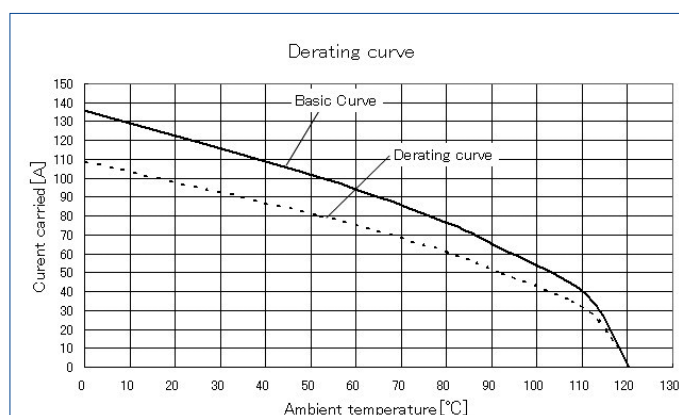


IT-P Series



Receptacle : IT-PD-2S-DIR, IT-PM-2S-DIR

- ※All products are designed for +1mm height use, for example IT-P-2P-65H(11) is applicable to 65~66mm height application.

*Under development / planned

Product Specification

Ratings	Current Rating	60A / pin (Note 6) (Temperature rise 30°C max)	Operating temperature range Operating humidity range	-55°C to +85°C (Note 1,2) RH 90% max (Note 2,4)
	Voltage Rating	300 V DC/AC	Storage temperature range Storage humidity range	-10°C to +60°C (Note 3) RH 70% max (Note 3,4)

Item	Specification	Condition
1. Insulation resistance	1000 MΩ min.	Measured at DC 500V
2. Withstanding voltage	No flashover or insulation breakdown	AC 1000V for 1 minute
3. Contact resistance	2mΩ max (Note 5)	100mA
4. Vibration resistance	No electrical discontinuity of 1μs or more No damage, cracks or loose parts	Frequency : 50 to 2000Hz, Power Spectral Density : 0.1g ² /Hz for 90 minutes in three directions
5. Cyclic temperature and humidity	Contact resistance : 2mΩ max. (Note 5) No damage, cracks or loose parts	25°C, 80% RH : 60 min dwell time, 30 min ramp time 65°C, 50% RH : 60 min dwell time for 24 cycles
6. Durability (Mating / Unmating)	Contact resistance : 2mΩ max. (Note 5) No damage, cracks or loose parts	100 cycles

Note 1 : Include temperature rise caused by current-carrying.

Note 2 : Operating temperature should be -55 to 55°C when humidity exceeds 80% RH.

Note 3 : "Storage" means a long-term storage state for the unused product in sealed packages before assembly to PCB.

Note 4 : No dew condensation is permitted.

Note 5 : The value of contact resistance includes 2 contact points and the bulk resistance.

Note 6 : Current rating of IT-PA and IT-PB series is 40A. (See the details on page 3.)

Materials / Finish

Series	Product	Part	Material	Finish	Remarks
IT-P	Receptacle	Housing (Mounting)	LCP	Black color	UL94V-0
		Housing (Mating)	LCP	Gray color	UL94V-0
		Contact	Copper Alloy	Gold plated	—
		Shell	Brass	Silver plated	—
	Interposer	Housing	PBT	Black color	UL94V-0
IT-PA IT-PB	Receptacle	Contact	Copper Alloy	Silver plated	—
		Housing	LCP	Black color	UL94V-0
		Contact	Copper Alloy	Gold plated	—
		Shell	Brass	Silver plated	—
	Interposer	Contact	Copper Alloy	Silver plated	—

Note 1 : The IT-PA and IT-PB series use the same receptacle housing for the mounting and mating sides.

Note 2 : There is no interposer housing for the IT-PA and IT-PB series.

Nomenclature

Please select a product based on the ordering information described on page 3 of this catalog when ordering.

