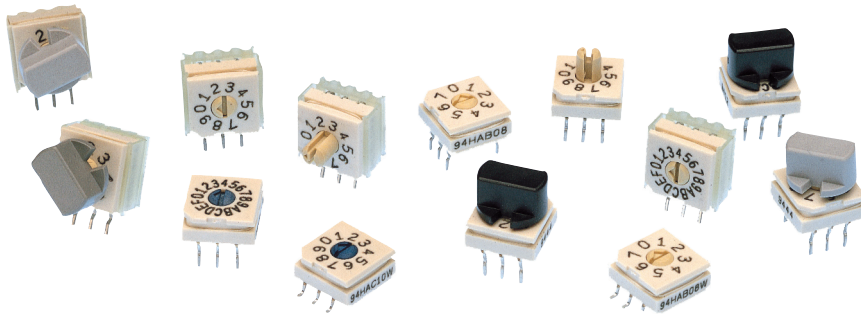


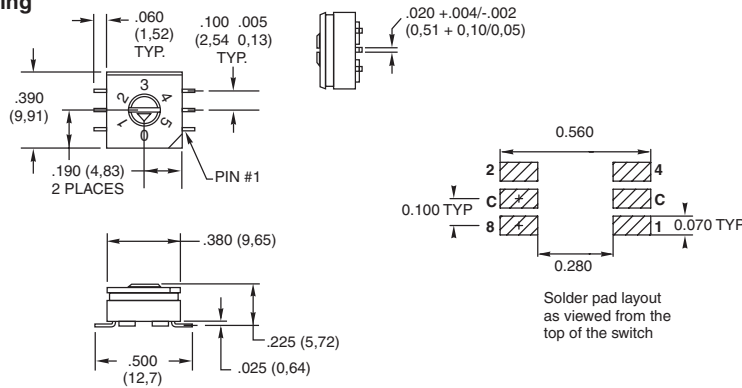
## SERIES 94H Binary Coded



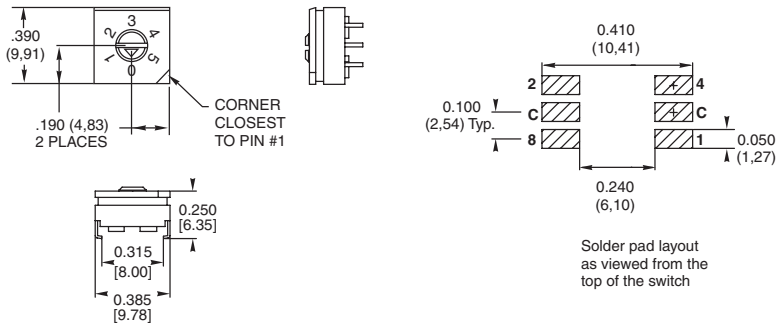
### DIMENSIONS in inches (and millimeters)

Tolerances are  $\pm .010$  inches unless specified otherwise.

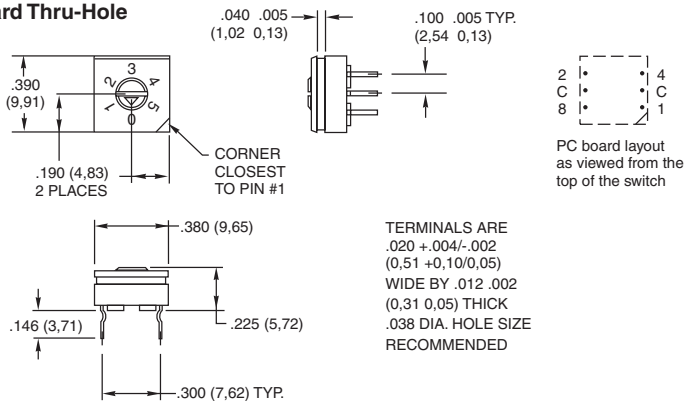
#### Surface Mount Gullwing



#### Surface Mount J-Lead



#### Standard Thru-Hole



### FEATURES

- Sealed Construction; No Tape Seal Required
- Surface Mount or Thru-Hole Style
- Tube or Tape and Reel Packaging
- Octal, BCD, and Hexadecimal Code
- In Standard or Complement
- Standard and Right Angle Mount
- Flush or Extended Actuators
- Gold-Plated Contacts
- RoHS Compliant

