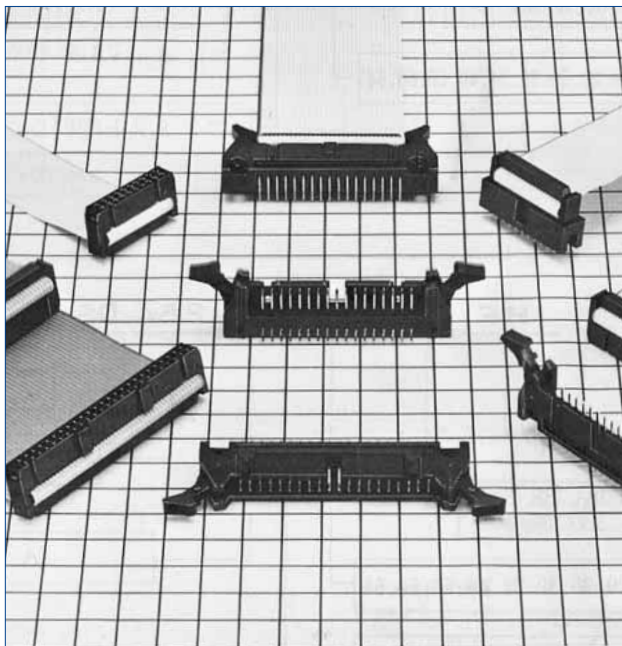


Ribbon Cable connector Compliant with MIL Standard

HIF3B Series



■Features

1. Product Compliant with MIL Standard

HIF3B series has been developed as a product compliant with MIL standard, and used for wide applications.

2. UL Approval Product

HIF3B series connectors are UL approved.

3. Mechanism to Prevent Mis-insertion

This connector is equipped with the mechanism to prevent Mis-insertion as follows.

- ① The system provides the convex area to insert the guide-key on the pin header side, and to guide it in combination with the socket convex area (MIL standard).
- ② The system embeds and guides the polarizing key in the socket holes.

4. Applicable Cable 28 AWG (IDC type)

The applicable cable is UL2651 28 AWG flat cable (7cores./0.127mm, jacket dia. 0.9 ± 0.1 mm).

■Product Specifications

Rating	Current rating : IDC : 1A 28 AWG Crimp : 32, 36 AWG : 1A Other : 3A	Operating Temperature Range : -55 to +85°C (Note 1)	Storage Temperature Range : -10 to +60°C (Note 2)
	Voltage rating : 200V	Operating Moisture Range : 40 to 80%	Storage Humidity Range : 40 to 70% (Note 2)

Item	Specification	Condition
1. Insulation Resistance	1000MΩ min.	500V DC
2. Withstanding voltage	No flashover or insulation breakdown.	650V AC/1 minute
3. Contact Resistance	15mΩ max.	0.1A
4. Vibration	No electrical discontinuity of 1μs or more	Frequency : 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.
5. Humidity (Steady state)	Insulation resistance : 1000MΩ min.	96 hours at temperature of 40°C and humidity of 90% to 95%
6. Temperature Cycle	No damage, cracks, or parts looseness.	(-55°C : 30 minutes → 15 to 35°C : 5 minutes max. 125°C : 30 minutes → 15 to 35°C : 5 minutes max.) 5 cycles
7. Durability (Mating/un-mating)	Contact resistance : 15mΩ max.	500 cycles
8. Resistance to Soldering heat	No deformation of components affecting performance.	Solder bath : 260°C for 10 seconds
		Manual soldering : 360°C for 5 seconds

Note 1 : Includes temperature rise caused by current flow.

Note 2 : The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non conducting condition of installed connectors in storage, shipment or during transportation.

Note 3 : Information contained in this catalog represents general requirements for this Series. Contact us for the drawings and specifications for a specific part number shown.

Note 4 : Please note that there is a risk of deforming the lock when an excessive load is applied to the inside.

