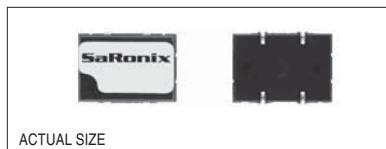


Technical Data

ST410H 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. Comes in industry standard plastic SMD package.

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 version
- Matches EIA standard SO-J-20 footprint
- High Drive AC MOS and HCMOS capability
- Tri-State output standard
- Short circuit protected output
- Also available in full & half-size ST4100 Metal Series, see separate data sheet
- See ST410R Series for same size equivalent substitute in more economical FR4 package
- Available on tape & reel; 24mm tape, 1000pcs per reel

Frequency Range:	32 MHz to 125 MHz
Frequency Stability:	±50 or ±100 ppm over all conditions of operating temperature, rated (input) supply voltage changes, load changes, calibration tolerance, aging*, shock and vibration. * 1 year @ +40°C Average Ambient Operating Temperature
Temperature Range:	
Operating:	0 to +70°C or -40 to +85°C
Storage:	-55 to +125°C
Supply Voltage:	
Recommended Operating:	+5V ±10% or 3.3V ±10%
Supply Current:	65mA max, 50mA typ @ 5V, 35mA max @ 3.3V
Output Drive:	
Symmetry:	45/55% (32 to 125MHz, 0 to +70°C) 45/55% (32 to 60MHz, -40 to +85°C) 45/55% (60+ to 125MHz, -40 to +85°C, 3.3V) 40/60% (60+ to 125MHz, -40 to +85°C, 5V)
Rise & Fall Times:	2ns max 20% to 80% VDD (ACMOS); 1.5ns max 0.5 to 2.5V (TTL)
Logic 0:	10% VDD max (5V); 20% VDD max (3.3V)
Logic 1:	80% VDD min
Load:	50Ω AC MOS (5V); 95Ω AC MOS (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

Tri-State Control Characteristics:

Oscillation (Pin 3):	$V_{IN} \geq 2.2V$ or Open (Pin 1)
High Impedance (Pin 3):	$V_{IN} \leq 0.8V$ or GND (Pin 1)
Internal Pullup Resistance:	50kΩ min
Disable Output Delay:	100nsec max

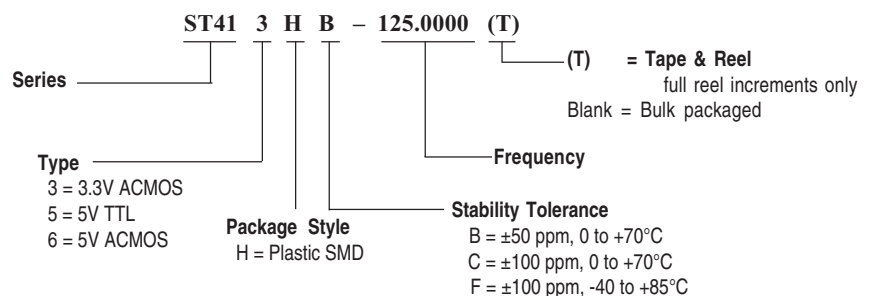
Mechanical:

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 I or J

Environmental:

Thermal Shock:	MIL-STD-883, Method 1011, Condition A
Moisture Resistance:	MIL-STD-883, Method 1004

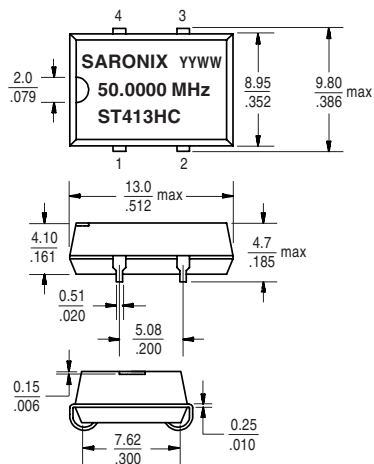
Part Numbering Guide



Technical Data

ST410H Series

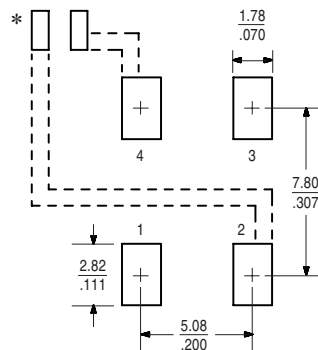
Package Details, Type H



Pin Function:

Pin 1: Tri-State Control (V_{IN}) Pin 3: Output
Pin 2: GND Pin 4: VDC

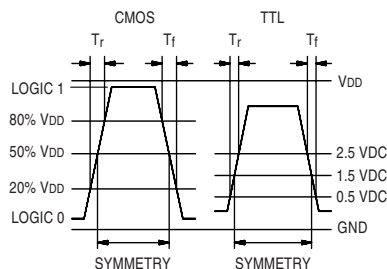
Recommended Land Pattern



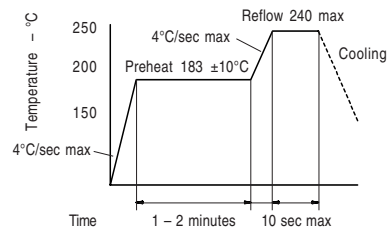
*External high frequency power supply decoupling required.

Scale: None (Dimensions in mm / inches)

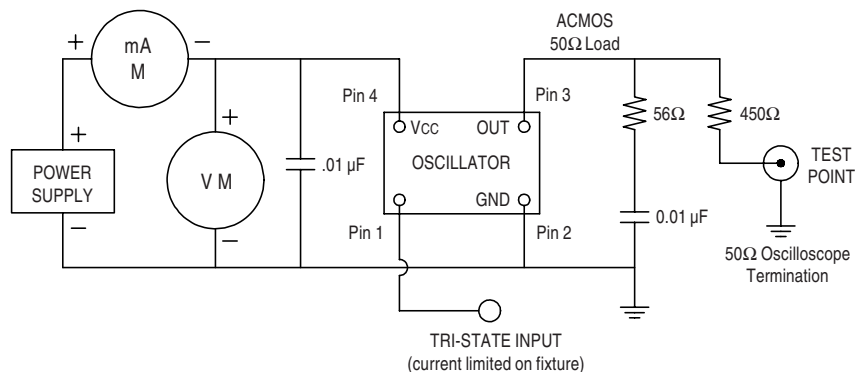
Output Waveform



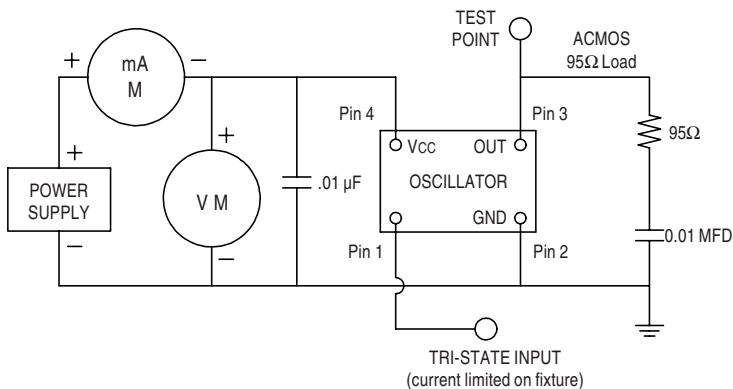
Solder Reflow Guide



Test Circuits



50Ω AC MOS TEST CIRCUIT



95Ω AC MOS TEST CIRCUIT

All specifications are subject to change without notice.

DS-184 REV D