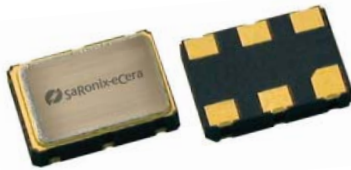


3.3V PECL Low Jitter RateSelect™ XO

SN



7.0 x 5.0mm Ceramic SMD

Product Features

- 50 to 220 MHz Frequency Range
- <1 ps RMS jitter with advanced non-PLL, patented design (U.S. Patent #7002423)
- RateSelect™ function toggles output frequency between primary and primary/2
- RoHS compliant

Product Description

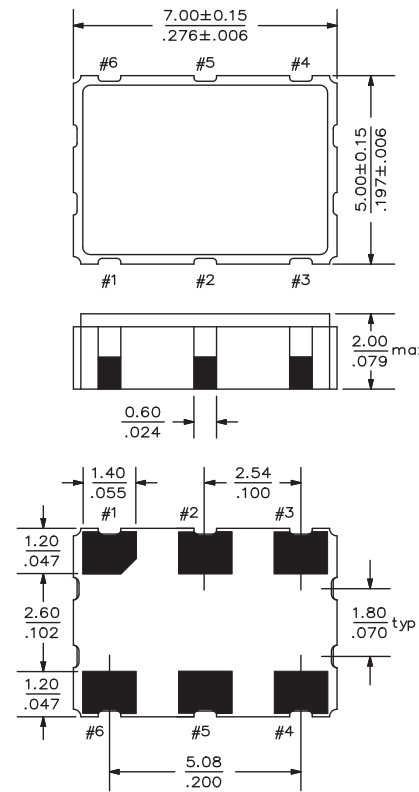
The SN Series 3.3V crystal clock oscillator achieves superb jitter and stability over a broad range of operating conditions and frequencies. The output clock signal, generated internally with a patented oscillator design, is compatible with LVPECL logic levels. The device contains a divide-by-2 RateSelect™ function that toggles the output frequency and is available on tape and reel, is contained in a 7.0 x 5.0mm surface-mount ceramic package.

Applications

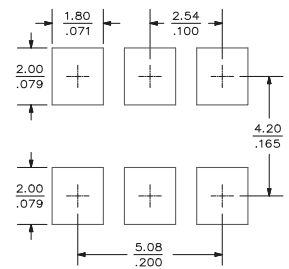
The SN Series is ideal for high-speed applications requiring low jitter, including:

- 1/10 Gigabit Ethernet
- 2/4/10G Fibre Channel
- Serial Attached SCSI (SAS)
- Server & Storage platforms
- SONET/SDH linecards
- Passive Optical network (PON) Systems

Package:



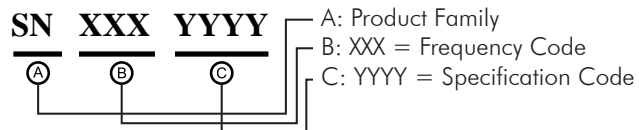
Recommended Land Pattern:



Pin Functions:

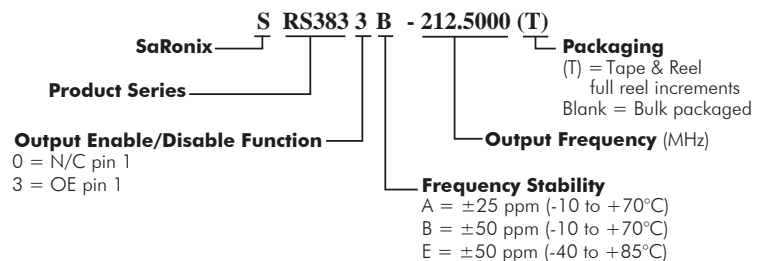
Pin	Function
1	OE or NC
2	RS (RateSelect™)
3	V _{EE}
4	Q Output
5	Q Output
6	V _{CC}

Part Ordering Information:



Following the above format, Saronix-eCera part numbers will be assigned upon confirmation of exact customer requirements.

Legacy Ordering Information - For Reference Only:



Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output Frequency	50		220	MHz	Primary output frequency, as specified
Supply Voltage	2.97	3.30	3.63	V	
Supply Current, Output Enabled		50	60	mA	
Supply Current, Output Disabled			15	μA	
Frequency Stability			±20 to ±50	ppm	See Note 1 below
Operating Temperature Range	-20		+70	°C	Commercial (standard)
	-40		+85		Industrial (standard)
Output Logic 0, V _{OL}			V _{CC} - 1.620	V	0 to +85°C
			V _{CC} - 1.555	V	-40 to 0°C
Output Logic 1, V _{OH}	V _{CC} - 1.025			V	0 to +85°C
	V _{CC} - 1.085			V	-40 to +0°C
Output Load	50Ω to V _{CC} - 2V				output requires termination
Duty Cycle	45		55	%	Measured 50% V _{DD}
Rise and Fall Time			7	ns	Measured 20/80% of waveform
Jitter, Phase			1	ps RMS (1-σ)	12 kHz to 20 MHz frequency band
Jitter, Total			40	ps pk-pk	1000 random periods

Notes:

- Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (5 year at 40°C average effective ambient temperature), shock and vibration.
- For specifications other than those listed, please contact sales.

Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (pin OE), Output Enable	0.7V _{CC}			V	or open
Input Voltage (pin OE), Output Disable (low power standby)			0.8	V	Output disabled to Hi-Z
Internal Pullup Resistance	50			kΩ	
Output Disable Delay			200	ns	
Output Enable Delay			10	ms	

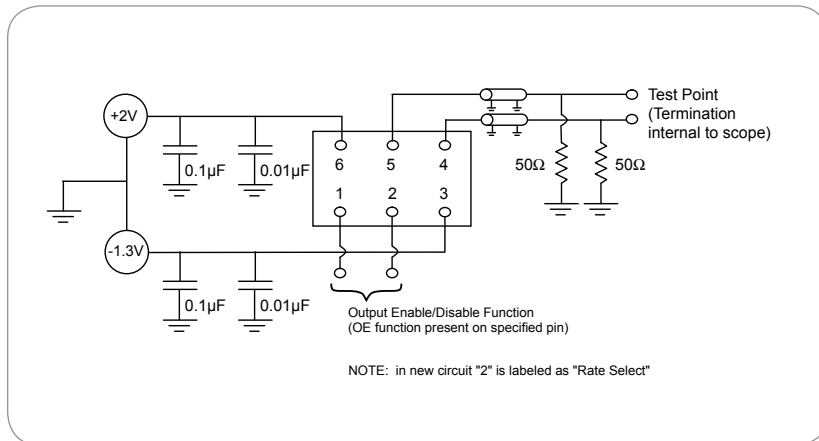
RateSelect™ Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (RS pin), Primary	2.0			V	or open, output is primary frequency
Internal Pullup Resistance	50			kΩ	
Input Voltage (RS pin), Primary/2			0.8	V	Output is primary frequency divided by 2

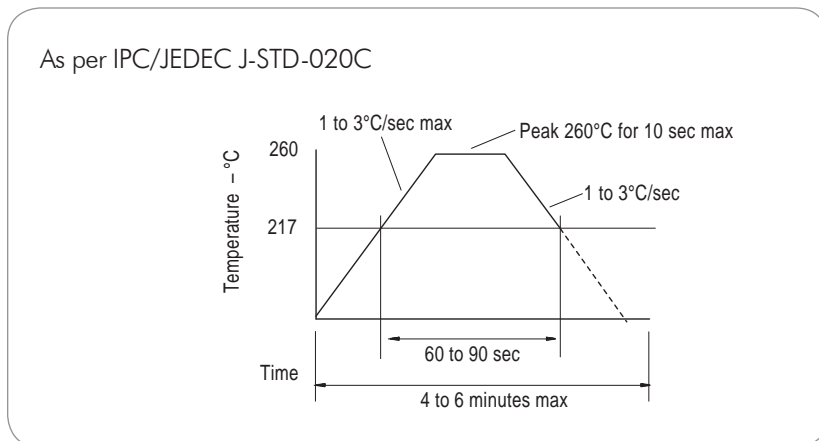
Absolute Maximum Ratings

Parameter	Min.	Typ.	Max.	Units	Notes
Storage Temperature	-55		+125	°C	

Test Circuit



Reflow Soldering Profile



Reliability Test Ratings

This product is rated to meet the following test conditions:

Type	Parameter	Test Condition
Mechanical	Shock	MIL-STD-883, Method 2002, Condition B
Mechanical	Solderability	JESD22-B102-D Method 2 (Preconditioning E)
Mechanical	Terminal strength	MIL-STD-883, Method 2004, Condition D
Mechanical	Gross leak	MIL-STD-883, Method 1014, Condition C
Mechanical	Fine leak	MIL-STD-883, Method 1014, Condition A2 ($R_1 = 2 \times 10^{-8}$ atm cc/s)
Mechanical	Solvent resistance	MIL-STD-202, Method 215
Environmental	Thermal shock	MIL-STD-883, Method 1011, Condition A
Environmental	Moisture resistance	MIL-STD-883, Method 1004
Environmental	Vibration	MIL-STD-883, Method 2007, Condition A
Environmental	Resistance to soldering heat	J-STD-020C Table 5-2 Pb-free devices (2 cycles max)

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Standard Clock Oscillators](#) category:

Click to view products by [Diodes Incorporated](#) manufacturer:

Other Similar products are found below :

[601252](#) [F335-12](#) [F335-25](#) [F535L-33.333](#) [F535L-50](#) [ASV-20.000MHZ-LR-T](#) [ECS-2018-160-BN-TR](#) [EL13C7-H2F-125.00M](#) [MXO45HS-2C-66.6666MHZ](#) [SiT8209AI-32-33E-125.000000](#) [SM4420TEV-40.0M-T1K](#) [F335-24](#) [F335-40](#) [F535L-10](#) [F535L-12](#) [F535L-16](#) [F535L-24](#) [F535L-27](#) [F535L-48](#) [PE7744DW-100.0M](#) [CSX-750FCC14745600T](#) [ASF1-3.686MHZ-N-K-S](#) [XO57CTECNA3M6864](#) [ECS-2100A-147.4](#) [601251](#) [EP16E7E2H26.000MTR](#) [SIT8918AA-11-33S-16.000000G](#) [XO3003](#) [9120AC-2D2-33E212.500000](#) [9102AI-243N25E100.00000](#) [8208AC-82-18E-25.00000](#) [ASDK2-32.768KHZ-LR-T3](#) [8008AI-72-XXE-24.545454E](#) [8004AC-13-33E-133.33000X](#) [AS-4.9152-16-SMD-TR](#) [ASFL1-48.000MHZ-LC-T](#) [SIT8920AM-31-33E-25.0000](#) [DSC1028DI2-019.2000](#) [9121AC-2C3-25E100.00000](#) [9102AI-233N33E100.00000X](#) [9102AI-233N25E200.00000](#) [9102AI-232H25S125.00000](#) [9102AI-133N25E200.00000](#) [9102AC-283N25E200.00000](#) [9001AC-33-33E1-30.000](#) [3921AI-2CF-33NZ125.000000](#) [5730-1SF](#) [PXA000010](#) [SIT1602BC-83-33E-10.000000Y](#) [8003AI-12-33S-40.00000Y](#)