●Receptacle

IT-P ** - 2 S - DIR ** ()**

① ② ③ ④ ⑤ ⑥ ⑦

●Interposer

IT-P ** - 2 P - ** H ** ()**

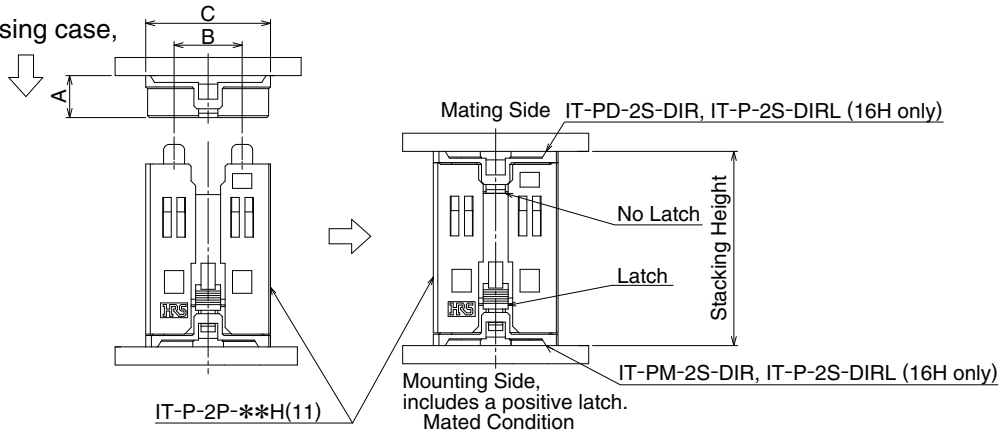
① ② ③ ④ ⑧ ⑥ ⑦

① Series Name : IT-P	⑥ Packaging or Other Specification ·Receptacle Blank : Standard L : Low height receptacle ** : Customized ·Interposer Blank : Standard ** : Customized
② Extra name Receptacle Type A : Narrow type Receptacle B : Narrow and Low height Receptacle D : Mating Receptacle D* : Mating Receptacle (Customized) M : Mounting Receptacle M* : Mounting Receptacle (Customized) Interposer Type A : Interposer for Narrow type receptacle B : Interposer for Narrow and Low height Receptacle Blank : Standard ** : Customized	⑦ Material and Plating Specification ·Receptacle Blank : Standard ** : Customized ·Interposer Blank : Brass, Contact plating (silver 5.1um + Ni 1.5um) (11) : ETP Copper, Contact plating (silver 5.1um + Ni 1.5um) ** : Customized
③ Contact Positions : 2	⑧ Stacking Height (mm) 10, 11, 14, 16, 21, 23, 25, 27, 29, 35, 37, 39, 41, 43, 65 *All products are designed for +1mm height use, for example IT-P-2P-65H(11) is applicable to 65~66mm height application.
④ Connector type S : Receptacle P : Interposer	
⑤ DIR : Paste in hole (PIH) reflow	

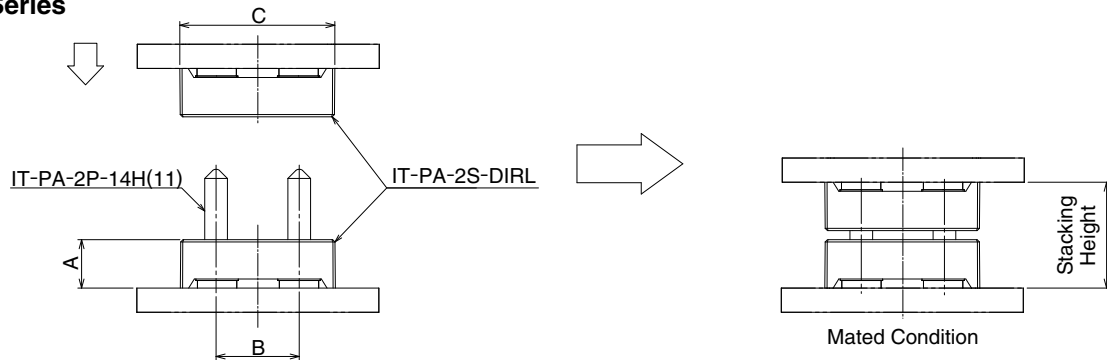
Product Series

IT-P Series

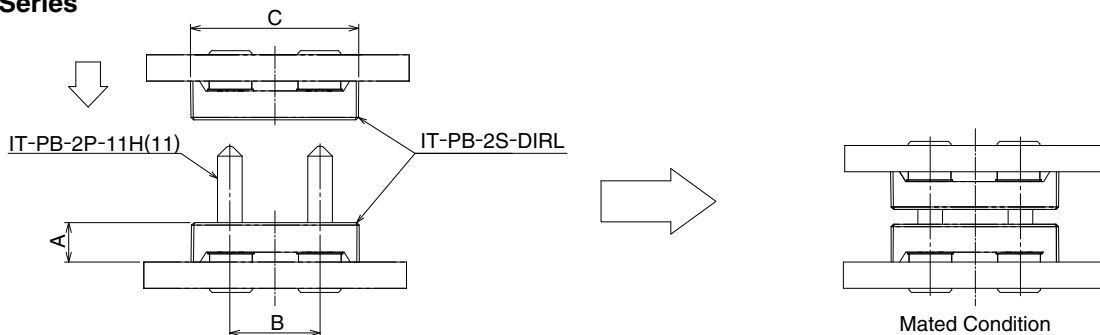
*16H is without housing case,
like IT-PA, IT-PB



IT-PA Series



IT-PB Series



Unit : mm

Stacking Height Range	Current Rating	Interposer		Receptacles		Dimension		
		Part No.	HRS No.	Part No.	HRS No.	A	B	C
10~11	40A	IT-PB-2P-10H(**)	636-0632-0 11	IT-PB-2S-DIRL	636-0631-0	4.65	10.8	20.5
11~12		IT-PB-2P-11H(11)	636-0633-0 11					
14~15		IT-PA-2P-14H(11)	636-0613-9 11	IT-PA-2S-DIRL	636-0614-1	6.4	10.8	20.5
16~17	60A	IT-P-2P-16H(11)	636-0644-0 11	IT-P-2S-DIRL	636-0611-3	6.6	12	22
21~22		IT-P-2P-21H(11)	636-0618-2 11					
23~24		IT-P-2P-23H(11)	636-0610-0 11					
25~26		IT-P-2P-25H(11)	636-0607-6 11					
27~28		IT-P-2P-27H(11)	636-0624-5 11					
29~30		IT-P-2P-29H(11)	636-0615-4 11					
35~36		IT-P-2P-35H(11)	636-0602-2 11					
37~38		IT-P-2P-37H(11)	636-0620-4 11					
39~40		IT-P-2P-39H(11)	636-0606-3 11					
41~42		IT-P-2P-41H(11)	636-0619-5 11					
43~44		IT-P-2P-43H(11)	636-0621-7 11					
65~66		IT-P-2P-65H(11)	636-0643-0 11					
				IT-PM-2S-DIR	636-0600-7	7.2	12	22
				IT-PD-2S-DIR	636-0601-0			

