



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!



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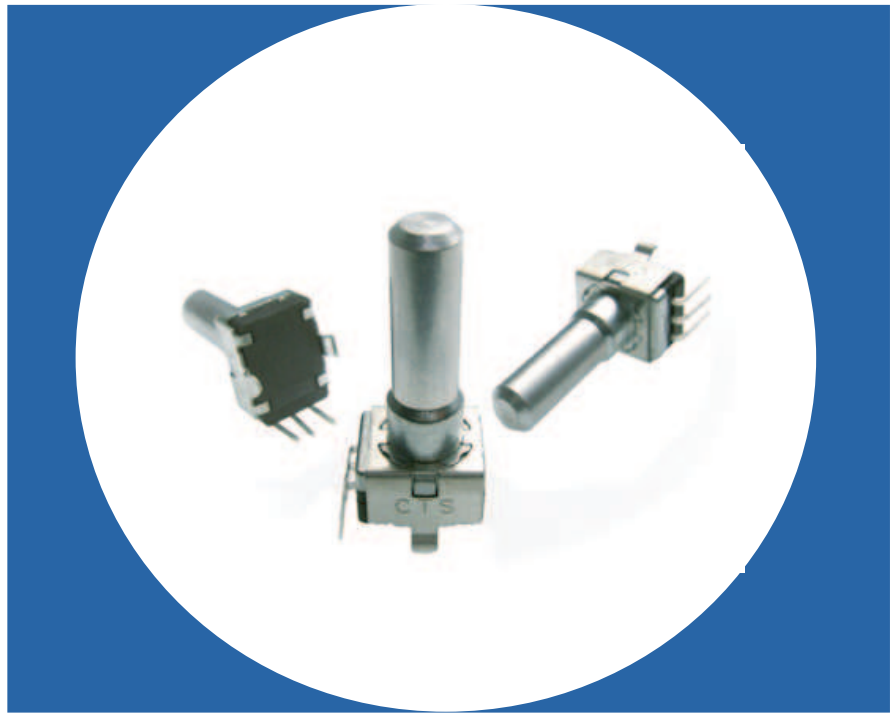
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Commercial Miniature 9mm Encoders

Features

- Miniature 9mm style
- 2 bit quadrature (Graycode)
- Optional momentary switch
- Continuous rotation
- Durable metal shaft
- Available with 16 or 20 detents
- RoHS compliant



Electrical and Mechanical Specifications

Encoder Ratings :

Contact Resistance
1 Ω maximum

Voltage Rating (each channel)
12 VDC @ 10 mA maximum.
5 VDC @ 1 mA minimum.

Phase Difference (FIG.1)
T1,T2,T3,T4 —2 milliseconds min for 20 pulse encoder.
- 8 milliseconds min for 8 pulse encoder.

Contact Bounce / Chatter (FIG.3)
t1, t2, t3 - 3 milliseconds max.

Detent Points
16 or 20 detents available

Rotational Life
50,000 cycles

Resolution
8 or 20 pulses in 360°

Insulation Resistance
100 megohms between all terminals &
bushing at 250 VDC

Temperature Ratings
Operation: - 30°C to +70°C

Solderability

Flux for 5 - 10 sec., then dip into a
solder bath at 260 \pm 5°C for 3 sec.

Pull and Thrust on Shaft

Withstand a pushing or pulling force of
10 kg-f static load applied in axial direction
for 10 \pm 1 sec. without physical damage or
electrical degradation.

Momentary SPST Switch Ratings :

Switch Contact Resistance
100 m Ω maximum initial, 200m Ω after life cycles

Switch Rating
16 VDC @ 10mA min. to 0.5A max.

