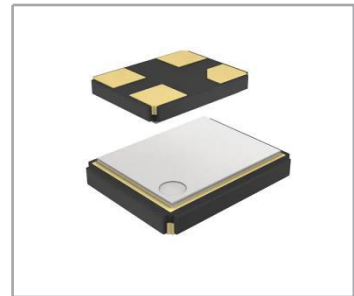


PD Type Crystal Oscillator

Programmable 2.5x2.0mm

Frequency 1MHz to 200MHz

STARWAVE



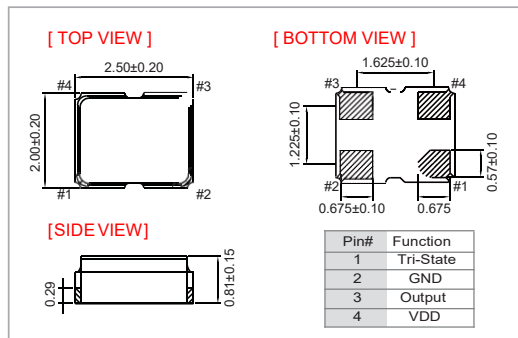
FEATURE

- Typical 2.5 x 2.0 x 0.81 mm ceramic SMD package
- Operation supply voltage: 1.8V, 2.5V and 3.3V
- FASTXO series, Fast delivery at any frequency
- Tri-State Enable/Disable
- Frequency Stability ± 25 ppm over -40°C to 105°C
- Pb-free/RoHS compliant

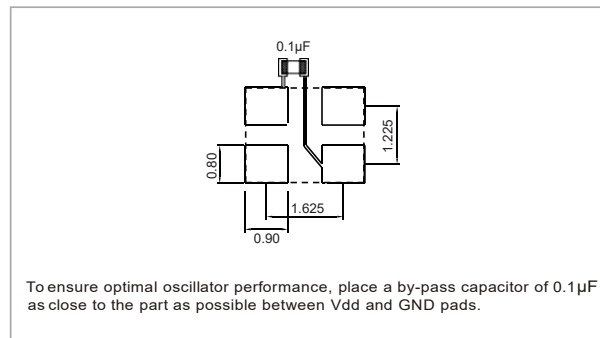
TYPICAL APPLICATION

- Computer Peripherals
- Set-top Box , HDTV
- DSC, PDA

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

Parameter	3.3V		2.5V		1.8V		Unit
	Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation	$V_{DD}-5\%$	$V_{DD}+5\%$	$V_{DD}-5\%$	$V_{DD}+5\%$	$V_{DD}-5\%$	$V_{DD}+5\%$	V
Frequency Range	1	200	1	200	1	125	MHz
Supply Current (@15pf Loading)	-	35	-	30	-	20	mA
Output Level	Output High	90% V_{DD}	-	90% V_{DD}	-	90% V_{DD}	V
	Output Low	-	10% V_{DD}	-	10% V_{DD}	-	V
Transition Time	Rise Time / Fall Time		-	2	-	3	nSec
Duty Cycle	45	55	45	55	45	55	%
Startup Time	-	8	-	8	-	8	mSec
Tri-State	Output Enable	$0.7 \times V_{DD}$	-	$0.7 \times V_{DD}$	-	$0.7 \times V_{DD}$	V
	Output Disable	-	$0.3 \times V_{DD}$	-	$0.3 \times V_{DD}$	-	V
Stand by Current (@PD Mode)	-	400	-	400	-	400	uA
Stand by Current (@OE Mode)	-	20	-	20	-	20	mA
Output Loading	15		15		15		pf
RMS Phase Jitter (12KHz to 20MHz)	-	2	-	2	-	2	pSec
Aging (@ 25°C, First Year)	-	3	-	3	-	3	ppm
Storage Temp. Range	-50	+125	-50	+125	-50	+125	$^{\circ}\text{C}$

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

+ Transition times are measured between 10% and 90% of V_{DD} , with an output load of 15pF.

