



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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# General Specifications

Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

## B Electrical Capacity (Resistive Load)

**Logic Level:** 0.4VA maximum @ 28V AC/DC maximum  
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)  
Note: Find additional explanation of operating range in Supplement section.

## Other Ratings

**Contact Resistance:** 80 milliohms maximum  
**Insulation Resistance:** 500 megohms minimum @ 500V DC  
**Dielectric Strength:** 500V AC minimum for 1 minute minimum  
**Mechanical Life:** 50,000 operations minimum  
**Electrical Life:** 50,000 operations minimum  
**Nominal Operating Force:** 1.0N  
**Angle of Throw:** 28°

## Materials & Finishes

**Actuator:** Polycarbonate resin (UL94V-0)  
**Case:** Glass fiber reinforced polyamide (UL94V-0)  
**Sealing Ring:** Nitrile butadiene rubber  
**Base:** Glass fiber reinforced polyamide  
**Movable Contact:** Phosphor bronze with gold plating  
**Stationary Contact:** Phosphor bronze with gold plating  
**Terminals:** Phosphor bronze with gold plating

## Environmental Data

**Operating Temperature Range:** -25°C through +55°C (-13°F through +131°F)  
**Humidity:** 90 ~ 95% humidity for 240 hours @ 40°C (104°F)  
**Vibration:** 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 5 minutes; 3 right angled directions for 2 hours  
**Shock:** 50G (490m/s<sup>2</sup>) acceleration (tested in 3 right angled directions, with 5 shocks in each direction)

## PCB Processing

**Soldering:** Wave Soldering recommended. See Profile A in Supplement section.  
Manual Soldering: See Profile A in Supplement section.  
**Cleaning:** These devices are not process sealed. Hand clean locally using alcohol based solution.

## Standards & Certifications

**Flammability Standard:** UL94V-0 actuator & case

The GW Series illuminated paddles have not been tested for UL recognition or CSA certification. These switches are designed for use in a low-voltage, low-current, logic-level circuit. When used as intended in a logic-level circuit, the results do not produce hazardous energy.

# Distinctive Characteristics

World's smallest fully illuminated paddles (patent pending) for highly visible status indication; LEDs available in red, green, or amber for single color and red/green for bicolor.

Specially designed switching mechanism provides crisp actuation feedback to positively indicate circuit transfer (patent pending).

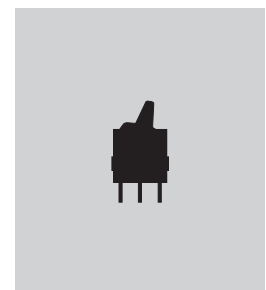
Insert molded terminals prevent entry of flux and other contaminants.

Award-winning STC contact mechanism with benefits unavailable in conventional mechanisms: smoother, positive detent actuation, increased contact stability, and unparalleled logic-level reliability. (Additional STC details in Terms & Acronyms; see Supplement section.)

.100" x .100" (2.54mm x 2.54mm) terminal spacing conforms to standard PC board grid spacing for straight and angle mounting.

