

勝 特 力 材 料 886-3-5773766 胜特力电子(上海) 86-21-34970699 胜特力电子(深圳) 86-755-83298787 Http://www.100y.com.tw

Series 204

Surface Mount Multi-Functional DIP Switch

- Coplanarity: 0.1mm/.004" maximum
- Enclosed actuators shield contacts from foreign particles throughout life of switch
- Available with SPST, SPDT, DPST, 3PST circuitry choices
- Optional top tape seal for board spray washing

Description

Integral terminal and contact molded into thermoset base provides electrostatic discharge protection rated to 22KV. Optimized gold plated contact design incorporates a dimple wiping interface for long-term contact corrosion resistance.

Ordering Information

Serie	c	ber of oles	Numbe Throw		Number of Switch Positior		uator eight		Botto Doxy S		Top Tap Seal	е	Tape ar Reel	nd	Actuation Preset
204	-	1	2		1		Е			S	Т		R		Ν
	,	•			•		•						Code	c	pec.
Code	No. of p	oles	-	Carda	No. of swite	ch C	ode	Sr	bec.			-			
Blank			-	Code	positions		lank			0.89mm	/ 025")	-	Blank		t OFF position
-	For SPST		-	1	1 position	D	Idlik			3.43mm					t ON position
1 2	Single po		-	2	2 positions		E		T only		1/.155)		Ν	-	, DPST&3PST
3	Double p 3 poles	Joies	-	3	3 positions				,	, e (Flush)		-		only)	
4	4 poles		-	4	4 positions		LP			DT only)					
4	4 poles		. 🖌	5	5 positions			(010		<i>y</i> i oli <i>iyj</i>				•	
				6	6 positions								Code	S.	bec.
				7	7 positions								Coue		
	Code	S	oec.	8	8 positions						•		Blank		atic tube
	Blank		SPST	9	9 positions				Det	+	ann an al			packa	
	1	-	throw	10	10 positions		-	ode			oxy seal				and reel
	2		e throws	12	12 positions	_	-	ank		epoxy sea	dl I			packa (SDST	ging , DPST&3PST
								S	Ероу	ky seal			R	only. Not a	vailable for 7-
Votes [,] (Contact CTS	for othe	r common	feature	s not listed									DIP sv	vitch)

Code	Top tape seal			
Blank	No top tape seal			
Т	Top tape seal			

Notes: Contact CTS for other common features not listed.

2020-10-21 Rev. C

www.ctscorp.com

Page 1 of 7

Sense

©2020 CTS® Corporation. Information/product(s) subject to change. No warranty that product(s) will meet the stated specifications for customer specific applications or test equipment. Visit www.ctscorp.com for list of applicable patent(s), more information, or to request a quote.



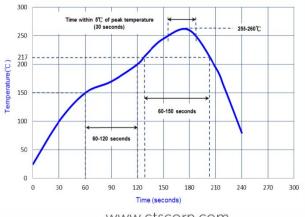
Electrical Specifications

Parameter	Conditions & Remarks	Min	Max	Unit	
	SPST	2	12		
Circuit	SPDT 1 DPST 1		6	positions	
Circuit			6		
	3PST				
Contact Resistance	Initial		50	milliohms	
contact Resistance	At end of life	At end of life 100			
Insulation Resistance	Between insulated terminals		megohms		
Dialactric Strongth	500 VAC between adjacent	1	minute		
Dielectric Strength	switches	1			
Actuation Life	50mA @ 24 VDC	5,000	cycles		
Switch Capacitance Between adjacent closed switches			5.0	pF	
			100	mA	
Nonswitching Rating			or	or	
			50	VDC	
Coplanarity			0.1	mm	
copialiarity			0.004	inch	