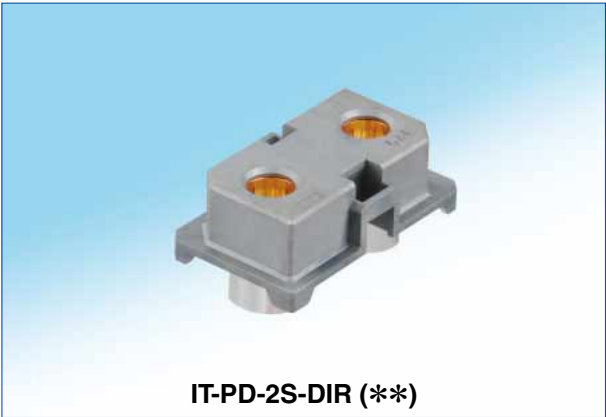
Note 1 : IT-PB-2P-10H(**), IT-PB-2P-11H(**), IT-PA-2P-14H(**) and IT-P-2P-16H(**) do not come with a housing.

Note 2 : IT-PA-2P-14H (**) is designed to mate with IT-PA-2S-DIRL only.

Note 3 : IT-PB-2P-10H(**) and IT-PB-2P-11H (**) are designed to mate with IT-PB-2S-DIRL only.

Note 4 : IT-P-2P-16H(**) is designed to mate with IT-P-2S-DIRL only.

IT-P Series
■ Receptacle (Paste in hole)



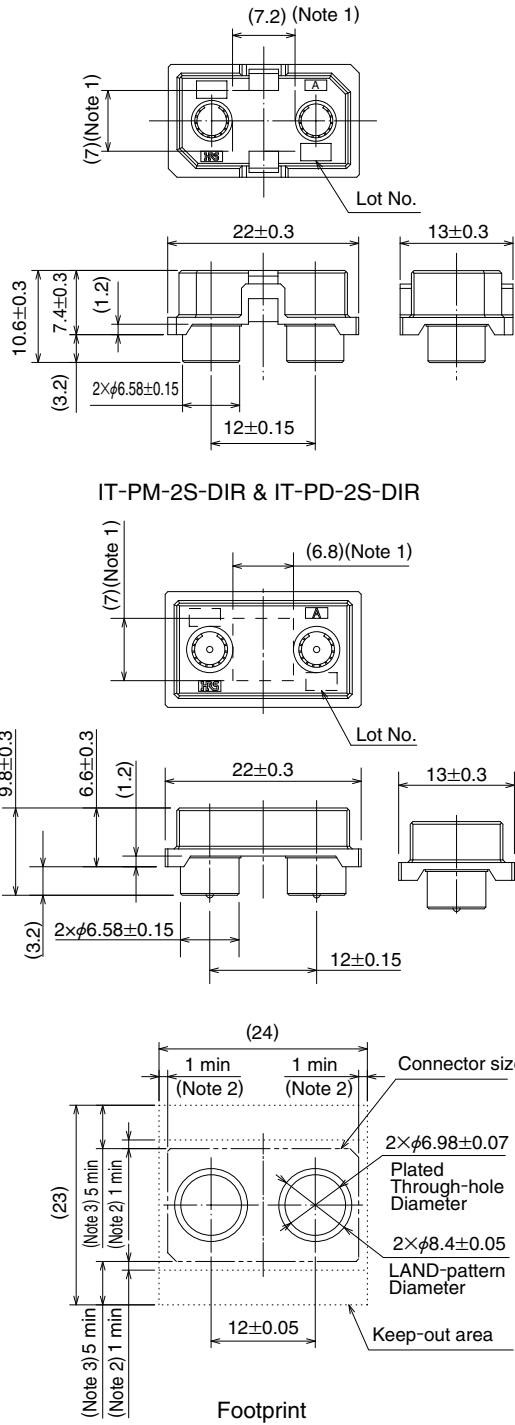
IT-PD-2S-DIR (**)



IT-PM-2S-DIR (**)

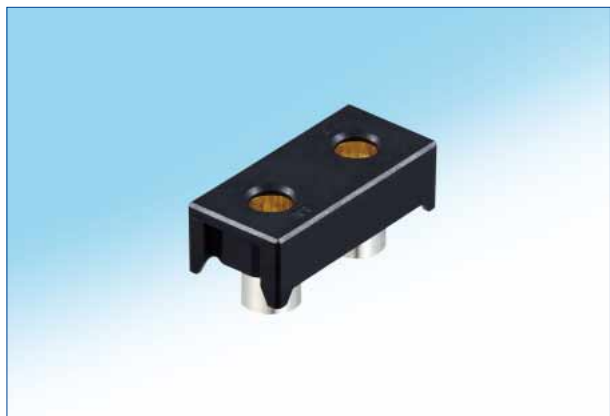
Type	Color	Part No.	HRS No.	No. of contacts	Packing	Pitch
Mating side	Gray	IT-PD-2S-DIR	636-0601-0	2	250pcs/ reel	12mm
Mounting side	Black	IT-PM-2S-DIR	636-0600-7	2		
Mating side Mounting side	Black	IT-P-2S-DIRL	636-0611-3	2		

Note 1 : This area is a vacuum pickup area.
Note 2 : Minimum clearance area.
Note 3 : Recommended clearance area for insertion / extraction.
Note 4 : Please see page 3 (Ordering Information) for applicable Interposers.
Note 5 : IT-P-2S-DIRL is designed to mate with IT-P-2P-16H(**) only.
Note 6 : There is no latch for IT-P-2S-DIRL.