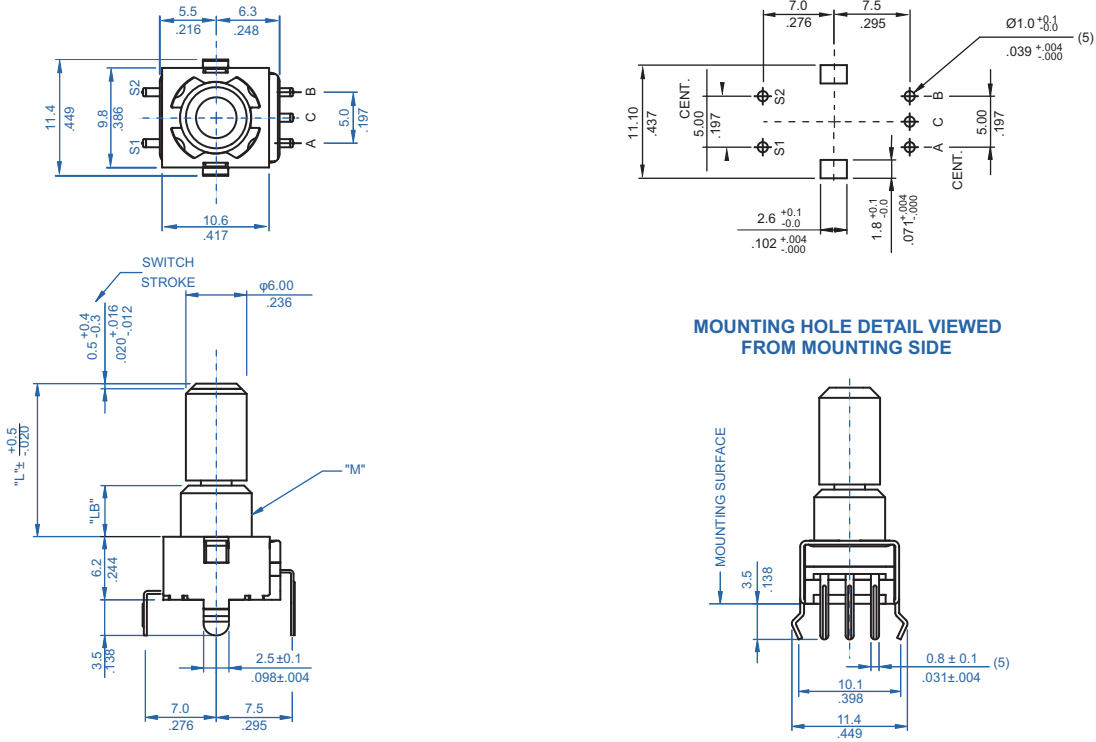
Switch Bounce
5 milliseconds maximum

Switch Operating Force
600 \pm 300 grams (21 \pm 11oz) for 0.5mm (.020") travel

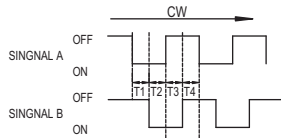
Switch Life
100,000 operations for 0.5mm (.020") travel

Switch Travel
0.5mm (.020")

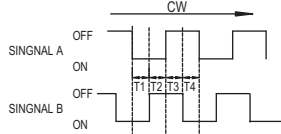
TYPE MC-290V Typical 2-Bit Encoder With Momentary Switch, Shaft Perpendicular to PC Board



20 PPR OUTPUT SIGNAL (FIG.1.1)

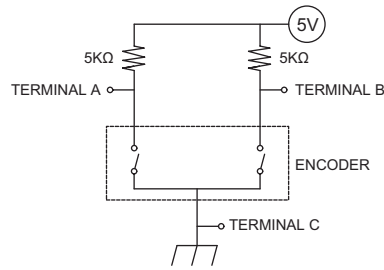


8 PPR OUTPUT SIGNAL (FIG.1.2)

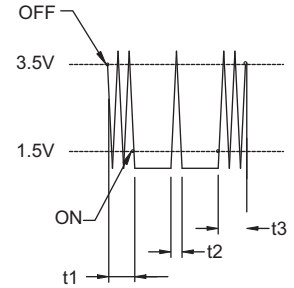


PHASE DIFFERENCE

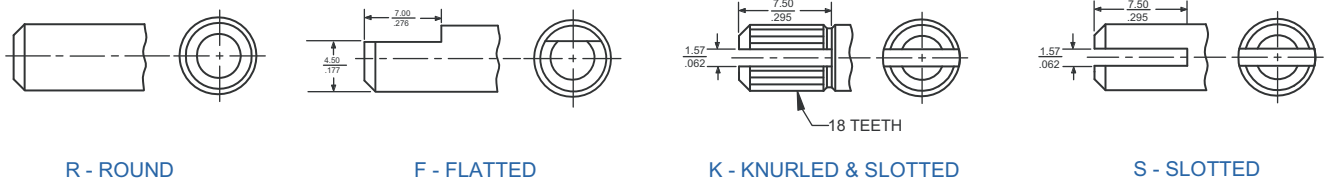
TYPICAL CIRCUIT (FIG.2)



BOUNCE / CHATTER (FIG.3)

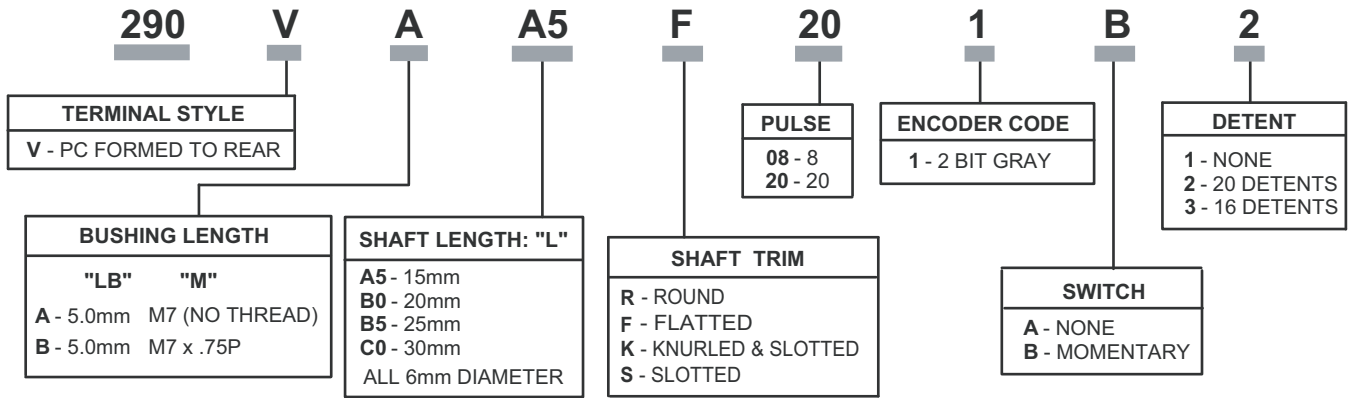


Shaft Trim



DIMENSION: mm / inch

Ordering Information



Output Combinations :
 8 PPR with 0 or 16 Detents
 20 PPR with 0 or 20 Detents

Consult CTS for other available options not listed