

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: For Rockers 1.70N; for Paddles 1.30N
Angle of Throw: 28°

Materials & Finishes

Actuator: Glass fiber reinforced polyamide (UL94V-0)
Case: Glass fiber reinforced polyamide (UL94V-0)
Sealing Ring: Nitrile butadiene rubber
Movable Contact: Phosphor bronze with gold plating
Stationary Contacts: Phosphor bronze with gold plating
Base: Glass fiber reinforced polyamide (UL94V-0)
Mounting Bracket: Phosphor bronze with tin plating
Terminals: Phosphor bronze with gold plating

Environmental Data

Operating Temperature Range: -30°C through +85°C (-22°F through +185°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 1 minute; 3 right angled directions for 2 hours
Shock: 50G (490m/s²) acceleration (tested in 6 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 Standards: UL94V-0 actuator & case/base

The GW Series rockers 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

Various colored rockers and paddles.

Combination of dust cover and closely fit housing, actuator, and interior pivot provides protection for contacts.

Detent mechanism design of coil spring, plunger, and plastic detent results in crisp and positive actuation.

Extremely thin size allows high density PCB mounting and makes these switches ideal for handheld equipment.

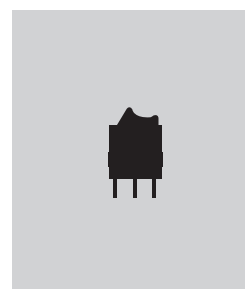
Award-winning STC contact mechanism with benefits unavailable in conventional mechanisms: smoother, positive detent actuation, increased contact stability and unparalleled logic-level reliability. (Additional STC details in Terms & Acronyms; see Supplement section.)

Molded-in, epoxy sealed terminals lock out flux and other contaminants.

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



Actual Size



TYPICAL SWITCH ORDERING EXAMPLE

GW

1

2

R

C

P

Poles

1

SPDT

2

DPDT

Circuit

2

ON

NONE

ON

Actuators

R

Rocker

L

Paddle

Actuator Colors

B

White

C

Red

H

Gray

PC Terminals

P

Straight

H

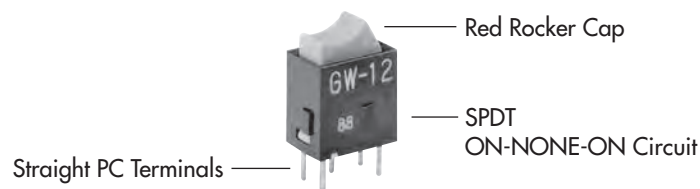
Right Angle

V

Vertical

DESCRIPTION FOR TYPICAL ROCKER ORDERING EXAMPLE

GW12RCP



POLES & CIRCUIT

Pole	Model	Rocker Position			Connected Terminals			Throw & Schematics
		Up	Center	Down	Up	Center	Down	
SP	GW12	ON	NONE	ON	5-6	OPEN	5-4	SPDT
DP	GW22	ON	NONE	ON	5-6 2-3	OPEN	5-4 2-1	DPDT

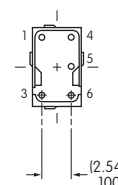
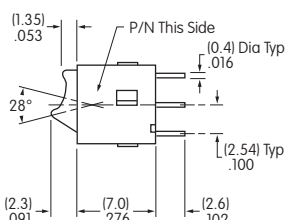
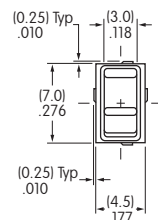
Note: Terminal numbers are not actually on the switch.

TYPICAL SWITCH DIMENSIONS

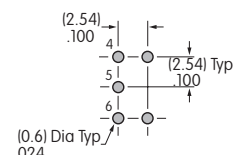
Straight PC



GW12RCP



Single Pole

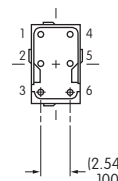
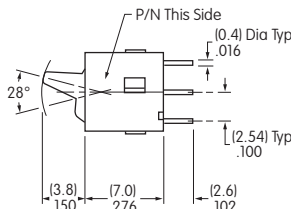
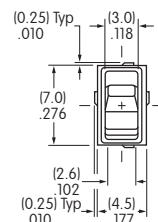


On single pole models positions 1 & 3 are support pins.