IT-PA Series (Narrow type)

■Receptacle (Paste in hole)



Part No.	HRS No.	No. of contacts	Packing	Pitch
IT-PA-2S-DIRL	636-0614-1	2	250pcs/reel	10.8mm

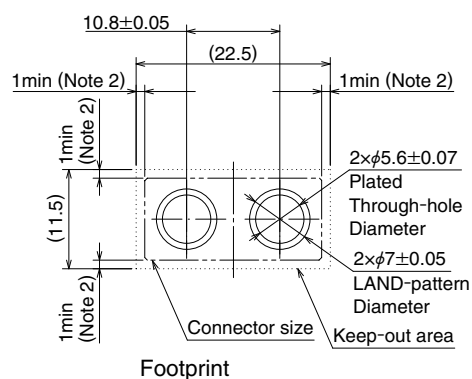
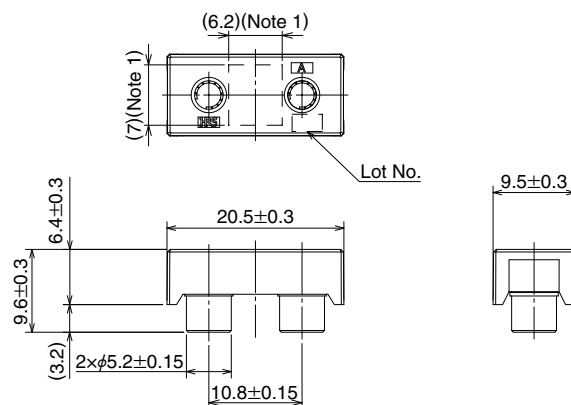
Note 1 : This area is a vacuum pickup area.

Note 2 : Minimum clearance area.

Note 3 : This product is designed to mate with IT-PA-2P-14H (**) Only.

Note 4 : IT-PA series are Narrow type of IT-P.

Note 5 : There is no latch for this receptacle.



Footprint

IT-PB Series (Narrow and Low height type)

■Receptacle (Paste in hole)



Part No.	HRS No.	No. of contacts	Packing	Pitch
IT-PB-2S-DIRL	636-0631-0	2	250pcs/reel	10.8mm

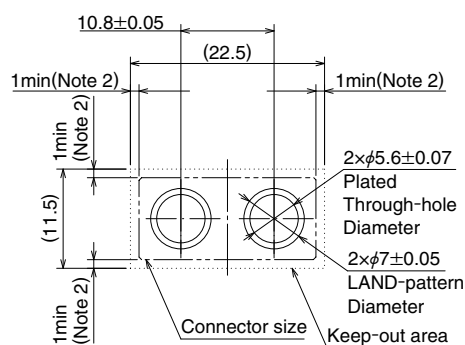
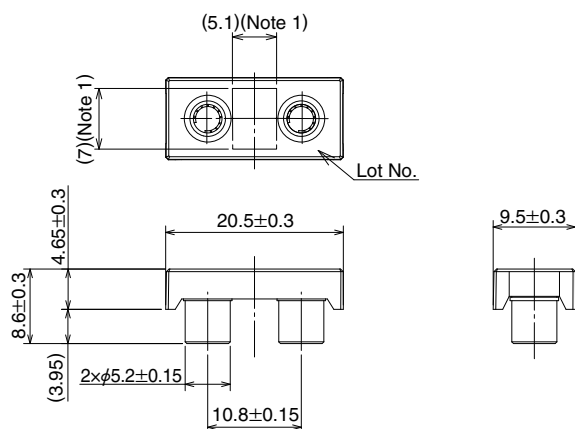
Note 1 : This area is a vacuum pickup area.

Note 2 : Minimum clearance area.

Note 3 : This product is designed to mate with IT-PB-2P-10H (**) and IT-PB-2P-11H (**) only.

Note 4 : IT-PB series are Narrow and Low height type of IT-P.