■Material / Finish

Part	Material	Finish		Remarks
Insulator	PBT	Black		UL94V-0
Socket Contact	Beryllium copper	Connection area	Gold plated	———
Pin header contact	Brass	Selective Gold plated		———

■Product Number Structure

Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

●Socket

HIF 3B - * D - 2.54 R
① ② ③ ④ ⑤ ⑥

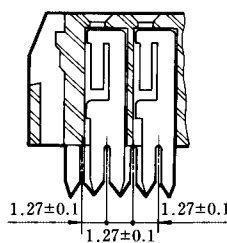
① Series Name	: HIF
② Series No.	: 3B, 3BA, 3BB (50, 60, 64 contacts only)
③ Number of contacts	: 6,10,14,16, 20, 26, 30, 34, 40, 50, 60, 64
④ Contact alignment	: D : Double
⑤ Contact pitch	: 2.54mm
⑥ Connection type	R : ID type

●Pin Header

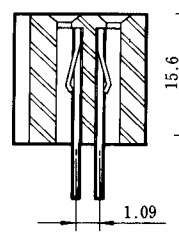
HIF 3B - * P A - 2.54 DS
① ② ③ ④ ⑤ ⑥ ⑦

① Series Name	: HIF
② Series No.	: 3B : (14 contacts not included) 3BC : (10 contacts only) 3BA, 3BB : (50, 60, 64 contacts only) 3BD : (10 contacts only)
③ Number of contacts	: 6,10,14,16, 20, 26, 30, 34, 40, 50, 60, 64
④ P	: Pin header
⑤ A	: Selective gold plated
⑥ Contact pitch	: 2.54mm
⑦ Contact style	DS : Right angle type DSA : Straight type

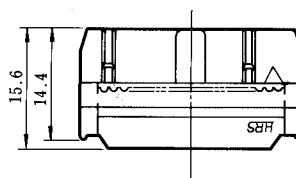
■Socket (With guide to prevent mis-insertion)



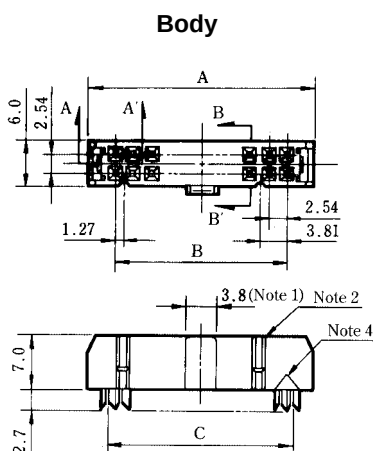
Section A to A'



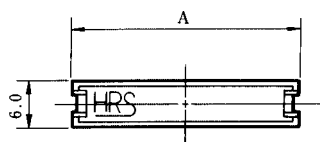
Section B to B'



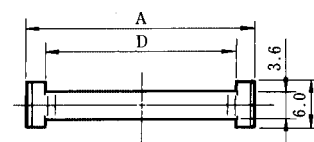
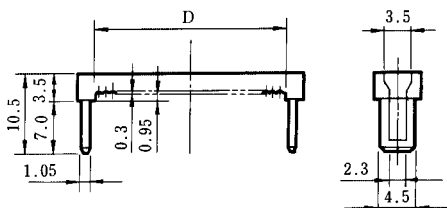
Combination pattern



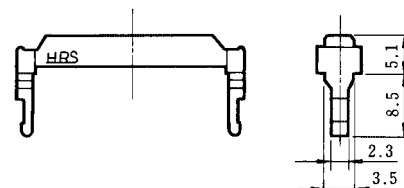
Body



Protector



Clamp



Note1, Note2 : The number of polarizing keys and polarizing keyways changes according to products. Refer to the list as shown below.

Note3 : The 50, 60 and 64 contact connector contain two types of polarizing guides. Use the products, referring to Notes 1 and 2.

