



2
0
0
9

Short Form Electro Switches and Potentiometers

MOVING FORWARD... EVERYWHERE. EVERY DAY



March 9, 2010

Through Hole DIP Switches

Series	Picture	Description	Actuation	Contact Finish	Terminal Finish	Options	Packaging	Life	Operating Temperature
194		Side Actuated .100" X .300" Terminal Spacing Bottom Epoxy Seal	SPST ON is Down	Gold	Tin over Nickel	Top Tape Seal Shipping Position Custom Marking	Tube pack	7,000 Cycles	-40°C to + 85°C
195		Side Actuated .100" X .300" Terminal Spacing Bottom Epoxy Seal	SPST ON is Down	Tin	Tin over Nickel	Top Tape Seal Shipping Position Custom Marking	Tube pack	2,000 Cycles	-40°C to + 85°C
206		Top Actuated Multifunction .100" X .300" Terminal Spacing ESD Protection	SPST, SPDT, DPST, DPDT, 3PST, 4PST SPST ON is Up	Gold	Tin over Nickel	Bottom Epoxy Seal Top Tape Seal 3 Actuator Heights Shipping Position Custom Marking / Plating	Tube pack	10,000 Cycles	-55°C to + 85°C
206RA 208RA		Right Angle Actuated Multifunction .100" X .300" Terminal Spacing ESD Protection	SPST, SPDT, DPST, DPDT, 3PST, 4PST SPST ON is Up	206RA Gold 208RA Tin	Tin over Nickel	Bottom Epoxy Seal Top Tape Seal 3 Actuator Heights Shipping Position Custom Marking	Tube pack	206/10,000 208/2,000 Cycles	-55°C to + 85°C
208		Top Actuated .100" X .300" Terminal Spacing	SPST ON is Up	Tin	Tin over Nickel	Bottom Epoxy Seal Top Tape Seal 3 Actuator Heights Shipping Position Custom Marking	Tube pack	2,000 Cycles	-55°C to + 85°C
209		Auto Insertable Low Profile Top Actuated .100" X .300" Terminal Spacing Bottom Seal	SPST ON is Up	Gold	Tin over Nickel	Top Tape Seal 3 Actuator Heights Terminal Forming Shipping Position Custom Marking	Tube pack	2,000 Cycles	-40°C to + 85°C
210		Auto Insertable Low Profile Top Actuated .100" X .300" Terminal Spacing Bottom Seal	SPST ON is up	Gold Flash	Tin over Nickel	Top Tape Seal 3 Actuator Heights Terminal Forming Shipping Position Custom Marking	Tube pack	1,000 Cycles	-40°C to + 85°C





Competitive Cross Reference available at www.ctscorp.com

All Products are RoHS compliant



Selector & Other Power Switches

Surface Mount DIP Switches

Series	Picture	Description	Actuation	Contact Finish	Terminal Finish	Options	Packaging	Life	Operating Temperature
193		Side Actuated Gull Wing .100" Terminal Spacing Bottom Epoxy Seal	SPST ON is Down	Gold	Tin over Nickel	Shipping Position Custom Marking Available	Tube or Tape and Reel (350 pc reel)	7,000 Cycles	-40°C to + 85°C
204		Top Actuated Gull Wing Multifunction .100" Terminal Spacing ESD Protection	SPST, SPDT, DPST, DPDT, 3PST, 4PST SPST ON is Up	Gold	Tin over Nickel	Bottom Epoxy Seal Top Tape Seal 3 Actuator Heights Shipping Position Custom Marking	Tube or Tape and Reel (350 pc reel)	10,000 Cycles	-55°C to + 85°C
218		Low Profile Top Actuated Gull Wing .050" Terminal Spacing Bottom Seal	SPST ON is up	Gold	Gold Flash	Top Tape Seal J-Bend Terminals Shipping Position	Tube or Tape and Reel (2000 pc reel)	1,000 Cycles	-55°C to + 85°C
219		Low Profile Top Actuated Gull Wing .100" Terminal Spacing Bottom Seal	SPST ON is up	Gold	Tin over Nickel	Top Tape Seal 3 Actuator Heights J-Bend Terminals Shipping Position Custom Marking	Tube or Tape and Reel (1000 pc reel)	2,000 cycles	-55°C to + 85°C

Competitive Cross Reference available at www.ctscorp.com

All Products are RoHS compliant





Selector & Other Power Switches

Slide Switch

065		Miniature Slide Switch 1 Amp Dustproof	SPST (UL, CSA) SPDT (UL, CSA) DPST (Top Act. Only) DPDT (Top Act. Only)	Silver Plated Phosphor Bronze	Silver Plated Brass	Top Actuation Side Actuation Actuator Length	Bulk	6,000 Cycle Minimum	0°C to + 70°C
-----	---	--	--	-------------------------------------	------------------------	--	------	------------------------	---------------

Rotary Selector Switches

212		1 1/8" Diameter Steel Hill-and-Valley Detent Glass Thermoset Molded Wafer	Up to 12 Positions/Pole Non-Shorting	Silver Plated Brass	Silver Plated Brass	Adjustable Stop Shaft, Bushing Terminal Styles Custom Switching	Bulk or as Required by Design	10,000 Cycle Minimum	-20°C to + 110°C
227		1 1/8" Diameter Die-Cast Hill-and-Valley Detent Glass Thermoset Molded Wafer	Up to 11 Positions/Pole Shorting			Shaft, Bushing Terminal Styles Custom Switching			