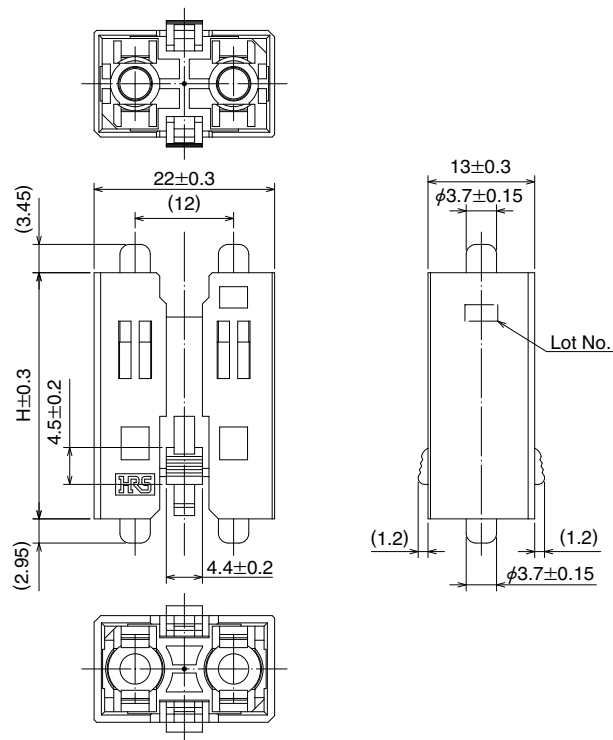
Note 5 : There is no latch for this receptacle.



Footprint

IT-P Series

■ Interposer with Housing



Unit : mm

Part No.	HRS No.	Stacking Height	H	Packing	Pitch
IT-P-2P-21H(11)	636-0618-2 11	21~22	16	50pcs/tray	12
IT-P-2P-23H(11)	636-0610-0 11	23~24	18		
IT-P-2P-25H(11)	636-0607-6 11	25~26	20		
IT-P-2P-27H(11)	636-0624-5 11	27~28	22		
IT-P-2P-29H(11)	636-0615-4 11	29~30	24	56pcs/tray	
IT-P-2P-35H(11)	636-0602-2 11	35~36	30	25pcs/tray	
IT-P-2P-37H(11)	636-0620-4 11	37~38	32	40pcs/tray	
IT-P-2P-39H(11)	636-0606-3 11	39~40	34		
IT-P-2P-41H(11)	636-0619-5 11	41~42	36		
IT-P-2P-43H(11)	636-0621-7 11	43~44	38		
IT-P-2P-65H(11)	636-0643-0 11	65~66	60	28pcs/tray	

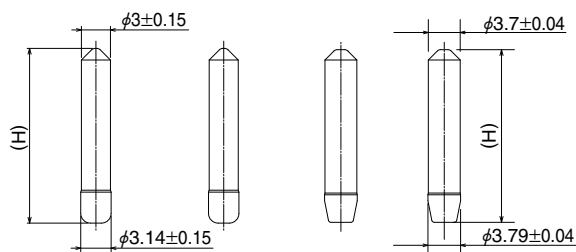
IT-P, IT-PA, IT-PB Series

■ Interposer without Housing



IT-PA, IT-PB Series

IT-P Series (16H only)



Unit : mm

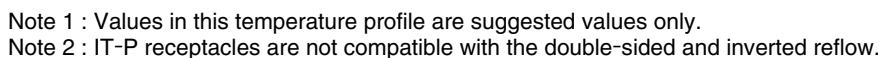
Part No.	HRS No.	Stacking Height	H	Packing
IT-PB-2P-10H(11)	636-0632-0 11	10~11	16.5	50pairs/tray
IT-PB-2P-11H(11)	636-0633-0 11	11~12	17.5	
IT-PA-2P-14H(11)	636-0613-9 11	14~15	18	
IT-P-2P-16H(11)	636-0644-0 11	16~17	20	

Note 1 : The larger side ($\phi 3.14$) or ($\phi 3.79$) of the pin should be inserted to mother board side since it has a locking mechanism.

You can remove the pin if you pull strongly.

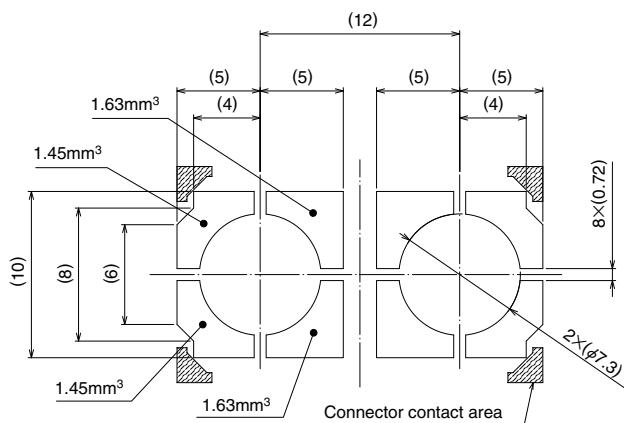
Note 2 : The thinner side ($\phi 3$) or ($\phi 3.7$) does not have any locking mechanism.

1. Recommended Temperature Profile



Parameters	Eutectic(SnPb)	Pb-Free	Comment
Preheat Ramp Rate	2 - 3°C/sec	2 - 3°C/sec	Other components may limit ramp rate to 2°C/sec.
Soak Time	0-120 sec	0-120 sec	Soak requirements determined by board design, oven capability, and paste activation requirements
Soak Temperature	140 - 180°C	160 - 215°C	Caution-"oversoaking" may exhaust flux and affect soldering
Peak Reflow Temperature	205 - 225°C	230 - 250°C	Cooler peak temperatures may require longer TAL's
Time Above Liquidus (TAL)	30-90 sec	45 - 120 sec	Shorter TAL's may require higher peak temperatures
Cooling Rate	>6°C/sec	>6°C/sec	Faster cooling rates produce finer grain structures and smoother joint appearances
Maximum Package Body Terminal (T)	240°C	260°C	Open body design allows for low delta T between package and solder joint
Maximum Delta between Body and PWB at Liquidus	10°C	10°C	Standard practice is easy to achieve with open body design.
Package Body Exposure Limit at Maximum Temperature	5 sec	5 sec	Adjust profile if maximum exposure limit is approached or exceeded

