

## General Specifications

Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

<b>B</b>	<b>CWSA</b>	<b>Electrical Capacity</b>		
		<b>Power Level:</b>	For Resistive Load 6A @ 250V AC	
		<b>Other Ratings</b>		
		<b>Contact Resistance:</b>	20 milliohms maximum	
		<b>Insulation Resistance:</b>	500 megohms minimum @ 500V DC	
		<b>Dielectric Strength:</b>	1,500V AC minimum between contacts for 1 minute minimum 3,000V AC minimum between contacts & case for 1 minute minimum	
		<b>Mechanical Life:</b>	30,000 operations minimum	
		<b>Electrical Life:</b>	10,000 operations minimum with Resistive Load & 6,000 operations with Inductive Load	
		<b>Nominal Operating Force:</b>	2.50N	
		<b>Angle of Throw:</b>	30°	<b>Operating Temperature Range:</b>
	<b>Materials &amp; Finishes</b>			
	<b>Rocker:</b>	Polycarbonate	<b>Stationary Contacts:</b>	Silver alloy
	<b>Housing:</b>	Polyamide	<b>Base:</b>	Laminated thermosetting sheets
	<b>Movable Contactor:</b>	Brass with silver alloy plating	<b>Contact Terminals:</b>	Copper with silver plating
	<b>Movable Contacts:</b>	Silver alloy	<b>Common Terminals:</b>	Brass with silver plating

	<b>CWSB</b>	<b>Electrical Capacity</b>		
		<b>Power Level:</b>	For Resistive Load 6A @ 250V AC	
		<b>Other Ratings</b>		
		<b>Contact Resistance:</b>	20 milliohms maximum	
		<b>Insulation Resistance:</b>	500 megohms minimum @ 500V DC	
		<b>Dielectric Strength:</b>	1,500V AC minimum between contacts for 1 minute minimum 3,000V AC minimum between contacts & case for 1 minute minimum	
		<b>Mechanical Life:</b>	30,000 operations minimum	
		<b>Electrical Life:</b>	10,000 operations minimum with Resistive Load & 6,000 operations with Inductive Load	
		<b>Nominal Operating Force:</b>	6.50N for single pole models; 10.0N for double pole models	
		<b>Angle of Throw:</b>	30°	<b>Operating Temperature Range:</b>
	<b>Materials &amp; Finishes</b>			
	<b>Rocker:</b>	Polycarbonate	<b>Stationary Contacts:</b>	Silver alloy
	<b>Housing:</b>	Polyamide	<b>Base:</b>	Laminated thermosetting sheets
	<b>Movable Contactor:</b>	Beryllium copper w/silver alloy plating	<b>Terminals:</b>	Brass with silver plating
	<b>Movable Contacts:</b>	Silver		

	<b>CWT</b>	<b>Electrical Capacity</b>		
		<b>Power Level:</b>	For Resistive Load 6A @ 125V AC; 3A @ 250V AC; 4A @ 30V DC	
		<b>Other Ratings</b>		
		<b>Contact Resistance:</b>	20 milliohms maximum	
		<b>Insulation Resistance:</b>	1,000 megohms minimum @ 500V DC	
		<b>Dielectric Strength:</b>	1,000V AC minimum between contacts for 1 minute minimum 1,500V AC minimum between contacts & case for 1 minute minimum	
		<b>Mechanical Life:</b>	50,000 operations minimum	
		<b>Electrical Life:</b>	25,000 operations minimum	
		<b>Nominal Operating Force:</b>	2.0N	
		<b>Angle of Throw:</b>	30°	<b>Operating Temperature Range:</b>
	<b>Materials &amp; Finishes</b>			
	<b>Rocker:</b>	Glass fiber reinforced polyamide	<b>Base:</b>	LCP (Liquid Crystal Polymer)
	<b>Housing:</b>	Polyamide	<b>Contact Terminals:</b>	Brass + silver with silver plating
	<b>Movable Contactor:</b>	Phosphor bronze w/silver plating	<b>Common Terminals:</b>	Brass with silver plating
	<b>Movable Contacts:</b>	Silver alloy		