All Products are RoHS compliant

Carbon Composition Rotary Variable Resistors/Potentiometers						
Series and Frame size	Picture	Typical applications	Power Rating	Resistance Range	Tolerance	Rotation/Travel
450 series 24 mm		Dimmers Musical instruments Industrial controls Optional switches	0.50 watt thru 100K 0.33 watt above 100K @ 55°C	100 Ω thru 10 MΩ	± 10% ± 20% ± 30%	300° ± 5° 320° ± 5° with switch
295 series 24 mm		Joystick Gaming controls 1 million life cycles	0.33 watt thru 100K 0.25 watt above 100K 0.167 watt joystick @ 55°C	10 KΩ thru 1 MΩ	± 10% ± 20% ± 30%	Mech: 300° ± 5° Joystick effective rotation = 50°
280 series 16 mm		Audio / Video Computer peripherals	0.25 watt thru 10K 0.125 watt above 10K @ 55°C	500 Ω thru 5 MΩ	± 10% ± 20% ± 30%	300° ± 5°
280 series 16 mm No Shaft		Appliance Function Selector Position Sensor Switch Alternative	0.25 watt thru 10K 0.125 watt above 10K @ 55°C	1000 Ω thru 1 MΩ	± 10% ± 20% ± 30%	340° effective, 360° Mech. Continuous Rotation
270 series 16 mm		Audio Dimmers Optional switches	0.25 watt thru 100 K 0.20 watt above 10K @ 55°C	100 Ω thru 5 MΩ	± 10% ± 20% ± 30%	300° ± 5° 315° ± 5° with switch
296 series 12 mm		Audio / Video Computer peripherals	0.15 watt linear curve 0.10 watt audio curve @ 50°C	500 Ω thru 1 MΩ	± 10% ± 20% ± 30%	300° ± 5°
296 series with bushing 12 mm		Audio / Video Computer peripherals	0.15 watt @ 50°C	500 Ω linear 2 KΩ audio thru 1 MΩ	± 10% ± 20% ± 30%	300° ± 5°
250 series 9 mm		Audio / Video Computer peripherals	0.05 watt @ 50°C	500 Ω thru 1 MΩ	± 10% ± 20% ± 30%	280° ± 5°
251 series 9 mm		Joystick Gaming controls 1 million life cycles	0.01 watt @ 50°C	10 KΩ thru 200 KΩ	± 10% ± 20% ± 30%	Mech: 180° Eff: 38°, 40° 50°, 60°, 70° 80°, 90°, 110°



All products are RoHS compliant



Conductive Plastic Precision Potentiometer




282 series 16 mm		Industrial Controls Position Sensor Medical Instrumentation HVAC IP54, IP67	0.05 watt @ 70°C	5 KΩ thru 500KΩ Linear, 25KΩ thru 100KΩ Audio	± 10% ± 20% ± 30%	Up to 340° Effective, 360° Mech. Continuous Rotation
---------------------	---	---	------------------	---	-------------------------	--

Carbon Composition Slide Variable Resistors/Potentiometers



442 series Slide		Musical instruments Equalizers Closed Frame	0.25 watt @ 55°C	200 Ω thru 5 MΩ	± 10% ± 20% ± 30%	31.7 mm
448 series Slide		Telephone Automotive Dimmer/Fan control Open frame	Power is travel & taper dependent 0.05 watt to 0.50 watt	500 Ω thru 1 MΩ	± 10% ± 20% ± 30%	10 mm, 15 mm 20 mm, 30 mm 45 mm, 60 mm

All products are RoHS compliant



Wire Wound Variable Resistors/Potentiometers

Series and Frame size	Picture	Typical applications	Power Rating	Resistance Range	Tolerance	Rotation/Travel
026 series 24 mm		Industrial controls High power Optional switches	5 watts @ 25°C 4 watts @ 55°C	1 Ω thru 25 KΩ	± 10% ± 20% specials available	300° ± 5°
118 series 19 mm		Industrial controls High power	2 watts @ 55°C	1 Ω thru 20 KΩ	± 10% ± 20%	270° ± 5°
115 series 19 mm		HVAC Industrial Trimmer	2 watts @ 55°C	1 Ω thru 20 KΩ	± 5% ± 10% ± 20%	270° ± 5°

All products are RoHS compliant



Mechanical Encoders						
Series and Frame size	Picture	Typical applications	Voltage Rating	Codes Available	Detents	Rotational life
288 series 16 mm		Audio / Video Volume Controls Optional switch	20 VDC @ 5 mA	2 Bit Binary 4 Bit Gray 4 Bit Hex	16 optional	Continuous Rotation 50,000 cycles
290 series 9 mm		Audio / Video Medical Instrumentation Optional switch	12 VDC @ 10 mA	2 Bit Binary	20 optional	Continuous Rotation 50,000 cycles

All products are RoHS compliant

Mini-joystick Controllers						
Series and Dimensions	Picture	Typical applications	Power Rating	Resistance Range	Tolerance	Rotation/Travel
252 series Mini-joystick Long Life 21x20x13 mm		Long Life Cursor Control Gaming Joystick Optional Momentary Switch	0.0125 watts @ 50°C	10,000 Ω thru 200,000 Ω	± 10% ± 20% ± 30%	63° max.
254 series Ultra- miniature Joystick Long Life 11x11x5 mm		Long Life Handheld Electronics Cursor/Game Controls Joystick Remote Controls Optional Momentary Switch	0.0125 watts @ 50°C	10,000 Ω thru 100,000 Ω	± 20% ± 30%	55° max.

All products are RoHS compliant

Carbon Composition Trimmer Potentiometers

201 series 15 mm		PCB assemblies	0.2 watt below 5K 0.25 watt above 5K @ 55°C	100 Ω thru 5 MΩ	± 10% ± 20% ± 30%	260° ± 5°
262 series 10 mm		PCB assemblies	0.15 watts @ 40°C	500 Ω thru 2 MΩ	± 10% ± 20% ± 30%	265° ± 5°

All products are RoHS compliant