### ACTUATOR STYLES



Octal-8 position



BCD-10 position



Hex-16 position



Figure 2  
"F" style rotor

Figure 1  
"A" style rotor

All actuation types are available in octal (8), binary coded decimal (10), or hexadecimal (16) codes; with either standard or complement output. Standard code outputs have natural color rotors; complements in a contrasting color.

### EXTENDED ACTUATOR TYPES

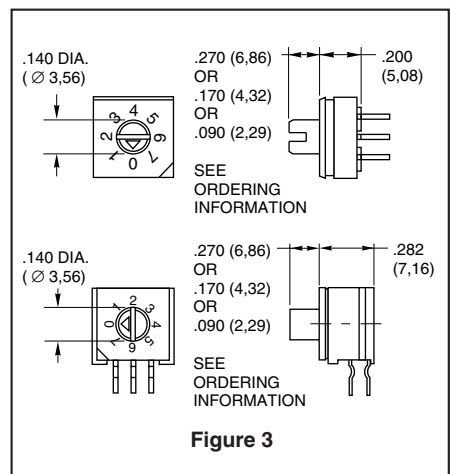
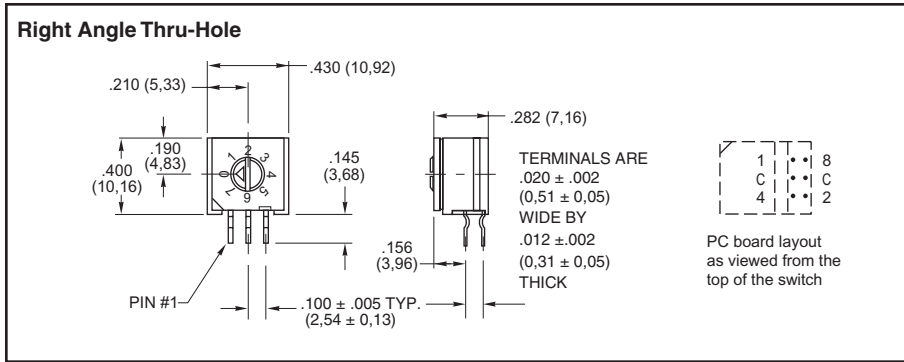
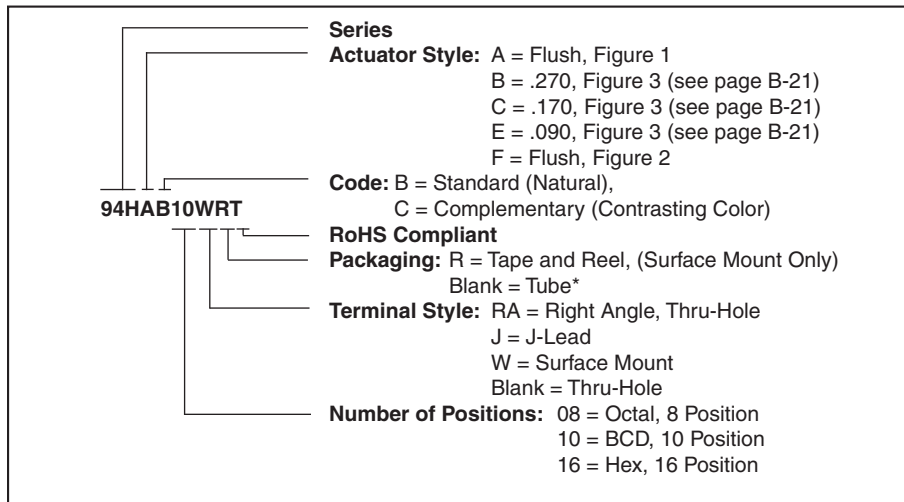


