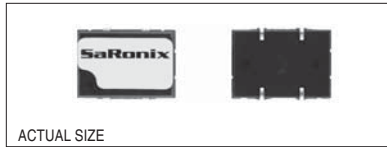


Technical Data

ST410H Series



Description

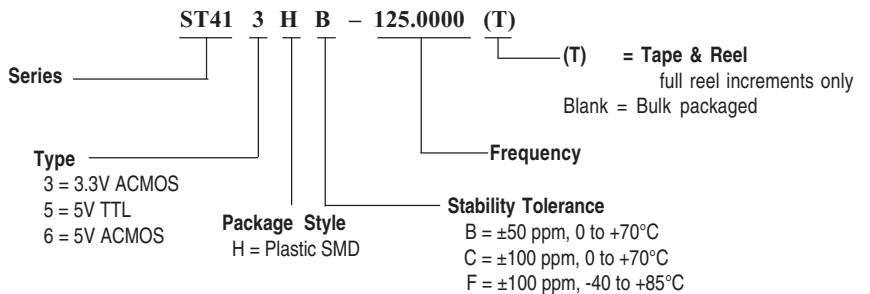
A crystal controlled, low-current oscillator providing precise rise and fall times to drive TTL compatible or HCMOS/ACMOS loads. The tri-state function enables the output to go high impedance. Comes in industry standard plastic SMD package.

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 ACMOS 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 ACMOS (5V); 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
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

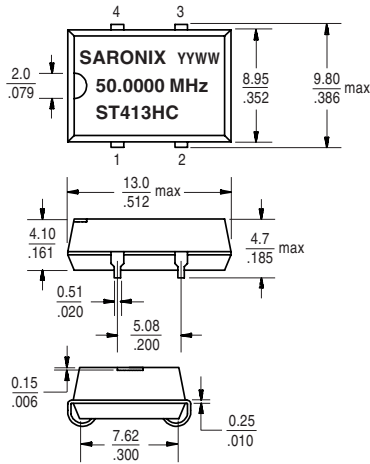
Part Numbering Guide



Technical Data

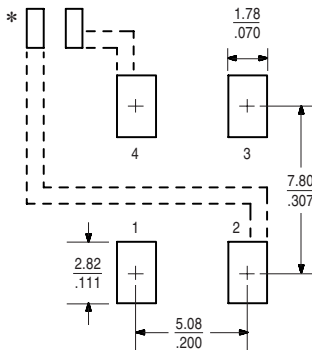
ST410H Series

Package Details, Type H



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

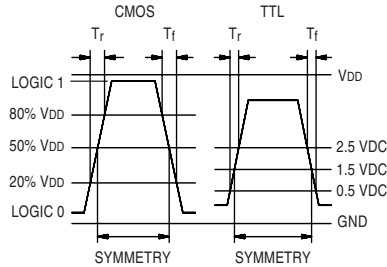
Recommended Land Pattern



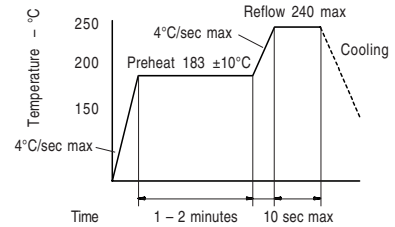
*External high frequency power supply decoupling required.

Scale: None (Dimensions in mm/inches)

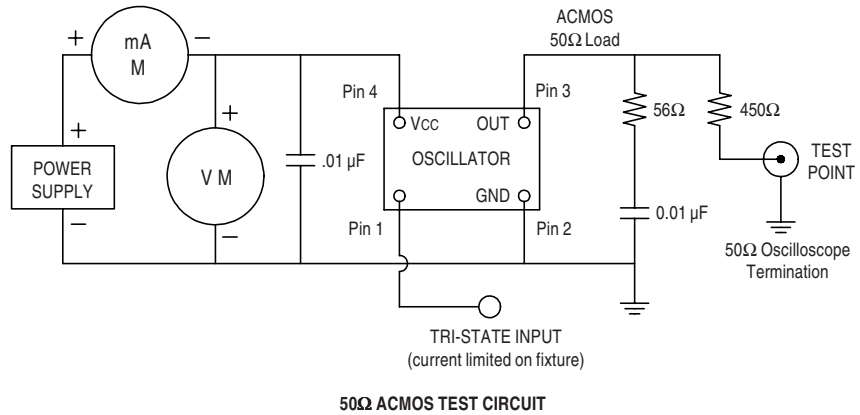
Output Waveform



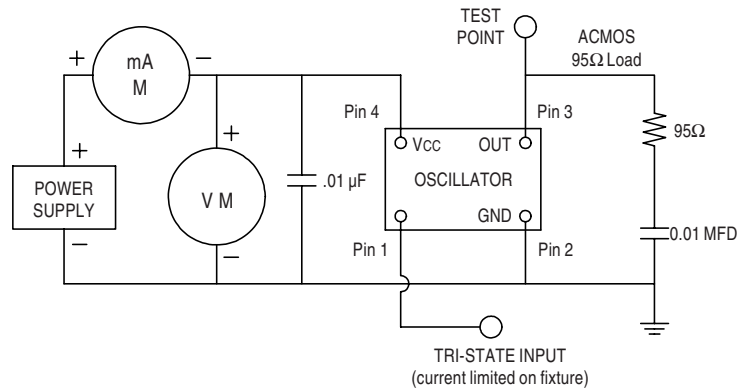
Solder Reflow Guide



Test Circuits



50Ω AC MOS TEST CIRCUIT



95Ω AC MOS TEST CIRCUIT

All specifications are subject to change without notice.