

# Locating Pins Tip Shape Selectable Type

-With Shoulder-

CAD Data Folder Name: Locating\_Pins

# Locating Pins Tip Shape Selectable Type

-Set Screws-

CAD Data Folder Name: Locating\_Pins

RoHS

Type	Installation Shape	Materials Code	M	S	H
LP (Round) LPD (Diamond)	M (Standard) U (Female Thread) X (Male Thread)	J	(1) SKS3	—	Hardening Hardness 55~60HRC
		G	(2) SKS3	Hard Chrome Plating Plating Thickness: 3µm or More	Hardening Hardness 55~60HRC Plating Hardness 750HV~
		Y	(3) S45C	—	Hardening Hardness 45~50HRC
		B	(4) S45C	Black Oxide	Hardening Hardness 45~50HRC
		R	(5) S45C	Hard Chrome Plating Plating Thickness: 3µm or More	Hardening Hardness 55~60HRC Plating Hardness 750HV~
		S	(6) SUS304	—	—
		D	(7) SUS304	Hard Chrome Plating Plating Thickness: 3µm or More	Plating Hardness 750HV~
		C	(8) SUS440C Equivalent	—	Hardening Hardness 50~55HRC

Tip Shape Selection

**A Shape**  
 $\ell_1 = R - \sqrt{R^2 - \frac{P^2}{4}}$

**B Shape**  
 $\ell_2 = \frac{P}{2} \cdot \frac{G}{2} \cdot \tan 30^\circ$   
 Reference:  $\tan 30^\circ = 0.577$   
 \*When G = P, add about 0.2 chamfering.

**C Shape**  
 $\ell_3 = \frac{P}{2} \cdot \tan 30^\circ + R - (R \cdot \sin 30^\circ)$   
 Reference:  $\tan 30^\circ = 0.577$   $\sin 30^\circ = 0.5$

Installation Shape Selectable

D	C	H	(W)	M1	Coarse	ℓ
2	0.5	7	—	—	—	—
3	—	8	1.0	—	—	—
4	—	9	1.2	—	—	—
5	1	10	1.5	—	—	—
6	—	11	1.8	M3	5	—
8	1.5	13	2.2	—	—	—
10	—	15	3	M5	8	—
12	2	17	3.2	—	—	—
16	—	21	4	M8	12	—
20	—	25	5.5	—	—	—

Type	Installation Shape	Materials Code	Tip Shape	D	P		B		R		G		L		T
					0.01mm Increment	0.1mm Increment	1mm Increment A Shape - C Shape Only	1mm Increment Shape B Only	1mm Increment	1mm Increment	1mm Increment	0.5mm Increment			
LP (Round) LPD (Diamond) *Applicable to D≥3	M (Standard) U (Female Thread) X (Male Thread)	J G Y B R S D C	A B C	2	2.50~4.00	2.0~25.0	—	—	—	—	2~6	—	—	—	—
				3	3.50~6.00	2.0~25.0(10.0)	—	—	3~6	—	—	—	—	—	
				4	3.50~7.00	2.0~25.0(10.0)	—	—	4~8	—	—	—	—	—	
				5	4.00~8.00	2.0~30.0(10.0)	—	—	5~10	—	—	—	—	—	
				6	5.00~10.00	2.0~40.0(12.0)	—	—	6(10)~12	—	—	—	—	—	
				8	6.00~11.00	2.0~40.0(15.0)	—	—	8(14)~16	—	—	—	—	—	
				10	8.00~13.00	3.0~50.0(20.0)	—	—	10(14)~20	—	—	—	—	1.0~10.0	
				12	10.00~15.00	3.0~50.0(20.0)	—	—	12(14)~24	—	—	—	—	—	
16	13.00~18.00	5.0~50.0(20.0)	—	—	16~32	—	—	—	—	—					
20	16.00~22.00	5.0~50.0(20.0)	—	—	20~40	—	—	—	—	—					

\*B dimension ( ) and L dimension ( ) are applicable to diamond shape.

