E=ENABLE/DISABLE, O=OPTION, T=TAPE AND REEL

**CRYSTALS**  
**OSCILLATORS**  
**CERAMIC RESONATORS**



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