# Distinctive Characteristics

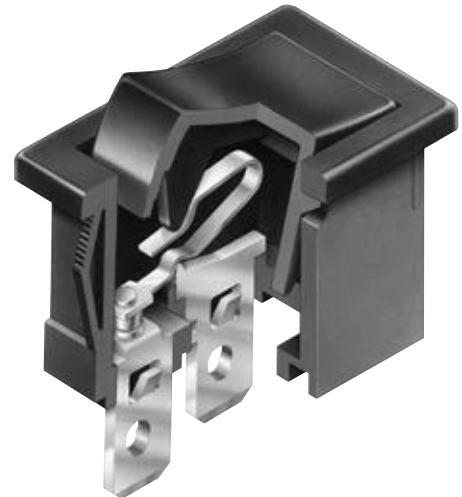
## CWSA

- Low cost molded rocker.
- See-saw contact mechanism
- Stable stationary contact construction for high reliability.
- Easily installed with snap-in mounting.
- Large terminal hole dimensioned .067" x .098" (1.7mm x 2.5mm) simplifies wiring and soldering.
- Wave Soldering (PC version): See Profile A in Supplement section.
- Manual Soldering: See Profile A in Supplement section.



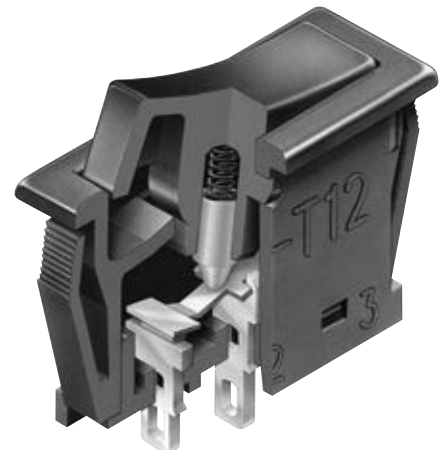
## CWSB

- Low cost molded rocker.
- Snap-acting contact mechanism gives smooth actuation and audible feedback.
- Stable stationary contact construction for high reliability.
- Front panel, snap-in mounting for labor-saving installation.
- Solder lug/quick connect terminals can be used with connectors.
- Manual Soldering: See Profile B in Supplement section.



## CWT

- Low cost molded rocker in compact, slim design.
- See-saw contact mechanism
- Outstanding insulation resistance and dielectric strength.
- Dust proof construction protects contact area.
- Stable stationary contact construction for high reliability.
- Front panel, snap-in mounting for labor-saving installation.
- Terminals are molded in and epoxy sealed to lock out flux, dust, and other contaminants.
- Manual Soldering: See Profile A in Supplement section.



- Toggle
- B** Rockers
- Pushbuttons
- Illuminated PB
- Programmable
- Keylocks
- Rotaries
- Slides
- Tactiles
- Tilt
- Touch
- Indicators
- Accessories
- Supplement

## STANDARDS & CERTIFICATIONS

### CWSA



Specific CWSA models listed below are qualified for Underwriters Laboratories Inc. recognition and Canadian Standards Association certification. cULus marking on case is standard as noted in following table.

<u>Model</u>	<u>Ratings @ AC</u>	<u>cULus File No.</u>	<u>Marking on Case</u>
CWSA11	6A @ 250V	E44145	Standard
CWSA12	6A @ 250V	E44145	Standard

### CWSB



Specific CWSB models listed below are qualified for Underwriters Laboratories Inc. recognition and Canadian Standards Association certification. cULus marking on case is standard as noted in following table.

<u>Model</u>	<u>Ratings @ AC</u>	<u>cULus File No.</u>	<u>Marking on Case</u>
CWSB11	6A @ 250V	E44145	Standard
CWSB21	6A @ 250V	E44145	Standard

### CWT



Specific CWT model listed below is qualified for Underwriters Laboratories Inc. recognition and Canadian Standards Association certification. cULus marking on case is standard as noted in following table.

<u>Model</u>	<u>Ratings @ AC</u>	<u>cULus File No.</u>	<u>Marking on Case</u>
CWT12	6A @ 125V 3A @ 250V	E44145	Standard

Toggles

Rockers **B**

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

Accessories

Supplement

TYPICAL SWITCH ORDERING EXAMPLES

**CWSA** **1** **1** **A** **A** **N** **S**

Pole	
1	SPST & SPDT

Circuits			
1	ON	NONE	OFF
2	ON	NONE	ON


Cap Color	
A	Black

Housing	
A	Black

Inscription	
For SPST & SPDT	
No Code	None
For SPST	
1	Horizontal
2	Vertical
3	Dot Marking

Terminals	
S	Solder Lug
H	Right Angle PC

**TYPICAL ORDERING EXAMPLE**  
**CWSA11AANS**



**CWSB** **2** **1** **A** **A** **2** **F**

Poles	
1	SPST
2	DPST

Circuit			
1	ON	NONE	OFF


Cap Color	
A	Black

Housing	
A	Black

Inscription	
No Code	None (SPST only)
1	Horizontal
2	Vertical
3	Dot Marking (SPST only)

Terminals	
F	Quick Connect
H	Right Angle PC

**TYPICAL ORDERING EXAMPLE**  
**CWSB21AA2F**



**CWT** **1** **2** **A** **A** **S1**

Pole	
1	SPDT


Circuit			
2	ON	NONE	ON

Cap Color	
A	Black

Housing	
A	Black

Terminals	
S1	Solder Lug

**TYPICAL ORDERING EXAMPLE**  
**CWT12AAS1**



## INSCRIPTIONS

**No Code**

**None**

Not available in double pole.

