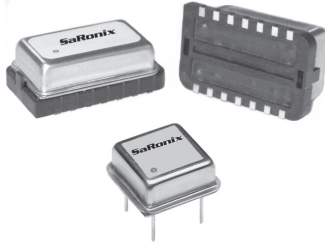


### Technical Data

ST41xx Series



#### Description

A crystal controlled, low-current oscillator providing precise rise and fall times to drive ACMOS/LVCMOS loads. The tri-state function enables the output to go high impedance. Available in either a 14 or an 8 pin DIP compatible, resistance welded, all metal case. Pin 7 ( or Pin 4 ) is grounded to case to reduce EMI. True SMD DIL 14 version also available, utilizing new adaptor technology (see separate data sheet for package dimensions).

#### Applications & Features

- Fiber Channel
- Gigabit Ethernet
- HCMOS/ACMOS/LVCMOS MPU's
- 3.3 or 5V operation
- High Drive capability
- Tri-State output standard
- Short circuit protected output
- Plastic SMD available, see ST41xH Series data sheet.
- Ceramic SMD available, see S19xx Series data sheet.
- True SMD version available, select option S in part number builder (see separate data sheet for package dimensions).

<b>Frequency Range:</b>	32 MHz to 125 MHz
<b>Frequency Stability:</b>	±20, ±25, ±50 or ±100 ppm over all conditions: calibration tolerance, operating temperature, input voltage change, load change, aging*, shock and vibration. *1 year @ +40°C average ambient operating temperature

<b>Temperature Range:</b>	Operating: 0 to +70°C or -40 to +85°C Storage: -55 to +125°C
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<b>Supply Voltage:</b>	Recommended Operating: +5V ±5% or 3.3V ±10%
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<b>Supply Current:</b>	50mA typ, 65mA, 35mA max @ 3.3V
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<b>Output Drive:</b>	Symmetry:	ACMOS	ACMOS	TTL	TTL
		32 to 60 MHz	60+ to 125 MHz	32 to 60 MHz	60+ to 125 MHz
	0 to +70°C:	45/55%	45/55%	45/55%	45/55%
	-40 to +85°C:	45/55%	40/60%	45/55%	40/60%
		(45/55% @ 3.3V)			
	Rise & Fall Times:	2ns max 20% to 80% VDD 1.5ns max 0.5 to 2.5V			
	Logic 0:	10% VDD max or 20% VDD max @ 3.3V			
	Logic 1:	80% VDD min or 80% VDD min @ 3.3V			
	Load:	50Ω ACMOS or 95Ω ACMOS @ 3.3V			
	Period Jitter RMS:	13ps max 32 to 72 MHz 20ps max 72+ to 125 MHz, 0 to +70°C 25ps max 72+ to 125 MHz, -40 to +85°C			

<b>Mechanical:</b>	Shock:	MIL-STD-883, Method 2002, Condition B
	Solderability:	MIL-STD-883, Method 2003
	Terminal Strength:	MIL-STD-883, Method 2004, Condition B2
	Vibration:	MIL-STD-883, Method 2007, Condition A
	Solvent Resistance:	MIL-STD-202, Method 215
	Resistance to Soldering Heat:	MIL-STD-202, Method 210, Condition A, B or C ( I or J for Gull Wing or SMD)

<b>Environmental:</b>	Gross Leak Test:	MIL-STD-883, Method 1014, Condition C
	Fine Leak Test:	MIL-STD-883, Method 1014, Condition A2
	Thermal Shock:	MIL-STD-883, Method 1011, Condition A
	Moisture Resistance:	MIL-STD-883, Method 1004

#### Part Numbering Guide

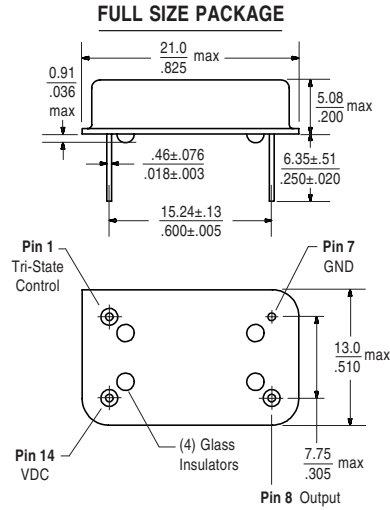
<b>ST41 3 0 A - 106.2500 (T)</b>	
<b>Series</b>	<b>Packing Method</b>
<b>Type</b>	(T) = Tape & Reel for SMD versions full reel increments only (200pcs) Blank = Bulk
3 = 3.3V LVCMOS 5 = 5V TTL 6 = 5V ACMOS	<b>Frequency</b>
<b>Package Style</b>	<b>Stability Tolerance</b>
0 = Full Size, Metal 9 = Half Size, Metal J = Half Size, Metal, Gull Wing K = Full Size, Metal, Gull Wing S = True SMD Adaptor (see product photo)	AA = ±20 ppm, 0 to +70°C A = ±25 ppm, 0 to +70°C B = ±50 ppm, 0 to +70°C C = ±100 ppm, 0 to +70°C E = ±50 ppm, -40 to +85°C F = ±100 ppm, -40 to +85°C