Mechanical and Environmental

Soldering	Maximum reflow temperature, 250°C for 30 seconds				
MSL	Level 1				
RoHS	Lead-Free. Fully compliant to RoHS Directive 2011/65/EU				
Shock	Per MIL-STD-202F, method 213B, condition A(50G's)				
SHOCK	with no contact inconsistencies greater than 1 microsecond				
Vibration	Per MIL-STD-202F, method 204D, condition B (.06" or 15G's between 10 HZ to 2K HZ) with				
VIDIATION	no contact inconsistencies greater than 1 microsecond				
Seal	Bottom epoxy seal				
Seal	Top tape seal optional				
Marking	Special side or top marking available-consult CTS				
Packaging:	Standard anti-static tube packaging, optional tape and reel packaging				
Operating Temperature	-40°C to +85°C				
Range	-40 L LO +85 L				
Storage Temperature	-55°C to +85°C				
Range	-22 C 10 +82 C				

Soldering Profile



2020-10-21 Rev. C

www.ctscorp.com

Page 2 of 7

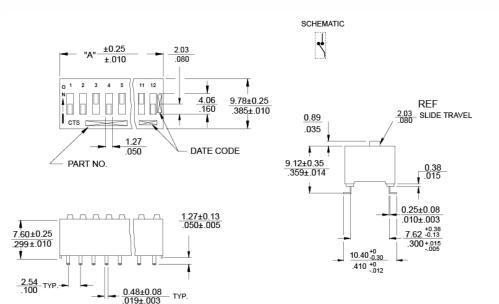
©2020 CTS[®] Corporation. Information/product(s) subject to change. No warranty that product(s) will meet the stated specifications for customer specific applications or test equipment. Visit www.ctscorp.com for list of applicable patent(s), more information, or to request a quote.



Series 204 Surface Mount Multi-Functional DIP Switch

Mechanical Specifications

Figure 1 - SPST



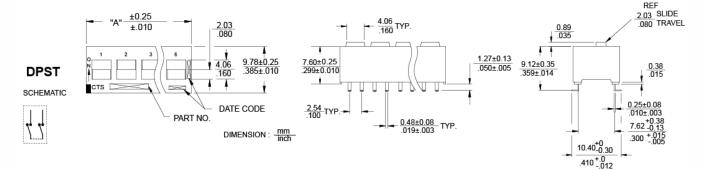
TYP

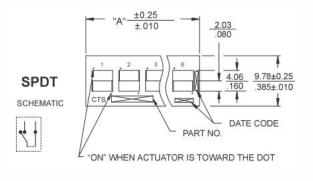
Ordering Information SPST Switches

"A" Overall Dimension	No. of Switch Positions	Part No .
7.26 / .286	2	204-2
9.80 / .386	3	204-3
12.34 / .486	4	204-4
14.88 / .586	5	204-5
17.42 / .686	6	204-6
19.96 / .786	7	204-7
22.50 / .886	8	204-8
25.04 / .986	9	204-9
27.58 / 1.086	10	204-10
32.66 / 1.286	12	204-12

DIMENSION : mm STANDARD TOLERANCE FOR ALL STYLES : .X (1 PLACE) : $\frac{\pm 0.3}{\pm .012}$ XX(2 PLACE): $\frac{\pm 0.13}{\pm .005}$

Figure 2 – SPDT/DPST





Ordering Information SPDT/DPST Switches

"A" Overall Dimension	Number of Switch Positions	Actuation	Part No.
7.26 / .286	1	SPDT/DPST	204-121/204-211
12.34 / .486	2	SPDT/DPST	204-122/204-212
17.42 / .686	3	SPDT/DPST	204-123/204-213
22.50 / .886	4	SPDT/DPST	204-124/204-214
27.58 / 1.086	5	SPDT/DPST	204-125/204-215
32.66 / 1.286	6	SPDT/DPST	204-126/204-216

www.ctscorp.com

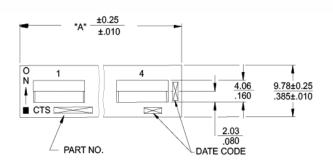
Page 3 of 7

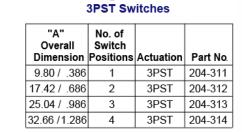
©2020 CTS® Corporation. Information/product(s) subject to change. No warranty that product(s) will meet the stated specifications for customer specific applications or test equipment. Visit www.ctscorp.com for list of applicable patent(s), more information, or to request a quote.



