

Technical Data

ST4100 Series



Description

A crystal controlled, low-current oscillator providing precise rise and fall times to drive TTL compatible or HCMOS/ACMOS 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.

Applications & Features

- Suited for use with new HCMOS/ACMOS MPU's, Fiber Channel and gigabit Ethernet applications
- Broad frequency range 32 MHz to 125 MHz
- 3.3 or 5V versions
- High Drive ACMOS and HCMOS capability
- Tri-State output standard
- Short circuit protected output
- Also available in plastic, SMD ST410H Series Type H package, see separate data sheets.

Frequency Range:	32 MHz to 125 MHz
Frequency Stability:	±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

Temperature Range:	Operating: 0 to +70°C or -40 to +85°C Storage: -55 to +125°C
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Supply Voltage:	Recommended Operating: +5V ±10% or 3.3V ±10%
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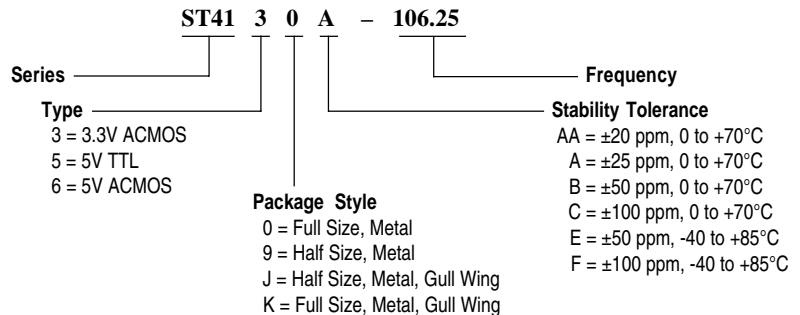
Supply Current:	50mA typ, 65mA, 35mA max @ 3.3V
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Output Drive:	Symmetry:	ACMOS	ACMOS	TTL	TTL
		32 to 60 MHz	60+ to 125 MHz	32 to 70 MHz	70+ to 125 MHz
	0 to +70°C:	45/55%	45/55%	45/55%	45/55%
	-40 to +85°C:	45/55%	40/60%	40/60%	40/60%
		(45/55% @ 3.3V)			
	Rise & Fall Times:	2ns max 20% to 80% V _{DD} or 1.5ns max 0.5 to 2.5V			
	Logic 0:	10% V _{DD} max or 20% V _{DD} max @ 3.3V			
	Logic 1:	80% V _{DD} min or 80% V _{DD} 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			

Mechanical:	Shock:	MIL-STD-883, Method 2002, Condition B
	Solderability:	MIL-STD-883, Method 2003
	Terminal Strength:	MIL-STD-202, Method 211, Conditions A & C
	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)

Environmental:	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

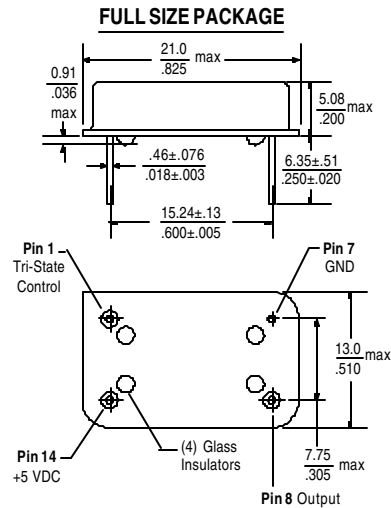


Example PN: ST4150A - 100.0000

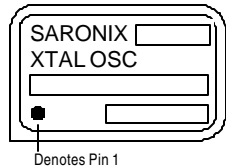
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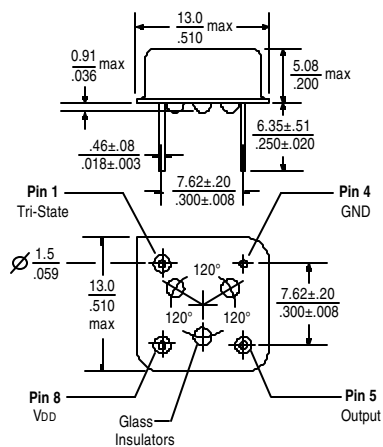
Package Details



Standard Marking Format **
Includes Date Code, Frequency & Model



HALF SIZE PACKAGE



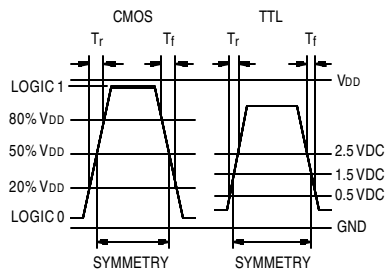
Standard Marking Format **
Includes Date Code, Frequency & Model



** Exact location of items may vary

Scale: None (Dimensions in mm/inches)

Output Waveform

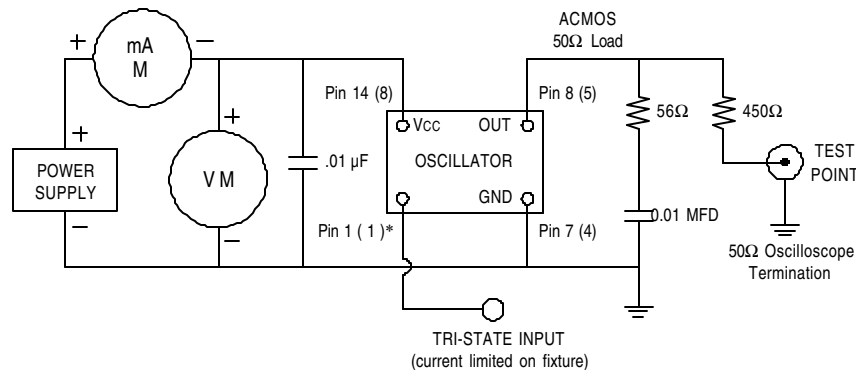


Tri-State Logic Table

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

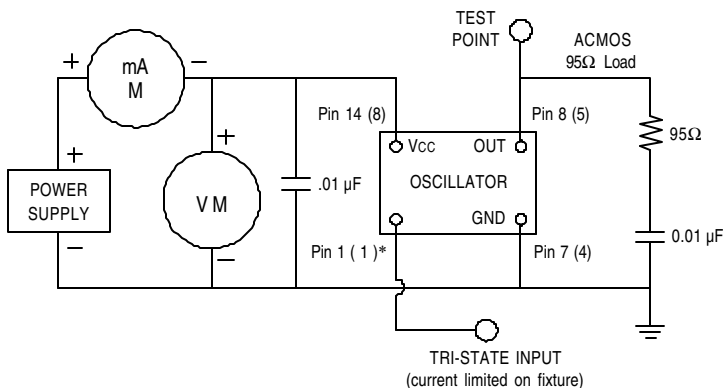
Required Input Levels on Pin 1:
Logic 1 = 2.0V min
Logic 0 = 0.8V max

Test Circuits



* () Indicates pin numbers for half-size package

50Ω AC MOS TEST CIRCUIT



* () Indicates pin numbers for half-size package

95Ω AC MOS TEST CIRCUIT

All specifications are subject to change without notice.