Figure 3

## DIMENSIONS in inches (and millimeters)

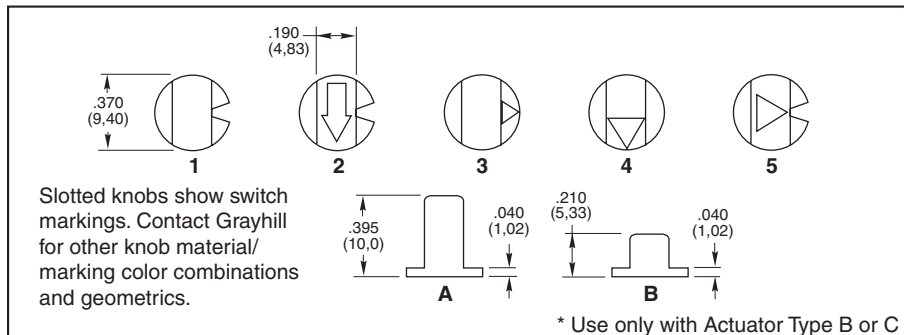


## ORDERING INFORMATION: Series 94H



\* 27 Pieces per tube for surface mount and thru-hole, 24 pieces per tube for right angle switches.

## SERIES 94 High Temperature Knobs: For Shaft Extensions

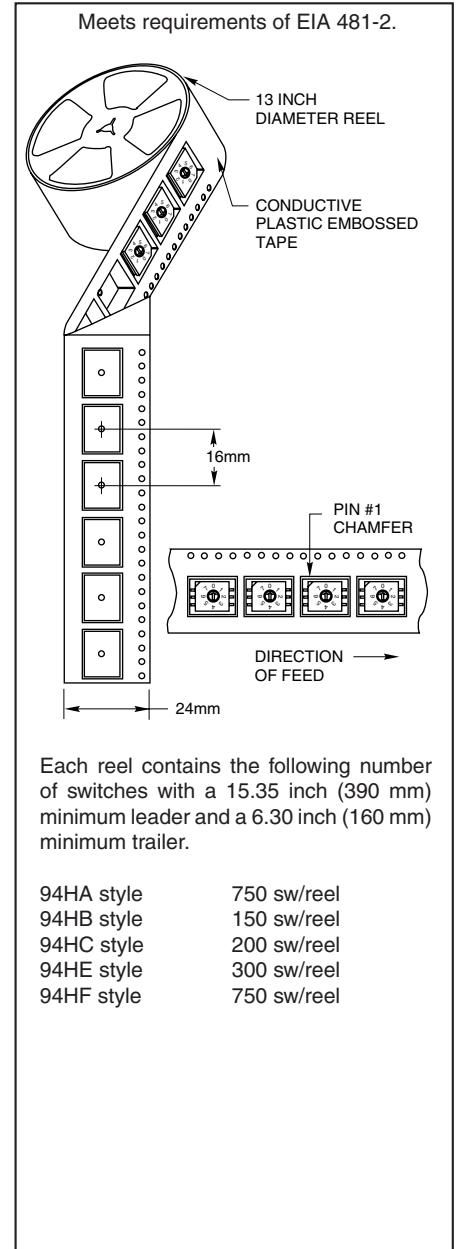


## ORDERING INFORMATION: Series 94 High Temperature Knobs\*

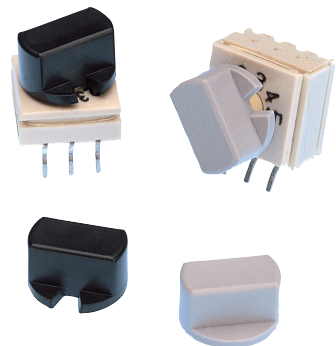
Knob Style and Height	Knob Color	Arrow Color	Part Number
1A	Gray	N/A	947706-001
5A	Gray	Black	947706-005
1B	Black	N/A	947705-001
1B	Gray	N/A	947705-012
2B	Gray	White	947705-004
3B	Gray	Black	947705-017
4B	Gray	Black	947705-018
1B	Natural	N/A	947705-009
4B	Black	White	947705-010
5B	Gray	Black	947705-019

\*Ordered as a separate item. B = Standard (Natural), C = Complementary (Contrasting Color).