**1**

**Horizontal Orientation**

Only On-None-Off models are available with the horizontal inscription.

**2**

**Vertical Orientation**

Only On-None-Off models are available with the vertical inscription.

**3**

**Dot Marking**

Only Single Pole On-None-Off models are available with the dot inscription.

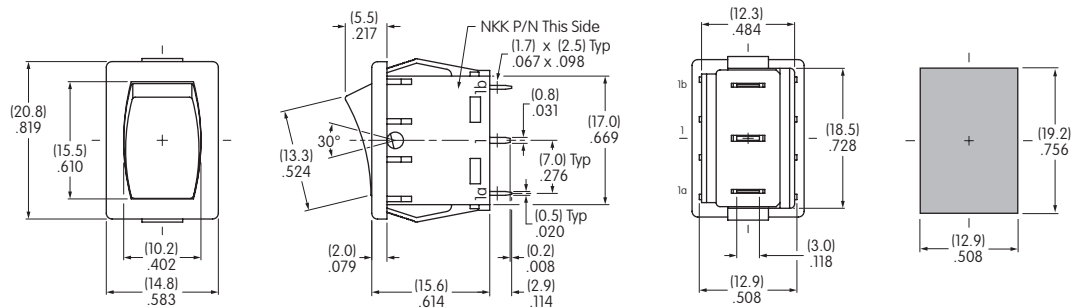


The IEC symbols for On-Off are supplied with Single Throw models only. Orientation of inscription must be selected. Inscription color is white ink on black.

## TYPICAL SWITCH DIMENSIONS FOR CWSA

**Solder Lug**

**Single Pole • No Inscription**



**CWSA12AANS**

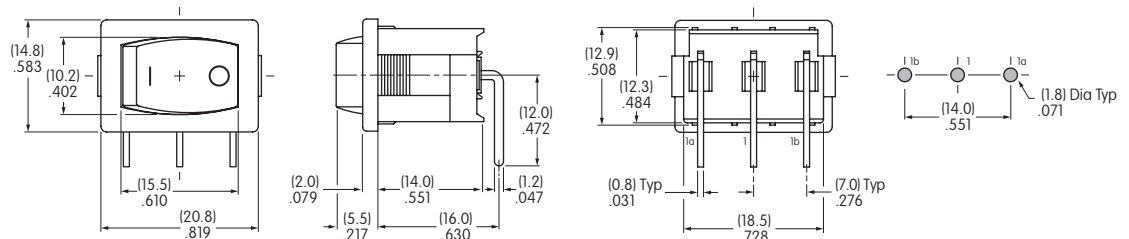
Single throw model does not have terminal 1b

Terminal numbers are on side of switch body

Panel Thickness .030" ~ .079" (0.75mm ~ 2.0mm)

**Right Angle**

**Single Pole • Horizontal On-Off Inscription**



**CWSA11AAN1H**

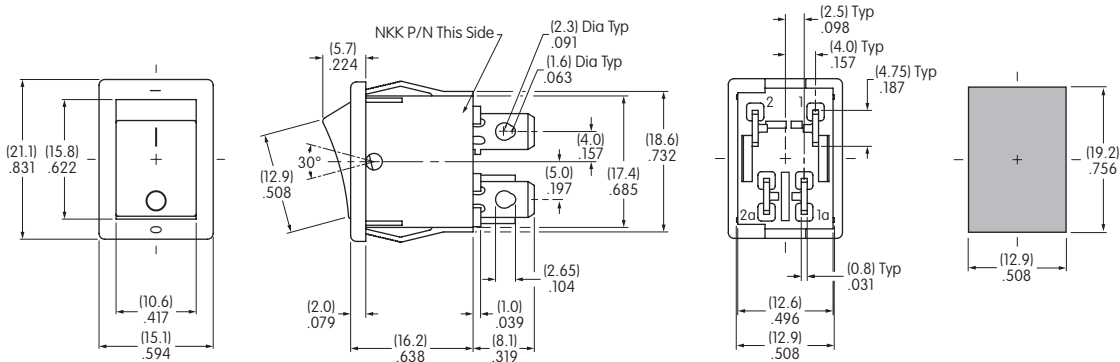
Single throw model does not have terminal 1b

