



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

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

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



# IR series

Sealed pushbutton switches •  
bushing Ø 16 mm • latching



## DISTINCTIVE FEATURES

Latching action models

Sealed to IP67

Illuminated or non-illuminated

Flat round actuator for optional marking



## ENVIRONMENTAL SPECIFICATIONS

- Front panel sealing : IP67 according to IEC 60529
- Shock resistance : 100 g according to IEC 512-4, test 6c
- Vibration resistance : 10-500Hz - 10 g according to IEC 512-4, test 6d
- Salt spray : IEC 512-6, test 11f
- Operating temperature : -40 °C to +85 °C (-40 °F to +185 °F)



## ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load (gold plated contacts) :
  - Code 4 : 100 mA 24V DC, 200,000 cycles
  - Code 7 : 4 A 12 VDC, 200,000 cycles
  - 1 A 48 VDC, 200,000 cycles
  - 3 A 48 VDC, 75,000 cycles
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1 GΩ min. at 500 VDC
- Dielectric strength : 1,500 Vrms between terminals



### LED COMPONENT SPECIFICATIONS

LED color	Forward current	Typ. forward voltage	Max. forward voltage
Super red (0S)	20 mA	1.95 V	1.95 V
Yellow (0Y)	20 mA	2 V	2.05 V
Green (0G)	20 mA	2.1 V	2.5 V
Blue (0B)	20 mA	3.2 V	4 V

A resistor must be series-connected by the user.  
Resistor value =  $\frac{\text{supply voltage} - \text{LED forward voltage}}{\text{LED forward current}}$

On flying lead versions, the LED resistor  
can be integrated by APEM on request.

The company reserves the right to change specifications without notice.

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## GENERAL SPECIFICATIONS

- Panel thickness : 8 mm (.314) max.
- Total travel : 2.5 mm (.098) ± 0.3 mm
- Typical operating force : 5 N ± 2 N
- Low level or mechanical life : 200,000 cycles
- Torque : 0.8 Nm max. applied to nut
- Soldering : 320 °C (608 °F) max. for 3 sec.

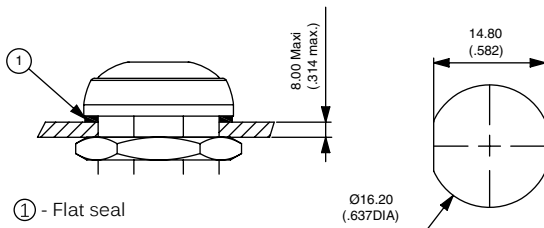
## MATERIALS

- Case : thermoplastic UL94-V0
- Plunger : polyamide
- Bushing/bezel : polyamide
- Contacts : silver, gold plated (codes 4 and 7)
- Multi-wire leads AWG20, section 0.6 mm<sup>2</sup>
- LED wire : AWG26, section 0.12 mm<sup>2</sup>
- Lens : polycarbonate
- Terminal seal : epoxy

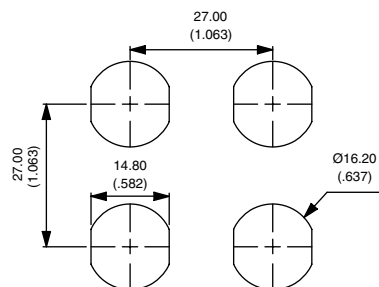
APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