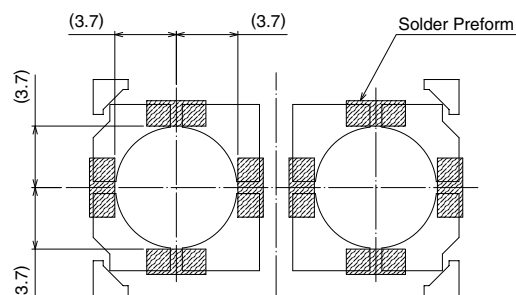
Dimensions For Recommended Net Solder Paste Volume



- (1) Net solder paste volume : 10.9mm^3
 $= 12.32\text{mm}^3 \times (100 - 11.5)\%$
 <Calculation conditions>
 • Stencil thickness of 0.12mm
 • Flux content of 11.5%

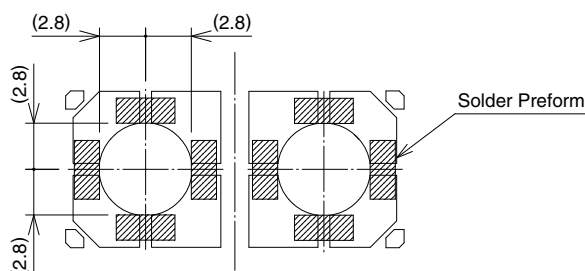
Dimensions For Recommended Solder Preform Placement

Note1. The following solder preform volume shows 2.4mm board thickness.



- (2) Solder preform volume : 32.768mm³
 <Calculation conditions>
 • Recommended Preform Solder : SMIC Chip Solder S M705
 • Size : 3.2×1.6×0.8 = 4.096mm³
 • Quantity : 8 pcs

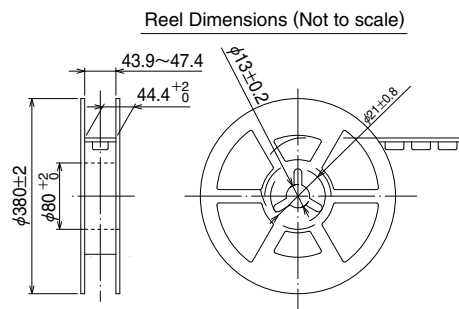
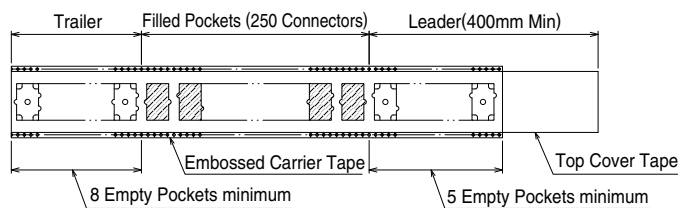
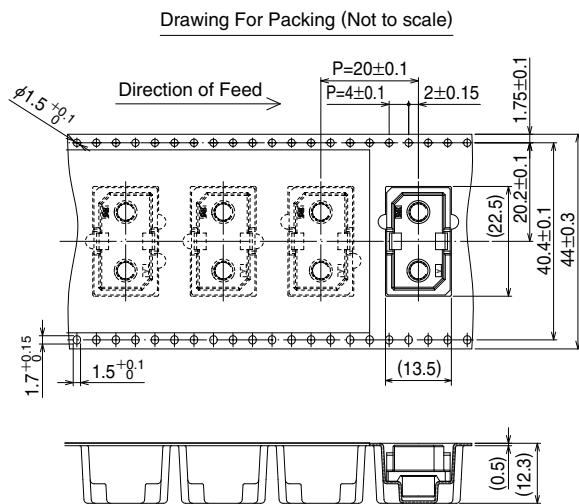
- (1) Net solder paste volume : 11.05mm^3
 $= 12.48\text{mm}^3 \times (100-11.5)\%$
 <Calculation Conditions>
 • Stencil thickness is 0.12mm
 • Flux content rate is 11.5%



- (2) Solder preform volume : 32.768mm³
 <Calculation conditions>
 • Recommended Preform Solder : SMIC Chip Solder S M705
 • Size : $3.2 \times 1.6 \times 0.8 = 4.096\text{mm}^3$
 • Quantity : 8 pcs

