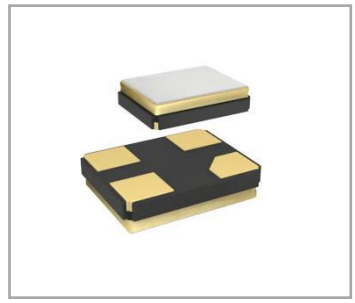
OE Type Crystal Oscillator
Typical 2.0 x 1.6 mm
Frequency 1MHz to 50MHz

STARWAVE



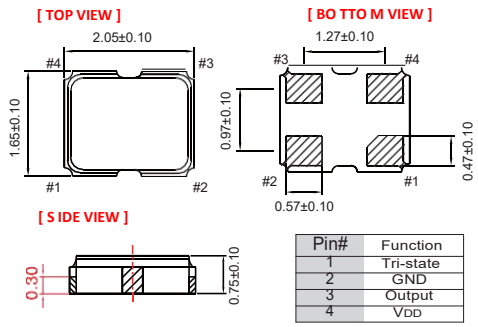
FEATURE

- Typical 2.05 x 1.65 x 0.75 mm ceramic SMD package
- Operation supply voltage: 1.8V, 2.5V and 3.3V
- Output frequency up to 50MHZ
- Tri-State Enable/Disable
- Frequency Stability ±50ppm over -40°C to 105°C
- Pb-free/RoHS compliant

TYPICAL APPLICATION

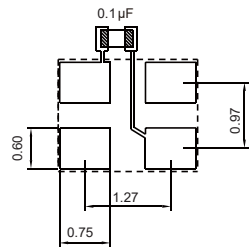
- WLAN/WiMax
- Mobile Phone
- DSC, Set-top Box, HDTV

DIMENSION (mm)



Pin#	Function
1	Tri-state
2	GND
3	Output
4	VDD

SOLDER PAD LAYOUT (mm)



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1µF as close to the part as possible between Vdd and GND pads.

ELECTRICAL SPECIFICATION

Pameter	3.3V		2.5V		1.8V		Unit
	Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation (VDD)	VDD-10%	VDD+10%	VDD-10%	VDD+10%	VDD-10%	VDD+10%	V
Frequency Range	1.5	50	1.5	50	1.5	50	MHz
Standard Frequency	24,26						
Supply Current	-	20	-	15	-	8	mA
Duty Cycle	45	55	45	55	45	55	%
Output Level (CMOS)							
Output High (Logic"1")	2.97	-	2.25	-	1.62	-	
Output Low(Logic"0")	-	0.33	-	0.25	-	0.18	V
Transition Time:Rise/Fall Time+							
1.5 MHz ≦ Fo < 20 MHz	-	4	-	4	-	5	nSec
20 MHz ≦ Fo ≦ 50 MHz	-	3	-	3	-	4	
Start Time	-	2	-	2	-	2	mSec
Tri-State(Input to Pin 1)							
Enable (High voltage or floating)	2.31	-	1.75	-	1.26	-	V
Disable (Low voltage or GND)	-	0.99	-	0.75	-	0.54	
Period Jitter(pk-pk)	-	40	-	40	-	40	pSec
RMS Phase Jitter (Integrated12 KHz~20 MHz)	-	1	-	1	-	1	pSec
Standby Current	-	10	-	10	-	10	µ A
Aging (@ 25°C 1st year)	-	±3	-	±3	-	±3	ppm
Storage Temp. Range	-55	125	-55	125	-55	125	°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 VDD, with an output load of 15 pF.

FREQ. STABILITY vs. TEMP. RANGE

Temp. ppm (°C)	±15	±20	±25	±50
-20~+70	△	△	○	○
-40~+85	X	△	○	○
-40~+105	X	△	○	○

*O: Available △: Conditional X: Not available
*Inclusive of calibration @ 25 °C ,operating temperature rrange,i
Voltage variation,load variation,aging (1st year),shock,and vibrati

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

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Frequency 1MHz to 50MHz

Ordering Information

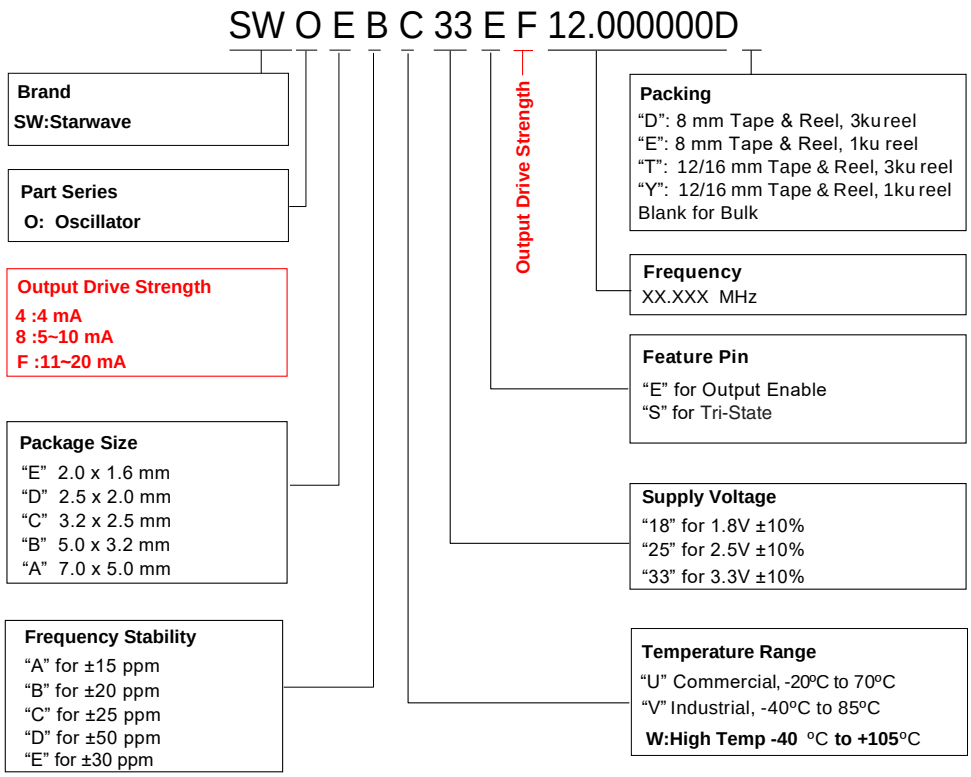

Table 13. Ordering Codes for Supported Tape & Reel Packing Method

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	–	–	–	–