Order Example: Part Number - P - B - R - G - L - T

LP U J B 8 - P10.00 - B10.0 - R10 - GB - L14 - T2.0

LPD X J A 10 - P11.98 - B5.0 - R10 - L10 - T5.0

Alterations: Part Number - P - B - R - G - L - T - (HC, LAC, LTE)

LPMJAG - P10.00 - B10.0 - R6 - L6 - T3.0 - LAC

Days to Ship: 3 Days

Alterations	Width Across Flats	Wrench Hole (Ø3.5)	Wrench Hole (Ø2.5)
	HC	LAC	LTE

Spec. HC = 0.5mm Increment  
 \*HC > D HC > P  
 (Ordering Code) HC10.0

Price Adder: 500 (HC), 100 (LAC), 100 (LTE)

\* Price in the table is for Installation Shape Selectable M  
 Shape U: (price in table) x1.10    Shape X: (price in table) x1.20 (Round down to the nearest ten yen)  
 Price calculation method is changed but the price itself is not changed.  
 Examples of Price Calculation:  
 LPXJA10-P12.00-B5.0-R5-L10-T5  
 1,670 (LPMJ10)x1.20 (Shape X) = 2,004...2,000 yen (Round down to the nearest ten yen)

D	Round Shape Unit Price Qty. 1-4								Diamond Shape Unit Price Qty. 1-4							
	(1) SKS3 Hardening LPMJ	(2) Hard SKS3 LPMG	(3) S45C LPMY	(4) S45C Black Oxide LPMB	(5) Hard S45C LPMR	(6) SUS304 LPM S	(7) Hard SUS304 LPM D	(8) SUS440C LPMC	(1) SKS3 Hardening LPMJ	(2) Hard SKS3 LPMG	(3) S45C LPMY	(4) S45C Black Oxide LPMB	(5) Hard S45C LPMR	(6) SUS304 LPM S	(7) Hard SUS304 LPM D	(8) SUS440C LPMC
2	1,060	1,430	1,000	1,160	1,270	1,370	1,640	1,690	—	—	—	—	—	—	—	—
3	1,140	1,530	1,080	1,250	1,360	1,480	1,760	1,820	1,520	2,050	1,440	1,670	1,820	1,970	2,350	2,430
4	1,290	1,740	1,220	1,410	1,540	1,670	1,990	2,060	1,670	2,250	1,580	1,830	2,000	2,170	2,580	2,670
5	1,370	1,840	1,300	1,500	1,640	1,780	2,120	2,190	1,820	2,450	1,720	2,000	2,180	2,360	2,820	2,910
6	1,600	2,160	1,520	1,760	1,920	2,080	2,480	2,560	1,980	2,670	1,880	2,170	2,370	2,570	3,060	3,160
8	1,600	2,160	1,520	1,760	1,920	2,080	2,480	2,560	1,980	2,670	1,880	2,170	2,370	2,570	3,060	3,160
10	1,670	2,250	1,580	1,830	2,000	2,170	2,580	2,670	2,050	2,760	1,940	2,250	2,460	2,660	3,170	3,280
12	1,820	2,450	1,720	2,000	2,180	2,360	2,820	2,910	2,200	2,970	2,090	2,420	2,640	2,860	3,410	3,520
16	2,280	3,070	2,160	2,500	2,730	2,960	3,530	3,640	2,660	3,590	2,520	2,920	3,190	3,450	4,120	4,250
20	3,040	4,100	2,880	3,340	3,640	3,960	4,710	4,840	3,500	4,720	3,320	3,850	4,200	4,550	5,420	5,600

RoHS

Round Shape	Diamond Shape	M	S	H
LPTJ	LPDTJ	(1) SKS3	—	Hardening Hardness 55~60HRC
LPTG	LPDTG	(2) SKS3	Hard Chrome Plating Plating Thickness: 3µm or More	Hardening Hardness 55~60HRC Plating Hardness 750HV~
LPT	LPDT	(3) S45C	—	Hardening Hardness 45~50HRC
LPTB	LPDTB	(4) S45C	Black Oxide	Hardening Hardness 45~50HRC
LPTR	LPDTR	(5) S45C	Hard Chrome Plating Plating Thickness: 3µm or More	Hardening Hardness 45~50HRC Plating Hardness 750HV~
LPTS	LPDTS	(6) SUS304	—	—
LPD	LPD D	(7) SUS304	Hard Chrome Plating Plating Thickness: 3µm or More	Plating Hardness 750HV~
LPTC	LPDTC	(8) SUS440C Equivalent	—	Hardening Hardness 50~55HRC

Set Screw Groove Shape Selectable

**Shape P (Circumference Groove)**  
 $\ell_2$  dimension is the recommended dimension of the position of set screw tip.

**Shape Q (Notch)**  
 $\ell_2 = 10^\circ$

**Shape R (Set Screw Flat)**  
 $\ell_2 > A + K + 1$

\*SUS440C equivalent type has an identification groove on D part.

\*Select set screw position from X and Y for set screw groove when Q shape and R shape diamond.

Tip Shape Selection

**A Shape**  
 $\ell_1 = R - \sqrt{R^2 - \frac{P^2}{4}}$

**B Shape**  
 $\ell_2 = \frac{P}{2} \cdot \frac{G}{2} \cdot \tan 30^\circ$   
 Reference:  $\tan 30^\circ = 0.577$   
 \*When G = P, add about 0.2 chamfering.