IT-P Series

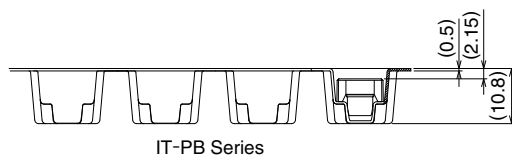
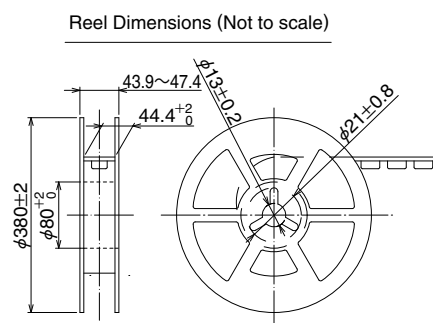
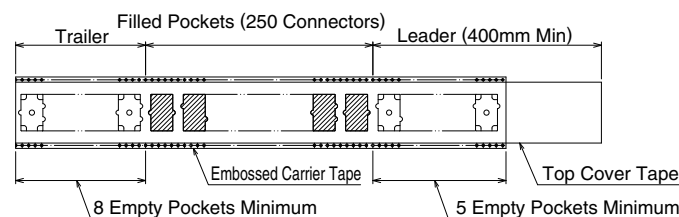
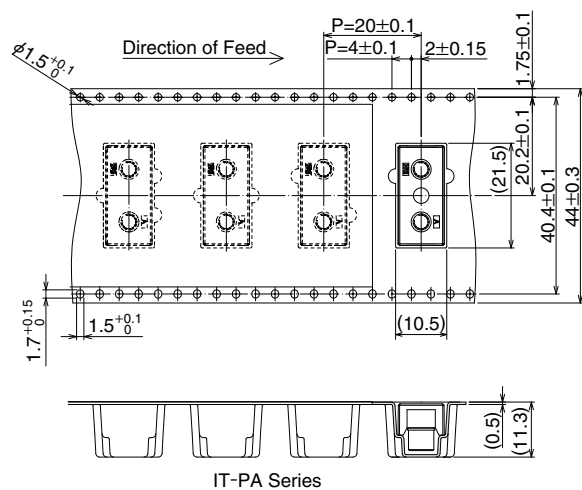
◆ Embossed Carrier Tape Dimensions



Note : This embossed carrier tape is for IT-PD-2S-DIR, IT-PM-2S-DIR, IT-P-2S-DIRL.

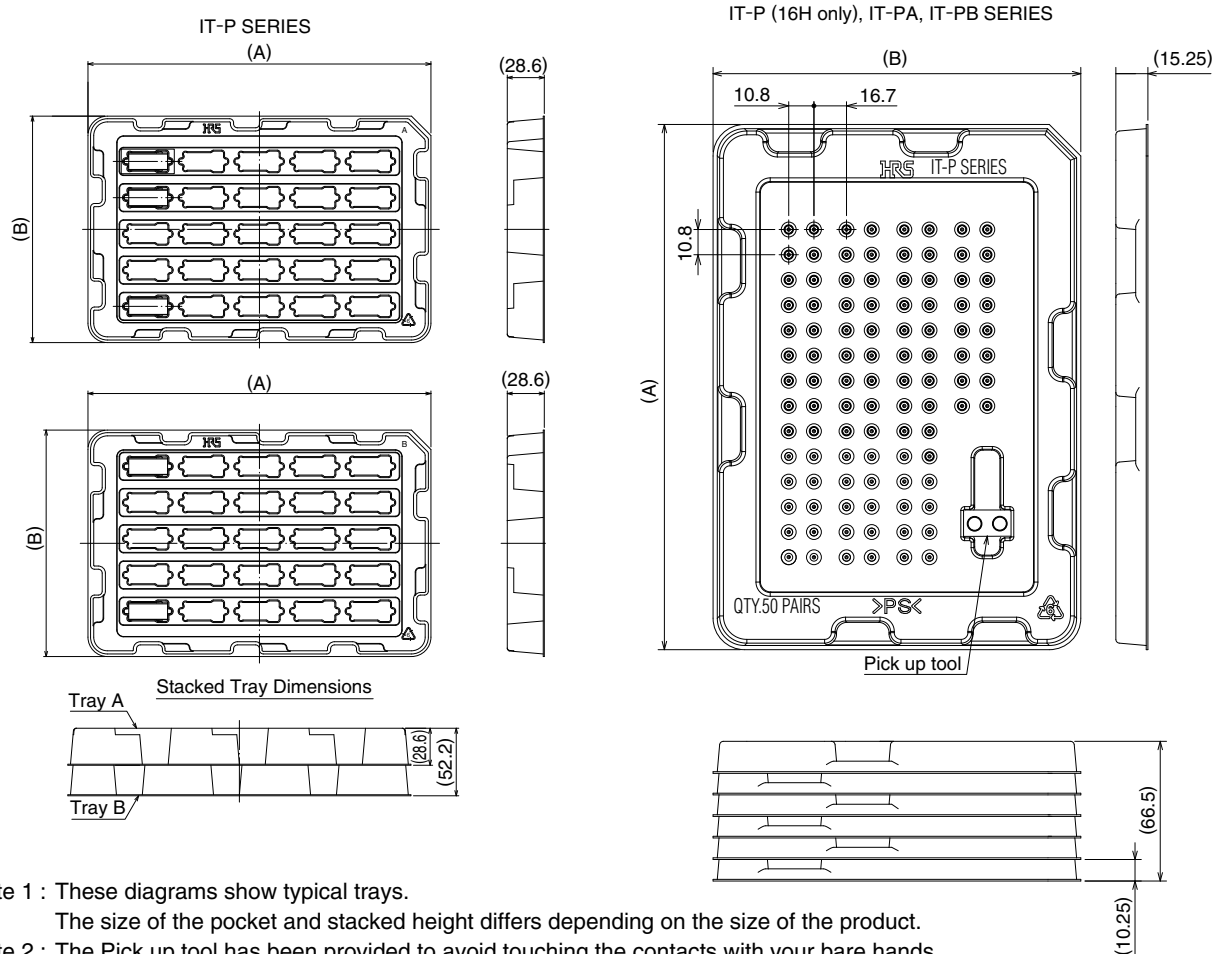
IT-PA and IT-PB Series

◆ Embossed Carrier Tape Dimensions



Note : This embossed carrier tape is for IT-PA-2S-DIRL and IT-PB-2S-DIRL.