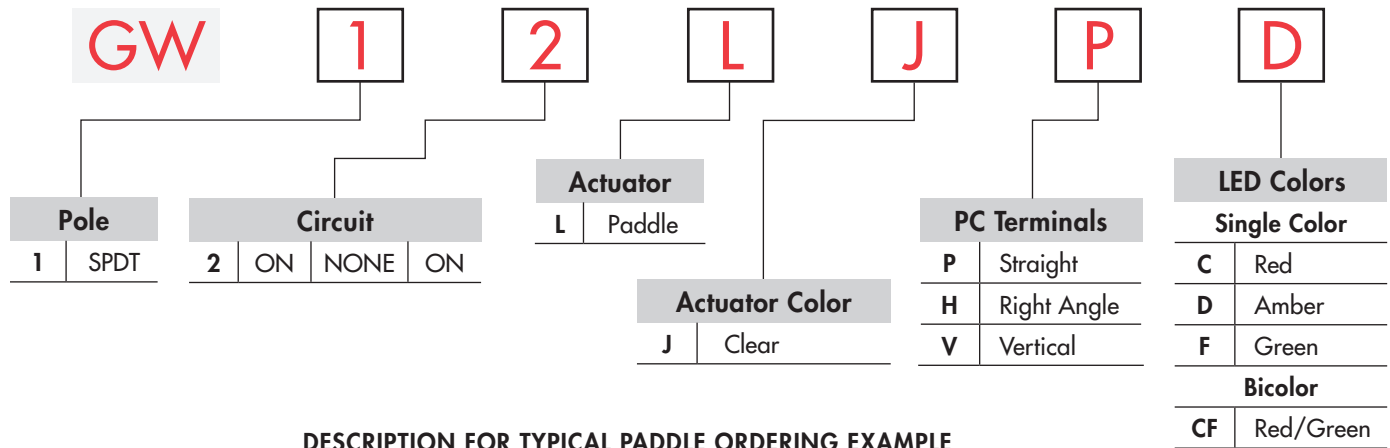


Actual Size



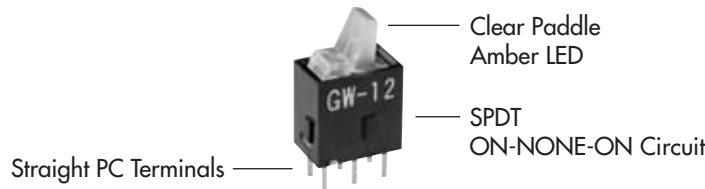
Supplement	Accessories	Indicators	Touch	Tilt	Tactiles	Slides	Rotaries	Keylocks	Programmable	Illuminated PB	Pushbuttons	Rockers	Toggles
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### TYPICAL SWITCH ORDERING EXAMPLE



### DESCRIPTION FOR TYPICAL PADDLE ORDERING EXAMPLE

**GW12LJPD**



### POLE & CIRCUIT

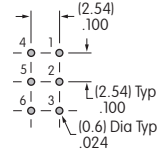
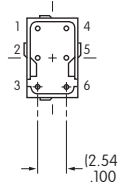
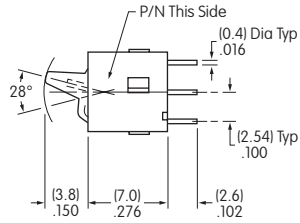
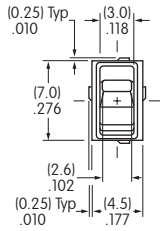
Pole	Model	Paddle Position			Connected Terminals			Throw & Schematics
		Up	Center	Down	Up	Center	Down	
SP	GW12	ON	NONE	ON	2-3	OPEN	2-1	Note: Terminal numbers are not actually on the switch. LED circuit is isolated and requires an external power source.  SPDT  2 (COM) 3 1 Single Color  (5) (6) Bicolor  (5) (4) Red (6) Green

### LED COLORS & SPECIFICATIONS

LEDs are an integral part of the the switch and not available separately. The electrical specifications shown are determined at a basic temperature of 25°C. If the source voltage exceeds the rated voltage, a ballast resistor is required. The resistor value can be calculated by using the formula in the Supplement section.

	Colors	Single Color			Bicolor
		C Red	D Amber	F Green	CF Red/Green
Forward Peak Current	$I_{FM}$	30mA	30mA	25mA	30mA/25mA
Typical Forward Current	$I_F$	20mA	20mA	20mA	20mA/20mA
Forward Voltage	$V_F$	2.0V	2.0V	2.1V	2.0V/2.1V
Reverse Peak Voltage	$V_{RM}$	5V	5V	5V	5V/5V
Current Reduction Rate Above 25°C	$\Delta I_F$	0 – No Current Reduction Rate within Ambient Temperature Range			
Ambient Temperature Range		-25°C ~ +55°C			

## TYPICAL SWITCH DIMENSIONS



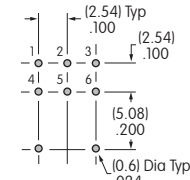
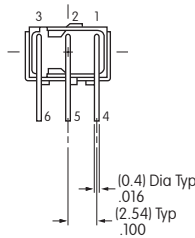
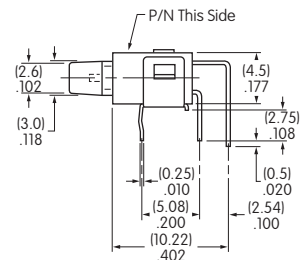
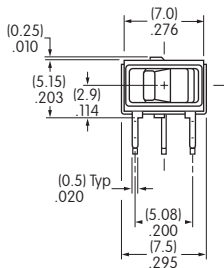
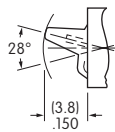
### Straight PC



5 & 6 are LED terminals; 4 is a support pin on single color models & an LED terminal on bicolor models.

**GW12LJPC**

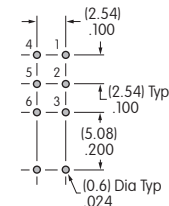
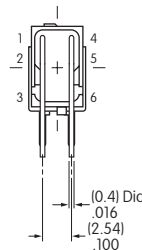
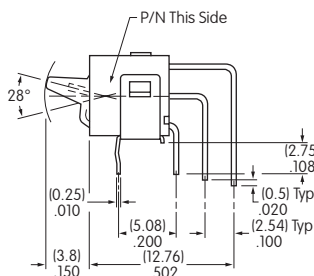
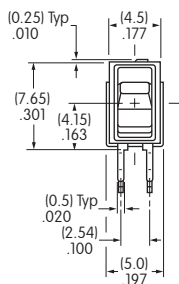
### Right Angle PC



5 & 6 are LED terminals; 4 is a support pin on single color models & an LED terminal on bicolor models.

**GW12LJHD**

### Vertical PC



5 & 6 are LED terminals; 4 is a support pin on single color models & an LED terminal on bicolor models.

**GW12LJVC**