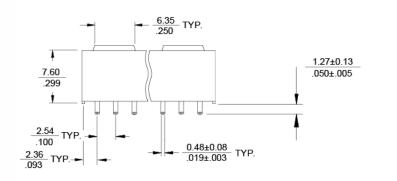
SCHEMATIC

Figure 3 - 3PST





Ordering Information



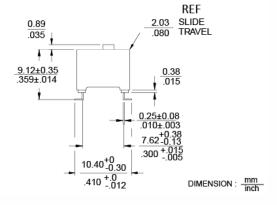
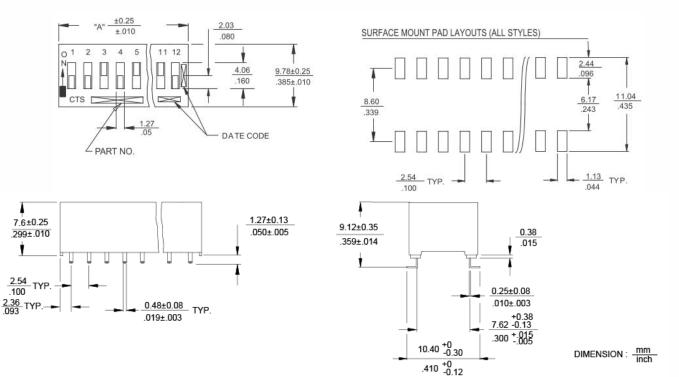


Figure 4 – Low Profile Actuators (SPST&SPDT only)



2020-10-21 Rev. C

www.ctscorp.com

Page 4 of 7

©2020 CTS® Corporation. Information/product(s) subject to change. No warranty that product(s) will meet the stated specifications for customer specific applications or test equipment. Visit www.ctscorp.com for list of applicable patent(s), more information, or to request a quote.



Page 5 of 7

Packing: Tape and Reel

					Unit: mm
SW Section	Fig	Во	w	F	S
2	I	7.15	24.0	11.50	-
3	I	9.69	24.0	11.50	-
4	I	12.23	24.0	11.50	-
5	11	14.81	32.0	14.20	28.4
6	11	17.35	32.0	14.20	28.4
8	11	22.40	44.0	20.20	40.4
9	11	24.94	44.0	20.20	40.4
10	11	27.48	44.0	20.20	40.4
12	П	32.56	44.0	20.20	40.4

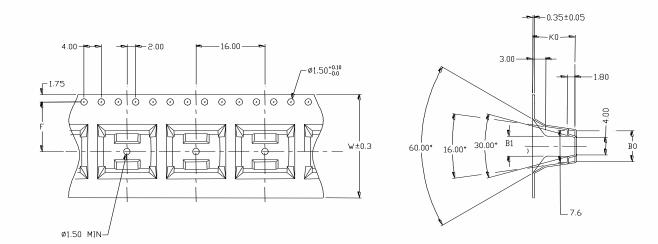
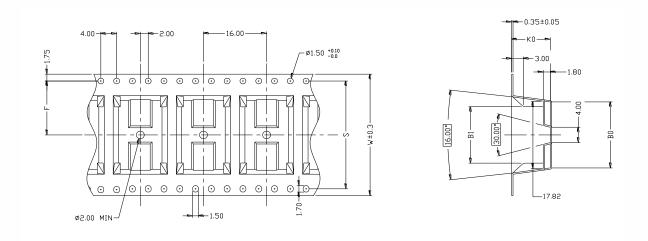


FIG I



<u>FIG II</u> www.ctscorp.com

2020-10-21 Rev. C

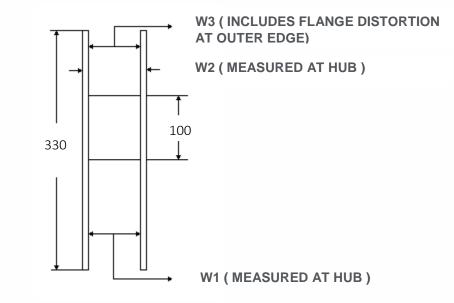
©2020 CTS[®] Corporation. Information/product(s) subject to change. No warranty that product(s) will meet the stated specifications for customer specific applications or test equipment. Visit www.ctscorp.com for list of applicable patent(s), more information, or to request a quote.