FREQ. STABILITY vs. TEMP. RANGE

Temp. ppm ($^{\circ}\text{C}$)	± 15	± 20	± 25	± 50
-20~+70	Δ	$\circ$	$\circ$	$\circ$
-40~+85	$\times$	Δ	$\circ$	$\circ$
-40~+105	$\times$	Δ	$\circ$	$\circ$

*O: Available Δ : Conditional $\times$: Not available
 *Inclusive of calibration @ 25 $^{\circ}\text{C}$, operating temperature range, input Voltage variation, load variation, aging (1st year), shock, and vibration

Note: not all combination of options are available. Other specifications may be available upon request.

PD Type Crystal Oscillator
Programmable 2.5x2.0 mm
Frequency 1MHz to 200MHz



Ordering Information

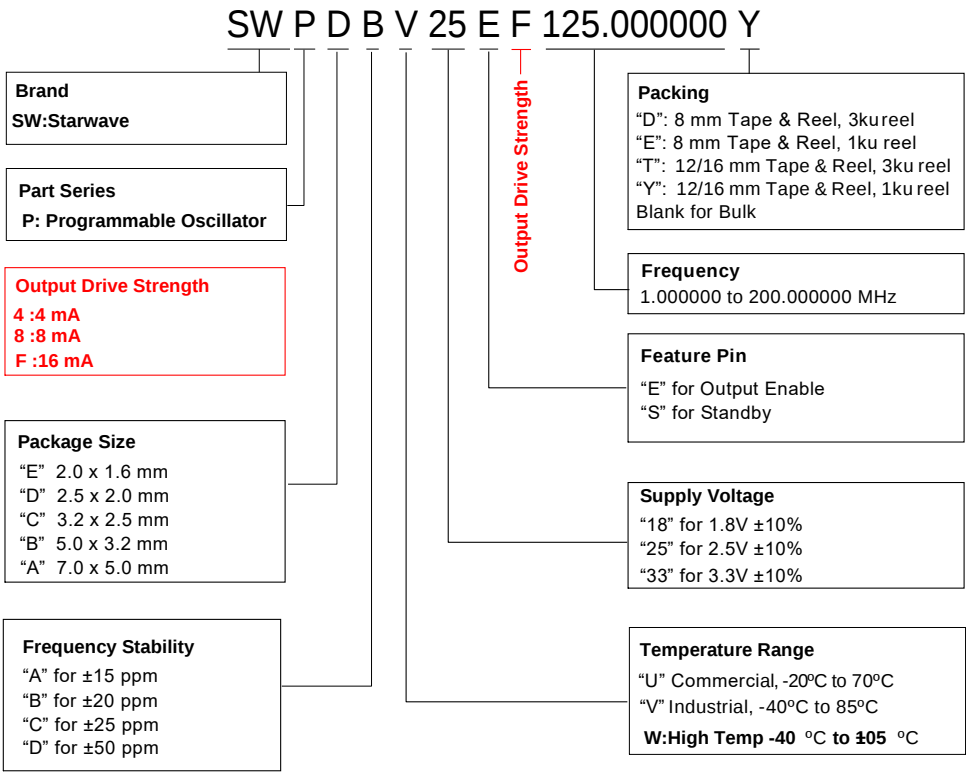


Table 13. Ordering Codes for Supported Tape & Reel Packing Method

Device Size (mm x mm)	16 mm T&R (3ku)	16 mm T&R (1ku)	12 mm T&R (3ku)	12 mm T&R (1ku)	8 mm T&R (3ku)	8 mm T&R (1ku)
2.0 x 1.6	-	-	-	-	D	E
2.5 x 2.0	-	-	-	-	D	E
3.2 x 2.5	-	-	-	-	D	E
5.0 x 3.2	-	-	T	Y	-	-
7.0 x 5.0	T	Y	-	-	-	-