DS-183 REV C

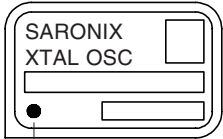
### Technical Data

### ST41xx Series

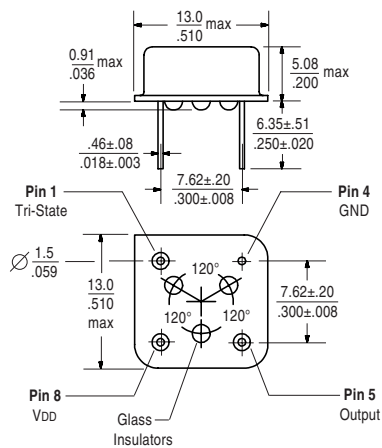
#### Package Details



**Standard Marking Format \*\***  
Includes Date Code, Frequency, Part Number



#### HALF SIZE PACKAGE



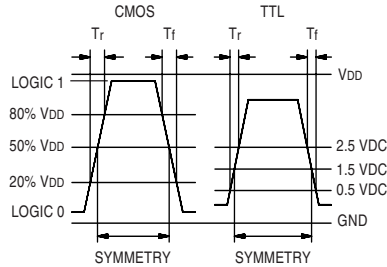
**Standard Marking Format \*\***  
Includes Date Code, Frequency, Part Number



\*\* Exact location of items may vary

Scale: None (Dimensions in  $\frac{\text{mm}}{\text{inches}}$ )

#### Output Waveform

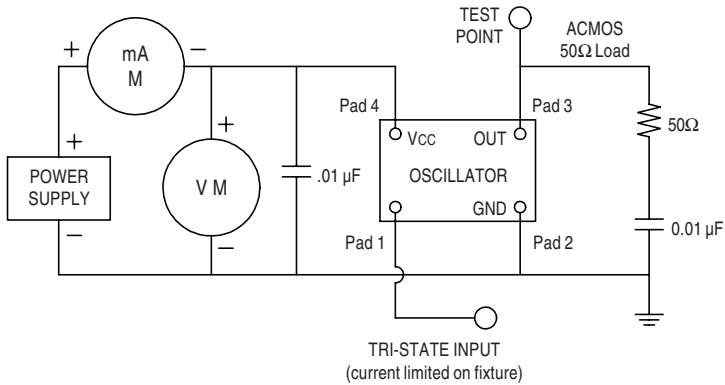


#### Tri-State Logic Table

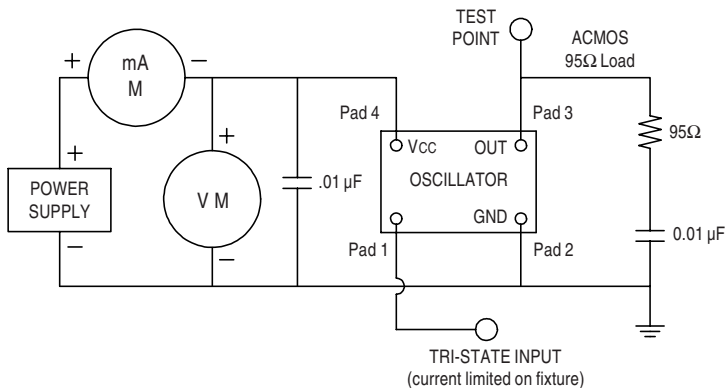
Pin 1 Input	Pin 8 (5) Output
Logic 1 or NC	Oscillation
Logic 0 or GND	High Impedance

Required Input Levels on Pin 1:  
Logic 1 = 2.2V min  
Logic 0 = 0.8V max

#### Test Circuits



50Ω AC MOS TEST CIRCUIT



95Ω AC MOS TEST CIRCUIT

All specifications are subject to change without notice.

## True SMD Adaptor - 7.57mm High

### Technical Data