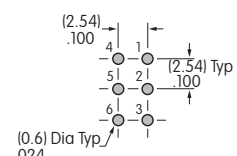
Straight PC



GW22LCP



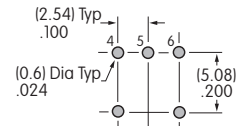
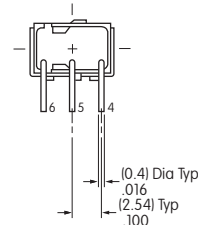
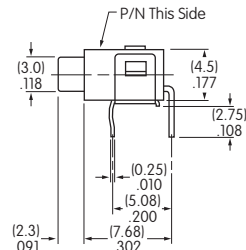
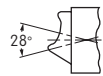
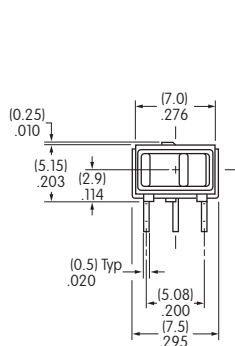
Double Pole



TYPICAL SWITCH DIMENSIONS

Single Pole

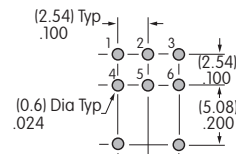
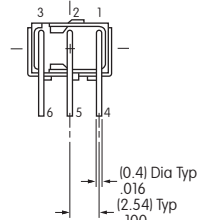
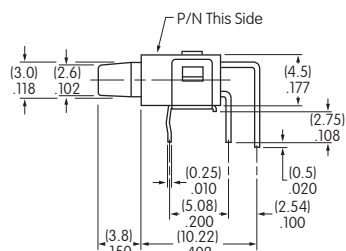
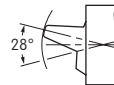
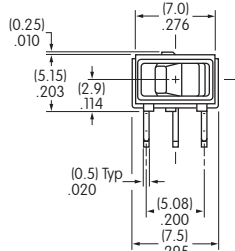
Right Angle PC



GW12RCH

Double Pole

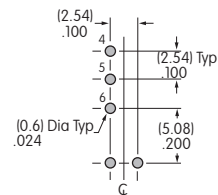
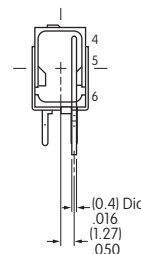
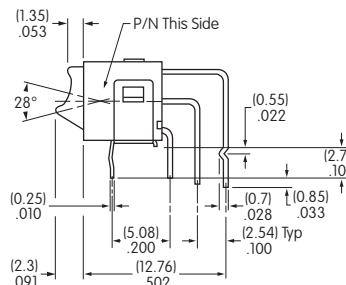
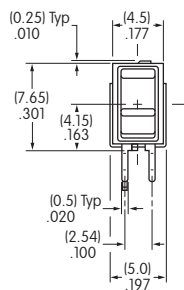
Right Angle PC



GW22LCH

Single Pole

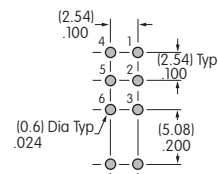
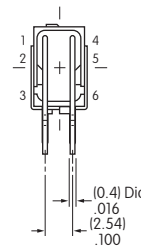
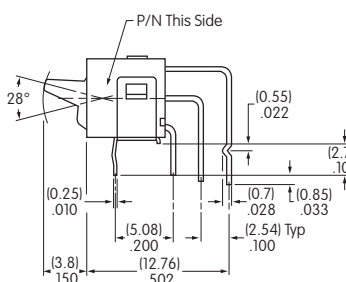
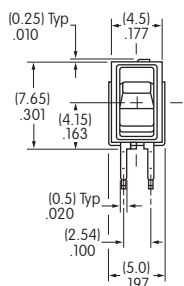
Vertical PC



GW12RCV

Double Pole

Vertical PC



GW22LCV

General Specifications

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/s²) 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

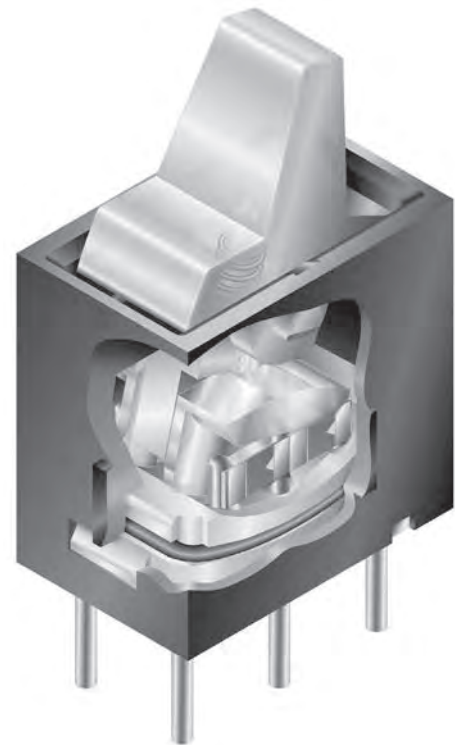
World's smallest fully illuminated paddles for highly visible status indication; LEDs available in red, green, or amber for single color and red/green for bicolor.