## MOUNTING

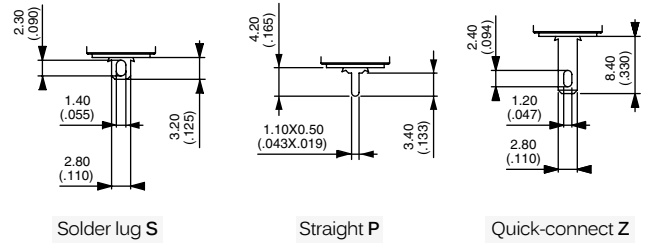
### PANEL CUT-OUT



### MATRIX MOUNTING

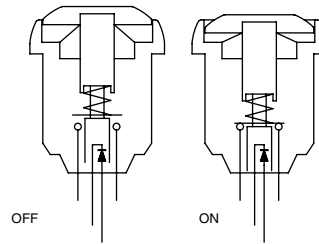


## TERMINALS

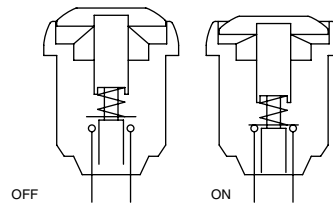


## ELECTRICAL FUNCTIONS

### ILLUMINATED MODELS



### NON-ILLUMINATED MODELS

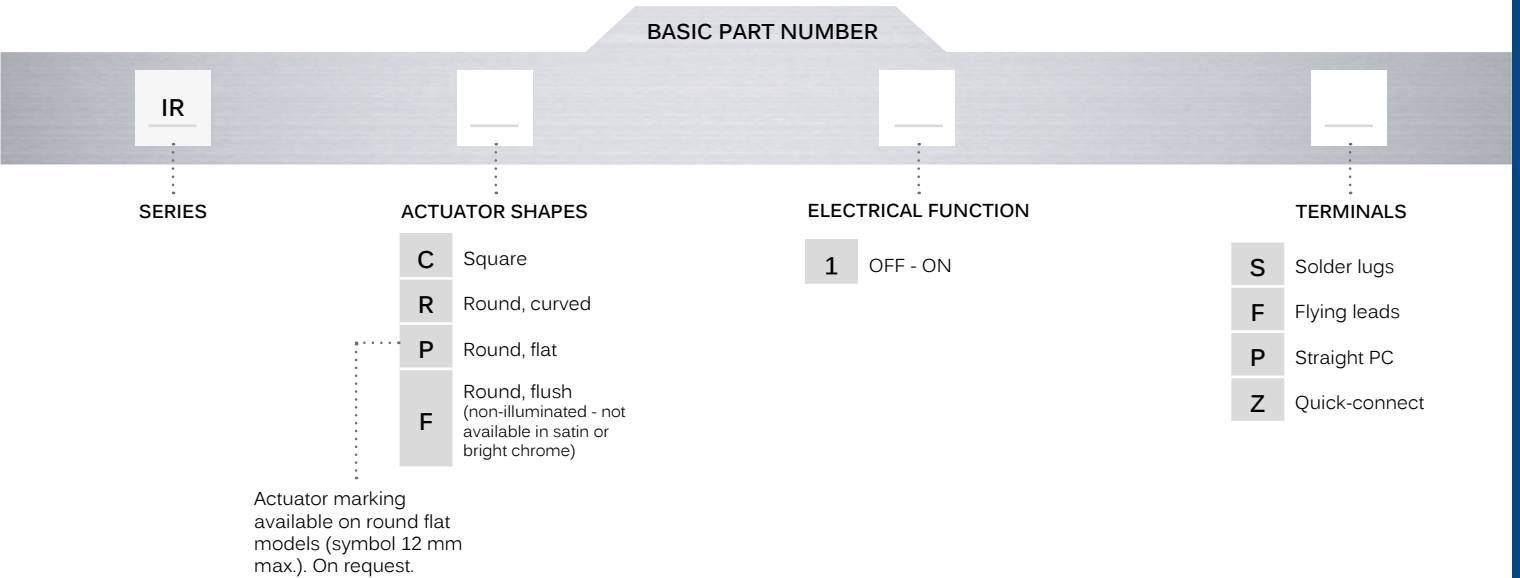


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## BUILD YOUR PART NUMBER



## ABOUT THIS SERIES

On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.

- Notice** : please note that not all combinations of above numbers are available. Refer to the following pages for further information.
- A sealing boot** is available to protect the switches against frost and sand (P/N U7125). Round models only. See "Sealing Boots" section of website.
- Mounting accessories** : Standard hardware supplied : 1 hex nut 19 mm (.748) across flats and 1 flat seal. Hex nut P/N U6715.

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## ROUND - ILLUMINATED SOLDER LUG TERMINALS



- Curved actuator
  - IRR1S** OFF - ON
- Flat actuator
  - IRP1S** OFF - ON

Also available with straight PC terminals : **IR•1P**  
& quick-connect terminals : **IR•1Z**.

