Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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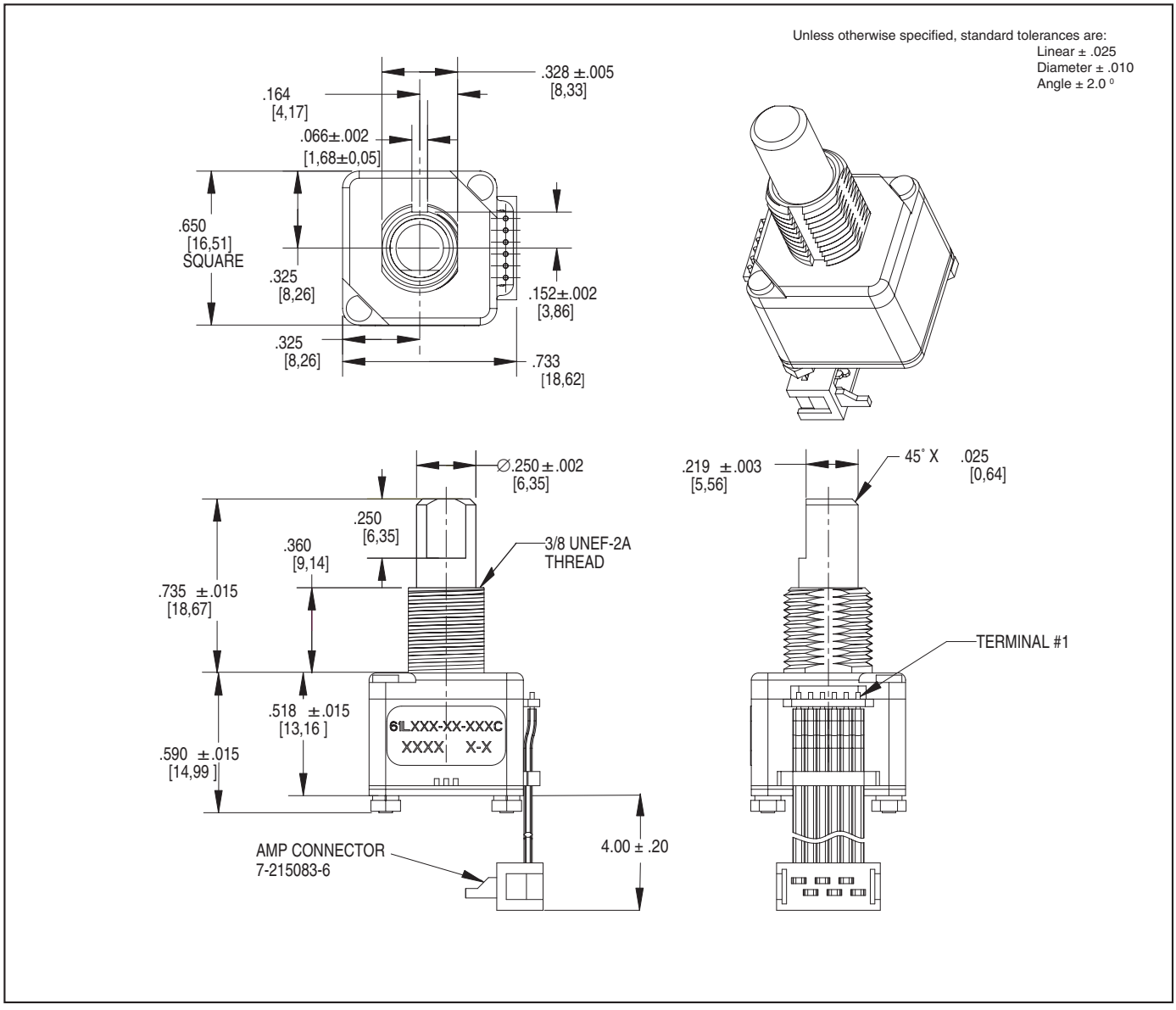
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

SERIES 61L
Full Quadrature Cycle Per Detent

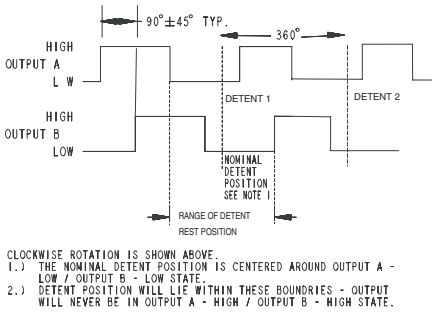
FEATURES
- .650 sq. inch package size
- Optically coupled for 1 million rotational cycles
- Optional integrated pushbutton
- Detented and non-detented versions available
- Available in 24 positions

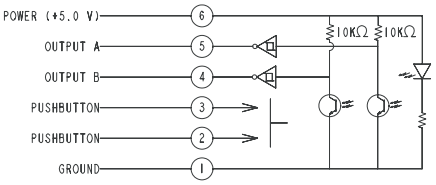
APPLICATIONS
- Medical Devices
- Test and Measurement Equipment
- Other Scroll and Select Applications

DIMENSIONS in inches (and millimeters)



CIRCUITRY, WAVEFORM AND TRUTH TABLE





NOMINAL CODE THROUGH ONE DETENT POSITION.