Specially designed switching mechanism provides crisp actuation feedback to positively indicate circuit transfer.

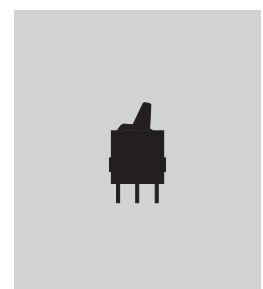
Insert molded terminals prevent entry of flux and other contaminants.

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



TYPICAL SWITCH ORDERING EXAMPLE

GW

1

2

L

J

P

D

Pole

1

SPDT

Circuit

2

ON

NONE

ON

Actuator

L

Paddle

Actuator Color

J

Clear

PC Terminals

P

Straight

H

Right Angle

V

Vertical

LED Colors

Single Color

C

Red

D

Amber

F

Green

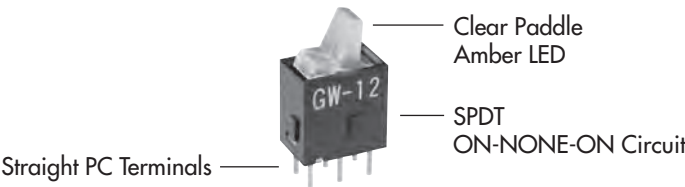
Bicolor

CF

Red/Green

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

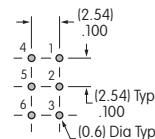
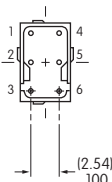
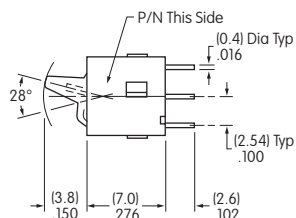
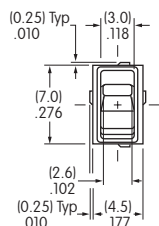
LED COLORS & SPECIFICATIONS

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.

		Single Color			Bicolor
		C Red	D Amber	F Green	CF 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	ΔI _F	No Current Reduction Rate within Ambient Temperature Range			
Ambient Temperature Range		-25°C ~ +55°C			

TYPICAL SWITCH DIMENSIONS

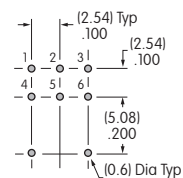
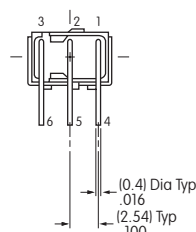
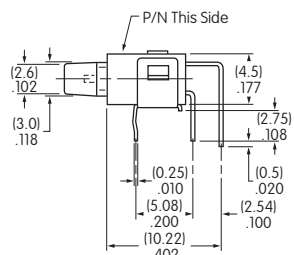
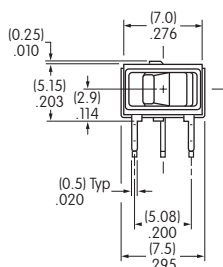
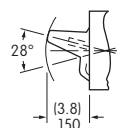
Straight PC



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

GW12LJPC

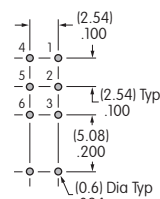
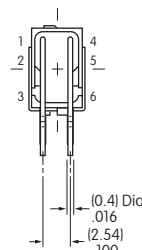
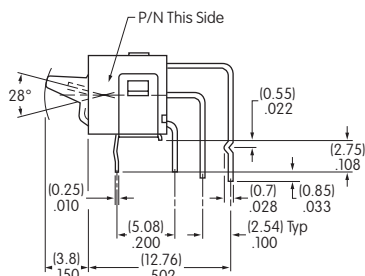
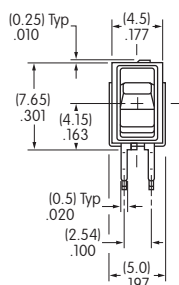
Right Angle PC



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