## ROUND - ILLUMINATED FLYING LEAD TERMINALS



- Curved actuator
  - IRR1F** OFF - ON
- Flat actuator
  - IRP1F** OFF - ON

Wire colors : black : contact, red : LED anode (+), blue : LED cathode (-)

## ROUND - NON-ILLUMINATED SOLDER LUG TERMINALS



- Curved actuator
  - IRR1S** OFF - ON
- Flat actuator
  - IRP1S** OFF - ON

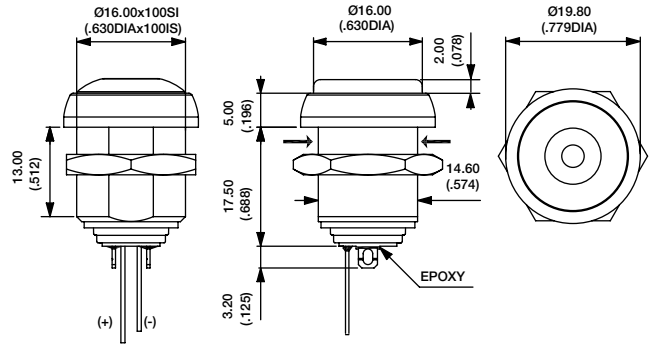
Also available with straight PC terminals : **IR•1P**  
& quick-connect terminals : **IR•1Z**.

## ROUND - NON-ILLUMINATED FLYING LEAD TERMINALS

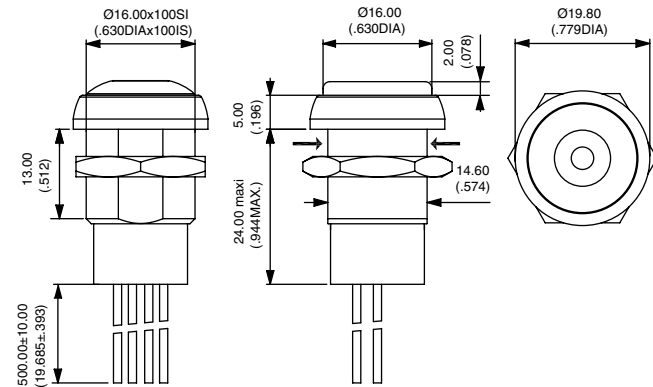


- Curved actuator
  - IRR1F** OFF - ON
- Flat actuator
  - IRP1F** OFF - ON

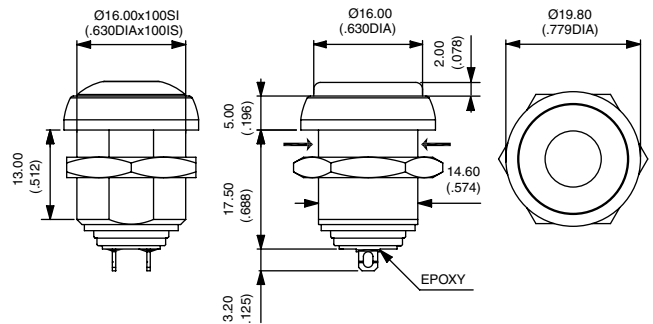
→ FLAT



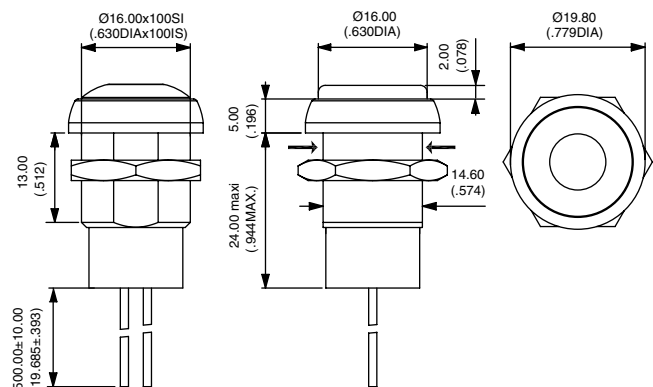
→ FLAT



→ FLAT



→ FLAT



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## SQUARE - ILLUMINATED SOLDER LUG TERMINALS



Curved actuator

**IRC1S**

OFF - ON

Also available with straight PC terminals : **IR•1P**  
& quick-connect terminals : **IR•1Z**.

