

# General Specifications

## 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  
**Case:** Glass fiber reinforced polyamide (UL94V-0)  
**Sealing Ring:** Nitrile butadiene rubber  
**Base:** Glass fiber reinforced polyamide (UL94HB)  
**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/UL94HB base

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 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.

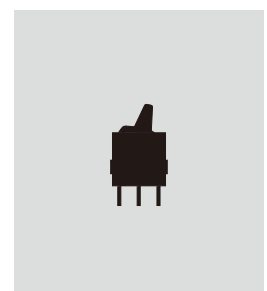
Insert molded terminals prevent entry of flux and other contaminants.

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



Toggle

**B** Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

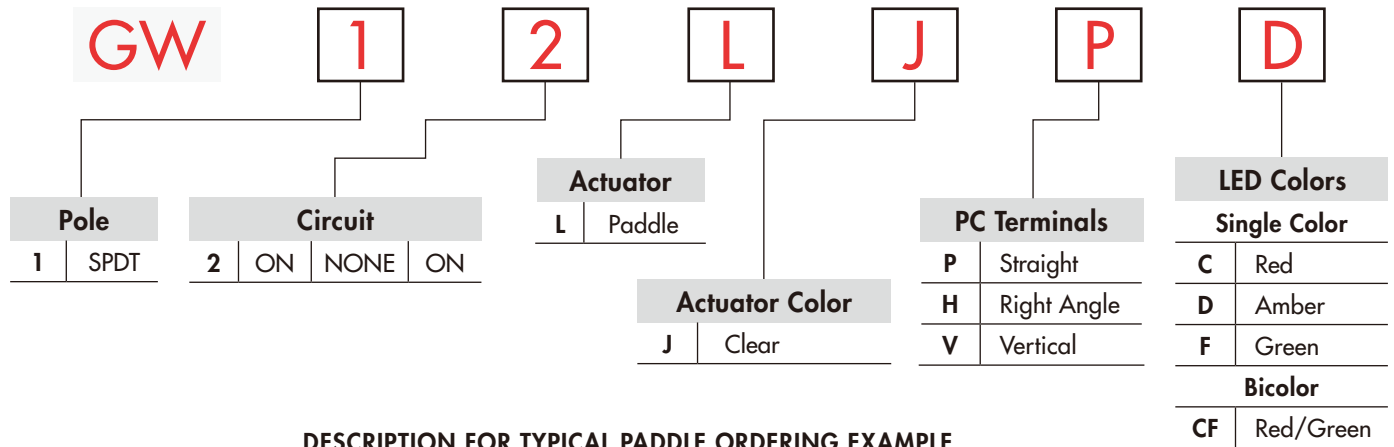
Touch

Indicators

Accessories

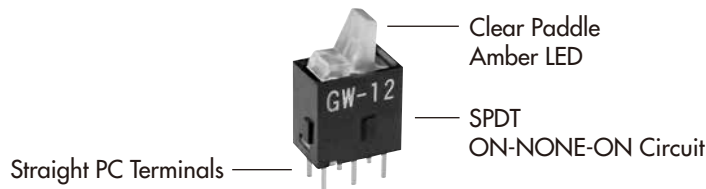
Supplement

## TYPICAL SWITCH ORDERING EXAMPLE



### DESCRIPTION FOR TYPICAL PADDLE ORDERING EXAMPLE

**GW12LJPD**



## POLE & CIRCUIT

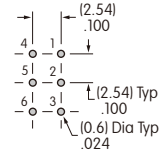
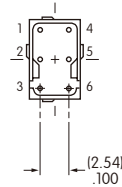
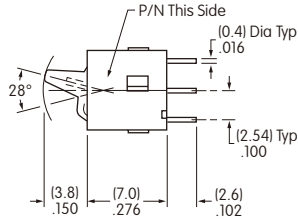
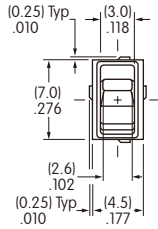
Pole	Model	Paddle Position			Connected Terminals			Throw & Schematics
		Up	Center	Down	Up	Center	Down	
SP	GW12	ON	NONE	ON	2-3	OPEN	2-1	Note: Terminal numbers are not actually on the switch. LED circuit is isolated and requires an external power source. SPDT  Single Color  Bicolor

## LED COLORS & SPECIFICATIONS

	Colors	Single Color			Bicolor
		C	D	F	CF
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.		Red	Amber	Green	Red/Green
Maximum Forward 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
Maximum Reverse Voltage	$V_{RM}$	5V	5V	5V	5V/5V
Current Reduction Rate Above 25°C	$\Delta I_F$	No Current Reduction Rate within Ambient Temperature Range			
Ambient Temperature Range		-25°C ~ +55°C			

Toggles  
 Rockers  
 Pushbuttons  
 Illuminated PB  
 Programmable  
 Keylocks  
 Rotaries  
 Slides  
 Tactiles  
 Tilt  
 Touch  
 Indicators  
 Accessories  
 Supplement

## TYPICAL SWITCH DIMENSIONS



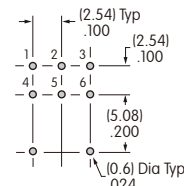
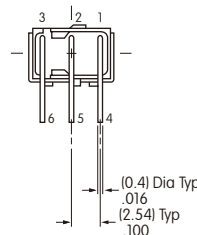
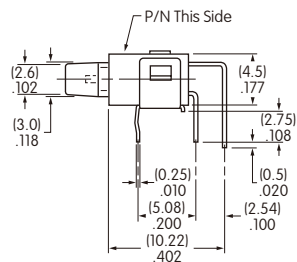
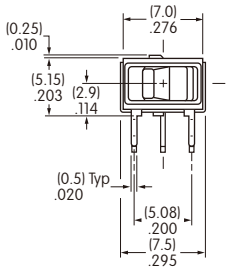
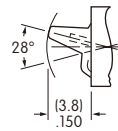
### Straight PC



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

**GW12LJPC**

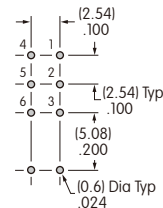
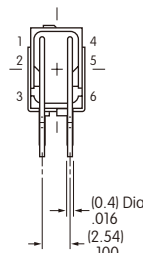
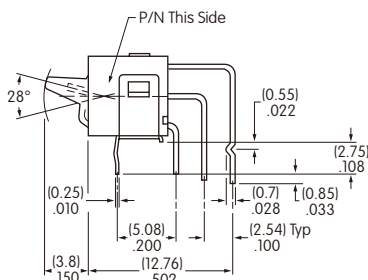
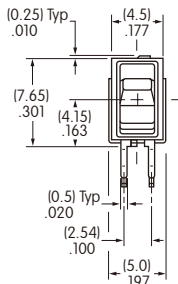
### Right Angle PC



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**