# CTS

# Series 290 Encoder Technical Data

## Commercial Miniature Encoder

- 2 bit quadrature (Gray code)
- Momentary SPST switch optional
- Durable metal shaft
- 9mm Body



## **Electrical and Mechanical Specifications**

## **Encoder Ratings**:

#### **Contact Resistance**

1  $\Omega$  maximum

## **Voltage Rating (each channel)**

12 VDC @ 10 mA maximum. 5 VDC @ 1 mA minimum.

## Phase Difference (FIG.1)

 $T_1, T_2, T_3, T_4$ —5 milliseconds min. at 60 rpm CW/CCW

## Contact Bounce / Chatter (FIG.3)

 $t_1,t_2,t_3-3$  milliseconds max. at 60 rpm CW/CCW

## **Rotational Torque**

10 to 120 g-cm

#### **Rotational Life**

50,000 cycles

#### Resolution

20 pulses in 360°

## Momentary SPST Switch Ratings:

#### **Contact Resistance**

100 m $\Omega$  maximum

### **Voltage Rating**

16 VDC @ 0.5A max. @ 10 mA min.

#### **Switch Bounce**

5 milliseconds maximum

#### **Switch Operating Force**

 $600 \pm 300$  grams for 0.5 mm travel

#### **Switch Life**

100,000 operations for 0.5 mm travel

### **Switch Travel**

0.5 mm

## General Ratings:

## **Temperature Ratings**

Storage:  $-40^{\circ}$ C to  $+85^{\circ}$ C Operation:  $-30^{\circ}$ C to  $+70^{\circ}$ C

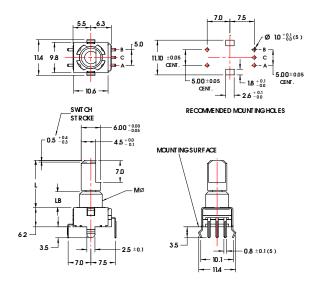
## **Solderability**

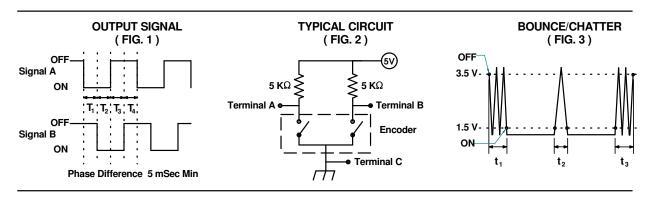
Flux for 5-10 sec., then dip into a Solder bath at  $300 \pm 5$  °C for 3 sec.

#### **Pull and Thrust on Shaft**

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

## Mechanical Layout ( all dimensions in mm )





## 290 SERIES PART NUMBERING