## SQUARE - ILLUMINATED FLYING LEAD TERMINALS



Curved actuator

**IRC1F**

OFF - ON

Wire colors : black : contact, red : LED anode(+), blue : LED cathode (-)

## SQUARE - NON-ILLUMINATED SOLDER LUG TERMINALS



Curved actuator

**IRC1S**

OFF - ON

Also available with straight PC terminals : **IRC1P4**  
& quick-connect terminals : **IRC1Z4**.

## SQUARE - NON-ILLUMINATED FLYING LEAD TERMINALS

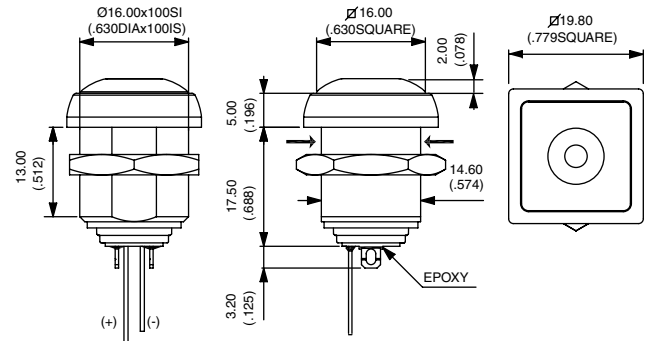


Curved actuator

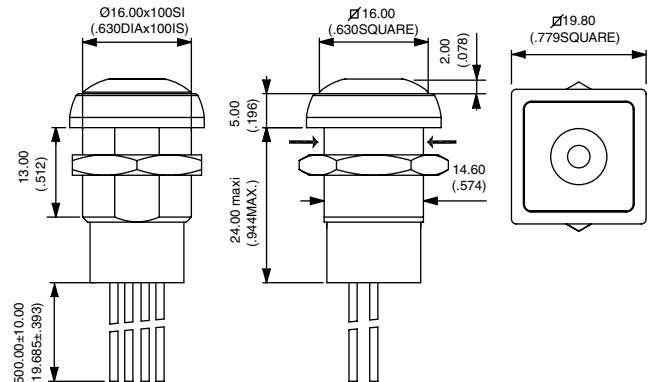
**IRC1F**

OFF - ON

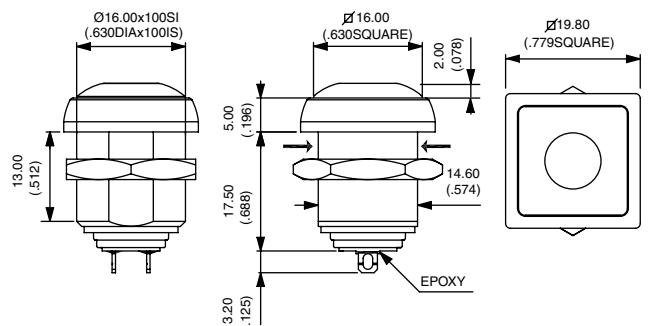
→ FLAT



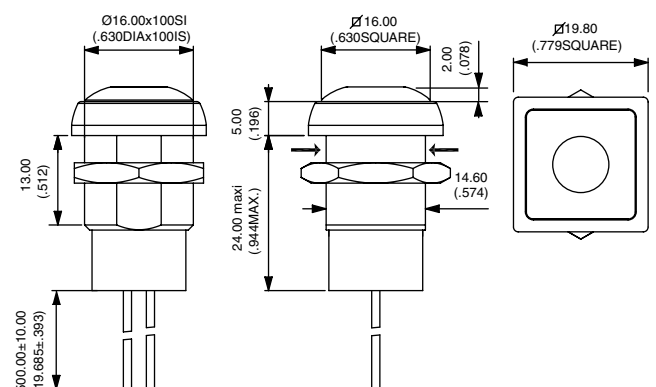
→ FLAT



→ FLAT



→ FLAT



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## ACTUATOR COLORS



- 1 Blue
- B Dark blue
- 2 Black
- 3 Green
- 4 Grey
- 5 Yellow
- 6 Red
- 7 White
- 8 Bright chrome
- 9 Orange
- A Satin chrome

## BUSHING AND BEZEL



- 0 Transparent (round bezel only)
- 2 Black (standard)
- 7 White

## ILLUMINATION



- Blank Non-illuminated
- L Central lens
- B Bezel (round only)

## LED COLORS



- Blank Non-illuminated
- 05 Super red
- 0Y Yellow
- 0G Green
- 0B Blue