◆ Dimensions of Interposer Tray



Note 1 : These diagrams show typical trays.

The size of the pocket and stacked height differs depending on the size of the product.

Note 2 : The Pick up tool has been provided to avoid touching the contacts with your bare hands.

Note 3 : The Pick up tool with the red housing should be discarded after use.

Note 4 : The interposer of IT-P-2P-16H (**), IT-PA and IT-PB series are placed into the tray with the larger side down.

◆ Product List

Unit : mm

Part No.	HRS No.	Parts per Tray	Qty per Box	A	B
IT-PB-2P-10H(11)	636-0632-0 11	* 50 pairs	500	250	175
IT-PB-2P-11H(11)	636-0633-0 11				
IT-PA-2P-14H(11)	636-0613-9 11		300		
IT-P-2P-16H(11)	636-0644-0 11	50 pcs	150	355	255
IT-P-2P-21H(11)	636-0618-2 11				
IT-P-2P-23H(11)	636-0610-0 11				
IT-P-2P-25H(11)	636-0607-6 11				
IT-P-2P-27H(11)	636-0624-5 11	56 pcs	112	265	175
IT-P-2P-29H(11)	636-0615-4 11	25 pcs	150		
IT-P-2P-35H(11)	636-0602-2 11	40 pcs	120	355	255
IT-P-2P-37H(11)	636-0620-4 11				
IT-P-2P-39H(11)	636-0606-3 11				
IT-P-2P-41H(11)	636-0619-5 11				
IT-P-2P-43H(11)	636-0621-7 11	28 pcs	56	355	255
IT-P-2P-65H(11)	636-0643-0 11				

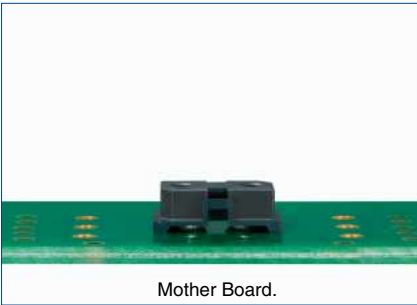
*16H is without housing case.

*1 pair = 2 contact pins

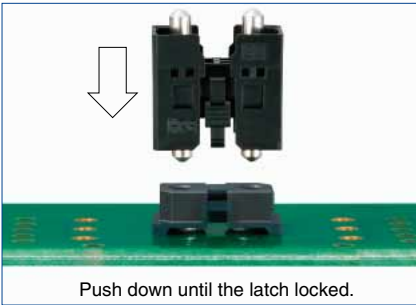
◆Installation

<IT-P Series>

① Solder the Receptacle



② Install Interposer



③ Interposer Installed



④ Install Daughter Card



⑤ Mated

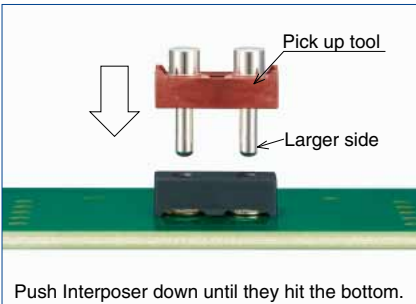


<IT-PA, IT-PB Series>

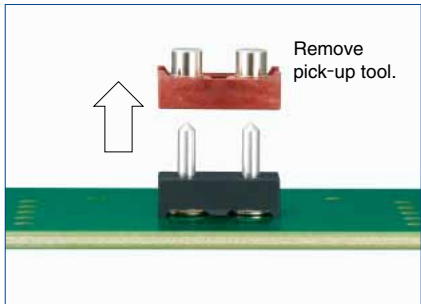
① Solder the Receptacle



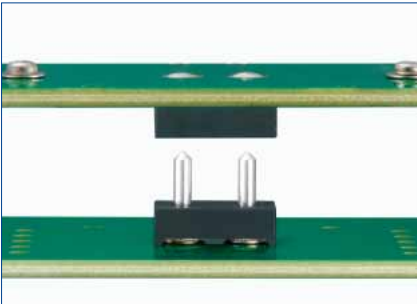
② Pick up the Interposer and install into the receptacle



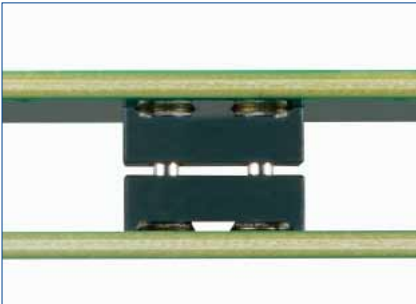
③ Interposer Installed



④ Install Daughter Card



⑤ Mated



Note 1 : To prevent silver tarnish, do not touch the contacts with your bare hands.

Use the mating receptacle that has been provided as a pick up tool.

Note 2 : The pick up tool is intended to be used to pick up the contacts in tray and then be discarded.

MEMO :

Handwriting practice area consisting of 30 horizontal dashed lines.

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