**C Shape**  
 $\ell_3 = \frac{P}{2} \cdot \tan 30^\circ + R - (R \cdot \sin 30^\circ)$   
 Reference:  $\tan 30^\circ = 0.577$   $\sin 30^\circ = 0.5$

Type	Set Screw Slot Shape	Tip Shape	D	P		B		R		G		L		K	A	Flat Position Diamond Shape Shape Q - R Only	C	(W)		
				0.01mm Increment	0.1mm Increment	1mm Increment A Shape - C Shape Only	1mm Increment Shape B Only	1mm Increment	1mm Increment	1mm Increment	1mm Increment									
(Round) (Diamond) LPTJ LPDTJ LPTG LPDTG LPT LPDT LPTB LPDTB LPTR LPDTR LPTS LPDTS LPD LPD D LPTC LPDTC	P Q R	A B C	6	6.50~12.00	2.0~40.0 (20.0)	—	—	—	—	—	—	—	—	—	—	—	—	1	3	
			8	9.00~15.00	2.0~40.0 (20.0)	—	—	—	—	—	—	—	—	—	—	—	—	1.5	3.5	
			10	11.00~20.00	3.0~50.0 (20.0)	—	—	—	—	—	—	—	—	—	—	—	—	—	2	4
			12	13.00~20.00	3.0~50.0 (20.0)	—	—	—	—	—	—	—	—	—	—	—	—	—	2	5
			16	17.00~25.00	5.0~50.0 (20.0)	—	—	—	—	—	—	—	—	—	—	—	—	—	3	7
			20	21.00~30.00	5.0~50.0 (20.0)	—	—	—	—	—	—	—	—	—	—	—	—	—	3	9

\*B dimension ( ) is applicable to diamond shape.

Order Example: Part Number - P - B - R - G - L - K - A - Flat Position

LPTJ P A 8 - P12.00 - B10.0 - R7 - L4 - K7 - A5 - X

LPDTJ R B 10 - P13.00 - B15.0 - R7 - L4 - K7 - A5 - X

Days to Ship: 3 Days

\*Diamond Shape is not available for alteration

Alterations	Width Across Flats	Wrench Hole (Ø3.5)	Wrench Hole (Ø2.5)
	SC	LAC	LTE

Spec. SC = 1mm Increment  
 P-3≤SC≤P-1, SC-D

Price Adder: 500 (SC), 100 (LAC), 100 (LTE)

\*Listed price is for selecting Set Screw Groove Shape P.  
 Shape Q: (price in table) x1.60    Shape R: (price in table) x1.30 (Round down to the nearest ten yen)  
 Examples of Price Calculation:  
 LPTJRA10-P12.00-B5.0-R5-L15-K5-A5  
 1,510 (LPTJ10) x1.30 (Shape R) = 1,963...1,960 yen (Round down to the nearest ten yen)

D	Round Shape Unit Price Qty. 1-4								Diamond Shape Unit Price Qty. 1-4							
	(1) SKS3 Hardening LPTJ	(2) Hard SKS3 LPTG	(3) S45C LPT	(4) S45C Black Oxide LPTB	(5) Hard S45C LPT	(6) SUS304 LPT S	(7) Hard SUS304 LPT D	(8) SUS440C LPTC	(1) SKS3 Hardening LPDTJ	(2) Hard SKS3 LPDTG	(3) S45C LPDT	(4) S45C Black Oxide LPDTB	(5) Hard S45C LPDTR	(6) SUS304 LPDTS	(7) Hard SUS304 LPD D	(8) SUS440C LPDTC
6	1,380	1,860	1,310	1,510	1,650	1,790	2,130	2,270	1,860	2,510	1,760	2,040	2,230	2,410	2,880	3,060
8	1,460	1,970	1,380	1,600	1,750	1,890	2,260	2,400	1,970	2,650	1,870	2,160	2,360	2,550	3,050	3,240
10	1,510	2,040	1,440	1,660	1,820	1,970	2,340	2,490	2,040	2,760	1,940	2,250	2,450	2,650	3,170	3,370
12	1,590	2,150	1,510	1,750	1,910	2,070	2,460	2,620	2,150	2,900	2,040	2,360	2,580	2,790	3,330	3,540
16	2,200	2,970	2,090	2,420	2,640	2,860	3,410	3,630	2,970	4,010	2,820	3,270	3,560	3,860	4,600	4,900
20	2,780	3,750	2,640	3,050	3,330	3,610	4,300	4,580	3,750	5,060	3,560	4,120	4,500	4,870	5,810	6,180