OUTPUT A	OUTPUT B
●	
●	●
	●

● Indicates logic high; blank indicates logic low. Code repeats every four cycles.

SPECIFICATIONS

Environmental Specifications

Operating Temperature Range: -40° C to 85° C
Storage Temperature Range: -55° C to 100° C
Humidity: 96 hours at 90-95% humidity at 40° C
Mechanical Vibration: Harmonic motion with amplitude of 15g, within a varied frequency of 10 to 2000 Hz
Mechanical Shock:
Test 1: 100g for 6 ms half-sine wave with a velocity change of 12.3 ft/sec
Test 2: 100g for 6 ms sawtooth wave with a velocity change of 9.7 ft/sec

Rotary Electrical and Mechanical Specifications

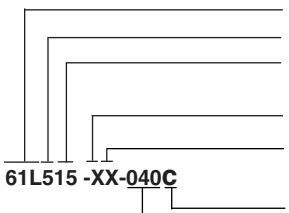
Operating Voltage: 5.00±.25Vdc
Supply Current: 30 mA maximum at 5Vdc
Output Code: Two-bit quadrature, channel A leads channel B by 90° electrically during clockwise rotation of the shaft.
Logic Output Characteristics:
Logic high signal shall be no less than 3.8 Vdc
Logic low signal shall be no greater than 0.8 Vdc
Minimum Sink Current: 2.0 mA
Power Consumption: 150 mW maximum
Mechanical Life: 1 million cycles of operation for Medium, Low and Non-Detent. 1/2 million cycles of operation for High. One cycle is a rotation through all positions and a full return.
Average Rotational Torque: H= 6.0 ± 2.6 in-oz, M= 2.7 ± 1.8 in-oz, L= 1.4 ± 0.8 in-oz, N= <0.50 in-oz. Torque shall be within 50% of inital value throughout life.
Mounting Torque: 15 in-oz maximum
Shaft Push-Out Force: 45 lbs minimum
Shaft Pull-Out Force: 45 lbs minimum
Terminal Strength: 15 lbs minimum terminal pull-out force for cable or header termination
Solderability: 95% free of pinholes and voids

Pushbutton Electrical and Mechanical Specifications

Rating: 50 mA at 12 Vdc
Contact Resistance: <10Ω
Life: 1/2 million actuations minimum
Contact Bounce: <4 ms make, <10 ms break
Actuation Force:510 ±150 grams
Shaft Travel: .025 ± .015 inch

Materials and Finishes

Bushing: Zinc
Shaft: Aluminum
Retaining Ring: Stainless Steel
Detent Spring: Music Wire
Detent Ball: High Carbon Chrome, Nickel finish
Code Housing: Polyamide Polymer, Hiloy 610
Aperture: Stainless Steel
Detent: Polyamide Polymer, Hiloy 610
Rotor Hub: Polyamide Polymer, Hiloy 610
Code Rotor: Stainless Steel
Printed Circuit Boards: Nema Grade FR4, Double Clad with Copper, Plated with Gold over Nickel
Infrared Light Emitting Diode Chips: Gallium Aluminum Arsenide
Silicon Phototransistor Chips: Gold and Aluminum Alloys
Resistor: Metal Oxide on Ceramic Substrate
Solder Pins: Brass, Plated with Tin
Tact Switch: Cover - Stainless Steel, contact Disc - Phosphor Bronze with silver cladding, terminal - brass with silver cladding, base - UL94V-0 Nylon 19: High Temp
Back Plate: Stainless Steel
Spacer: Nomex Type 410
Cable: Copper Standard with Topcoat in PVC Insulation
Connector: Glass filled Polyester, Tin/Nickel Phosphor Bronze
Label: TT406 Thermal Transfer Cast Film
Solder: 96.5% tin / 3% silver / 0.5% copper, no clean
Lubricating Grease: NYE Nyogel 774L
Studs: Stainless Steel
Lockwasher: Stainless Steel
Hex Nuts: Stainless Steel



Series
Operating Voltage: 5 = 5 Volts
Angle of Throw: 15 = 15° for complete quadrature cycle change and 24 detent positions
Rotational Torque: N = Non-Detent, H=High Torque, M=Medium Torque, L=Low Torque
Pushbutton Option: 0=Non-Pushbutton, 5=510 grams
Termination: C = .050 Center ribbon Cable with connector
Cable Termination: 040=4.0 inches. Cable is terminated with Amp Connector P/N7-215083-6. See Amp Mateability Guide for Mating Connector details.