SPECIFIED REEL PARTS DIMENSIONS:

			Unit: mm
SW Section	W1	W2	W3
2~4	24.4	30.4 MAX.	23.9 MIN./27.4 MAX.
5~6	32.4	38.4 MAX.	31.9 MIN./35.4 MAX.
8~12	44.4	50.4 MAX.	43.9 MIN./47.4 MAX.

(SEE PICTURE FIG)



- 1. TAPE SPROCKET HOLE PITCH : 4.0 ± 0.1MM
- 2. ALL SMT ASSEMBLING MACHINES WILL PICK-UP THE COMPONENT FROM THE POINT, WHICH
- IS LOCATED IN THE CENTRE OF TWO ADJACENT SPROCKET HOLES IN FEEDING DIRECTION. THIS MUST BE TAKEK INTO ACCOUNT WHEN DESIGNING THE LOCATION OF THE COMPONENT IN T&R POCKET.
- 4. RECOMMENDED PART ORIENTATION IN TAPE & REEL POCKET.

ORIENT SWITCH TERMINAL #1 TO THE SIDE OF ROUND SPROCKET HOLES, SEE PICTURE BELOW.



LENGTH OF TAPE

 THERE SHALL BE A LEADER OF 390mm MINIMUM WHICH IS SEALED ONTO EMPTY CARRIER TAPE, SEE PICTURE BELOW.

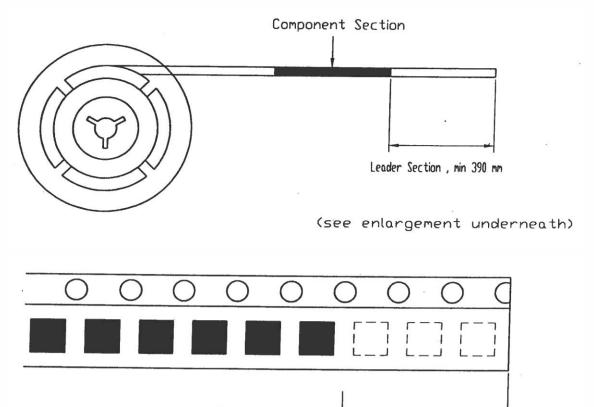
2020-10-21 Rev. C

www.ctscorp.com

Page 6 of 7

©2020 CTS® Corporation. Information/product(s) subject to change. No warranty that product(s) will meet the stated specifications for customer specific applications or test equipment. Visit www.ctscorp.com for list of applicable patent(s), more information, or to request a quote.





Component Section 390mm sealed with top cover tape

FEEDING DIRECTION

2020-10-21 Rev. C

www.ctscorp.com

©2020 CTS[®] Corporation. Information/product(s) subject to change. No warranty that product(s) will meet the stated specifications for customer specific applications or test equipment. Visit www.ctscorp.com for list of applicable patent(s), more information, or to request a quote.

Mouser Electronics

Authorized Distributor

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

CTS:

<u>204-10ST</u> 204-121ST 204-122ST 204-123ST 204-124ST 204-125ST 204-126ST 204-12ST 204-212ST 204-213ST 204-214ST 204-215ST 204-216ST 204-3ST 204-9ST 204-121LPST 204-122LPST 204-123LPST 204-124LPST 204-125LPST 204-126LPST 204-211ST 204-221ST 204-2ST 204-4ST 204-5ST 204-6ST 204-7ST 204-8ST 204-223ST 204-222ST 204-121 204-124STR 204-4LPSTR 204-4STR 204-122STR 204-211STR 204-121STR 204-3STR 204-6ES 204-8S 204-8STR 204-212STR 204-213STR 204-126STR 204-122S 204-124S 204-123STR 204-7S 204-121S 204-4S 204-2S 204-313ST 204-6STR 204-2STR 204-8LPST 204-12LPSTR 204-4SR 204-5STR 204-5S 204-5S 204-5S 204-6S 204-6S 204-6S 204-9S 204-9STR 204-9STR 204-10S 204-10SR 204-10STR 204-12S 204-12SR 204-2SR 204-3S 204-3SR 204-3SR 204-214STR