## TAPE AND REEL PACKAGING: Series 94H



94HA style	750 sw/reel
94HB style	150 sw/reel
94HC style	200 sw/reel
94HE style	300 sw/reel
94HF style	750 sw/reel



**Available from your local Grayhill Distributor.**  
 For prices and discounts, contact a local Sales Office, an authorized Distributor or Grayhill.

## SPECIFICATIONS

### Electrical Ratings

**Make-and-break Current Rating:** 30 mA at 30 Vdc for 10,000 cycles of operation.

**Carrying Current Rating:** 100 mA at 50 Vdc

**Contact Resistance:** 50 mohms maximum initially (measured at 10 mA, 50 mVdc). 150 mohms maximum after life.

**Insulation Resistance:**(measured at 100 Vdc across open switch contacts)

Initial: 5000 Mohms minimum. After Life: 1000 Mohms minimum.

**Dielectric Strength:** (measured across open switch contacts) Initial: 500 Vac RMS minimum. After Life: 250 Vac RMS

### Mechanical Ratings

**Mechanical Life:** 10,000 cycles of operation. One cycle is a rotation through all positions and a complete return through all positions.

**Mechanical Shock:** 1000g's, 0.5mS, half sine per MIL-STD-202F, Method 213, Test Condition E.

**Vibration Resistance:** 10-2000 Hz at 15G or 0.060" double amplitude per MIL-STD-202F, Method 204, Test Condition B.

**Operational Torque:** 2 to 6 inch-ounces initially and 1.2 inch-ounces minimum after life.

### Environmental Ratings

**Operating Temperature Range:** -40° to +85°C.

**Storage Temperature Range:** -40° to +85°C.

**Moisture Resistance:** 240 hours with temperature cycling and polarization. Passes insulation resistance and dielectric strength per MIL-STD-202F, Method 106 following exposure.

### Materials and Finishes

**Rotor and Switch Body:** Plastic (UL94V-O)

**Contact Material:** Copper alloy plated. 30 microinches minimum gold over 50 microinches minimum nickel.

**Shorting Member:** Copper alloy plated. 30 microinches minimum gold over 50 microinches minimum nickel.

**Terminals:** Copper alloy, matte tin plated over nickel barrier.

**Internal O-ring:** Rubber BUNA-N

### Soldering Information

\*For the most current soldering & cleaning processing guidelines, reference Grayhill Dip Switch Processing Information, Bulletin 1234

**Soldering Temperature:** 260° C maximum.  
**Cleaning:** Acceptable solutions include 1-1-1 Trichlorethane, Freon (TF, TE, or TMS), Isopropyl Alcohol and detergent (140°F maximum). Solutions which are not recommended include Acetone, Methylene Chloride, and Freon TMC.

## CODE & TRUTH TABLES

All switches are continuous rotation.

Dot indicates terminal to common connection.

Octal and Octal Complement outputs are 0 thru 7 positions.

BCD and BCD Complement outputs are 0 thru 9 positions.

Hexadecimal and Hexadecimal Complement outputs are 0 thru F positions.

Standard codes have natural color rotors. Complements have rotors in a contrasting color.

		Standard Output				Complement Output			
		CODE OUTPUT				CODE OUTPUT			
		1	2	4	8	1	2	4	8
SWITCH POSITION	0					●	●	●	●
	1	●					●	●	●
	2		●			●		●	●
	3	●	●				●	●	●
	4			●		●	●		●
	5	●		●			●		●
	6		●	●		●		●	●
	7	●	●	●					●
	8				●	●	●	●	
	9	●			●		●	●	
	A		●	●		●	●		
	B	●	●	●				●	
	C			●	●	●	●		
	D	●		●	●		●		
	E		●	●	●	●			
	F	●	●	●	●				