Terminal numbers are on side of switch body

TYPICAL SWITCH DIMENSIONS FOR CWSB

Double Pole • Vertical On-Off Inscription

Quick Connect



Terminal numbers are on bottom of switch

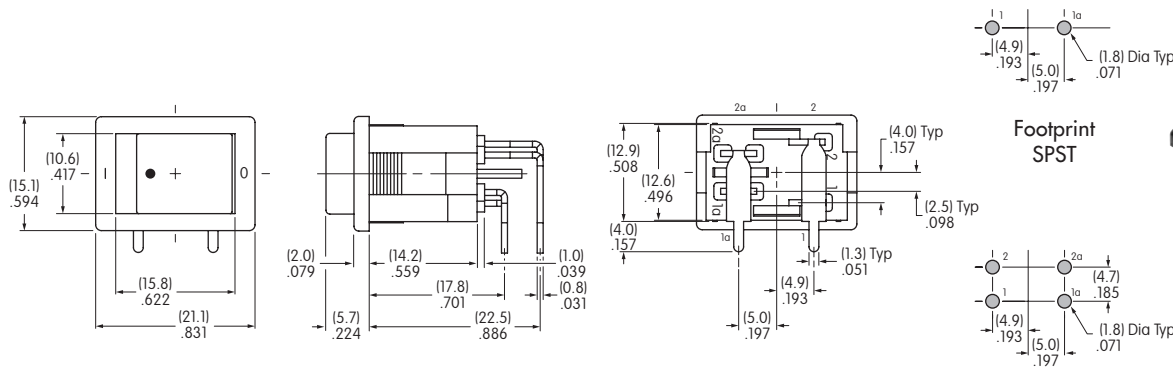
Panel Thickness  
.030" ~ .079"  
(0.75mm ~ 2.0mm)

CWSB21AA2F



Single Pole • Dot Inscription

Right Angle



Terminal numbers are on bottom of switch

Footprint  
SPST

Footprint  
DPST

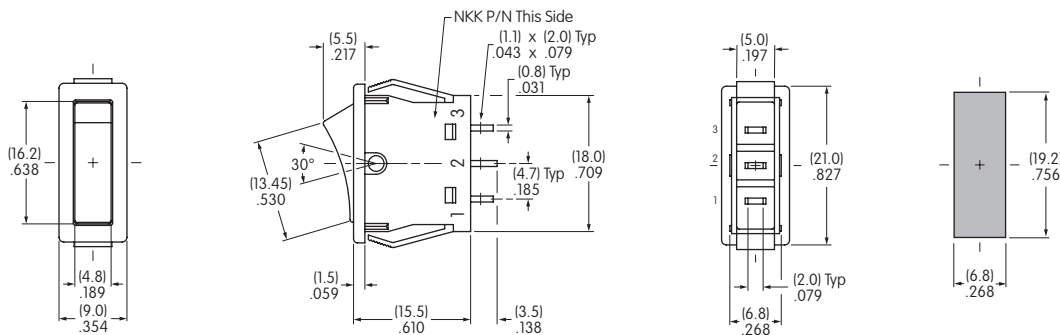
CWSB11AA3H



TYPICAL SWITCH DIMENSIONS FOR CWT

Single Pole • No Inscription

Solder Lug



Terminal numbers are on side of switch body

Panel Thickness  
.030" ~ .079"  
(0.75mm ~ 2.0mm)

CWT12AAS1



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## [NKK Switches:](#)

[CWSA12AANS](#) [CWT12AAS1](#) [CWSA11AAN1S](#) [CWSA11AANS](#) [CWSA11AAN3S](#) [CWSA11AAN2S](#) [CWSB11AAF](#)  
[CWSB11AA1F](#) [CWSB11AA3F](#) [CWSB11AA2F](#) [CWSB21AA2F](#) [CWSB21CACF](#) [CWSB21AA1F](#) [CWSB21FAFF](#)  
[CWSB21DADF](#) [CWSA11AANH](#) [CWSA11AAN1H](#) [CWSA11AAN2H](#) [CWSA12AANH](#) [CWSB11AAH](#) [CWSB11AA1H](#)  
[CWSB11AA3H](#) [CWSB21AA1H](#) [CWT12AAS1/U](#) [CWT12AAS1/UC](#) [CWSB21AA2H](#) [CWSB21AA3F](#)