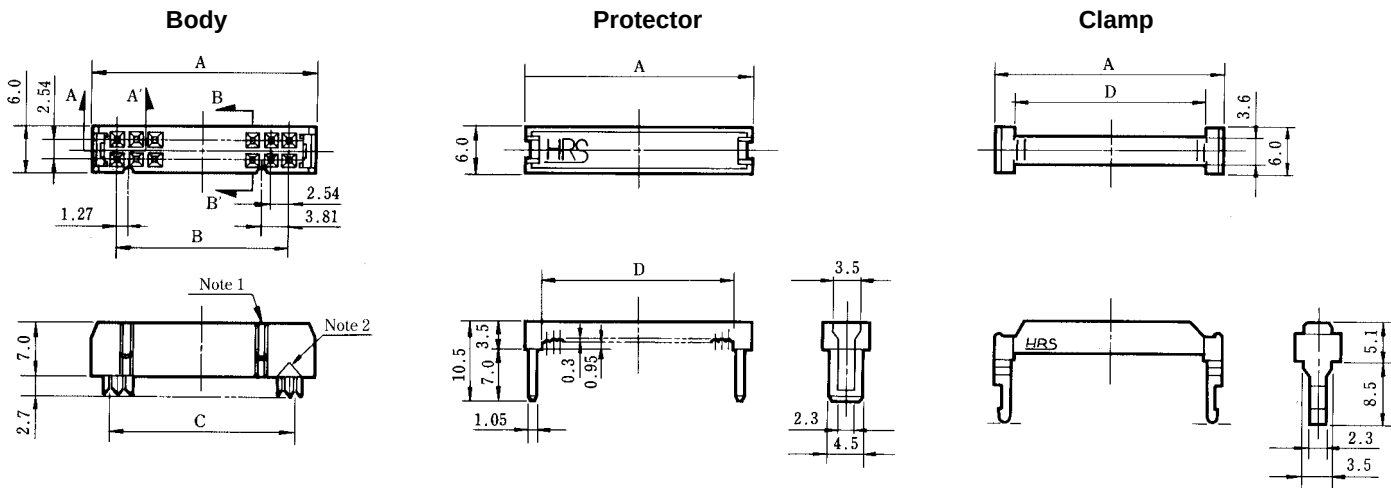
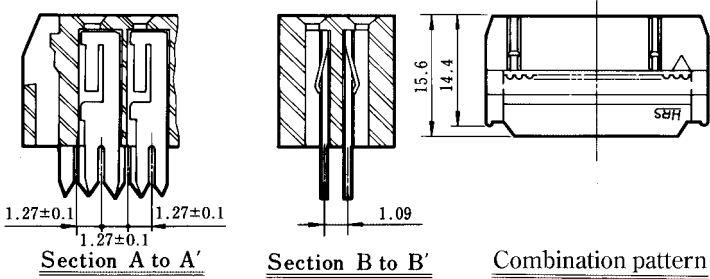
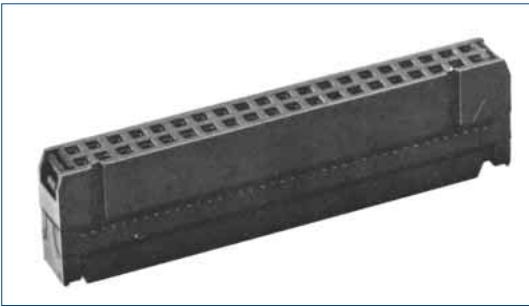
Note4 : The 6 contact has no polarizing mark.

Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	C	D	Polarizing Guide (Note 1)	Polarizing Keyway (Note 2)	RoHS
HIF3BA- 6D-2.54R(63)	610-0032-3 63	6	12.19	5.08	6.35	7.72	One at center	None	YES
HIF3BA-10D-2.54R(63)	610-0021-7 63	10	17.27	10.16	11.43	12.8		One on left side	
HIF3BA-14D-2.54R(63)	610-0022-0 63	14	22.35	15.24	16.51	17.88		One on right and left sides, resp.	
HIF3BA-16D-2.54R(63)	610-0023-2 63	16	24.89	17.78	19.05	20.42			
HIF3BA-20D-2.54R(63)	610-0024-5 63	20	29.97	22.86	24.13	25.5			
HIF3BA-26D-2.54R(63)	610-0025-8 63	26	37.59	30.48	31.75	33.12			
HIF3BA-30D-2.54R(63)	610-0026-0 63	30	42.67	35.56	36.83	38.2			
HIF3BA-34D-2.54R(63)	610-0027-3 63	34	47.75	40.64	41.91	43.28			
HIF3BA-40D-2.54R(63)	610-0028-6 63	40	55.37	48.26	49.53	50.9			
HIF3BA-50D-2.54R(63)	610-0029-9 63	50	68.07	60.96	62.23	63.6	One on right and left sides, resp.		
HIF3BB-50D-2.54R(63)	610-0041-4 63	50	68.07	60.96	62.23	63.6	One at center		
HIF3BA-60D-2.54R(63)	610-0030-8 63	60	80.77	73.66	74.93	76.3	One on right and left sides, resp.	One on right and left sides, resp.	
HIF3BB-60D-2.54R(63)	610-0042-7 63	60	80.77	73.66	74.93	76.3	One at center		
HIF3BA-64D-2.54R(63)	610-0031-0 63	64	85.85	78.74	80.01	81.38	One on right and left sides, resp.		
HIF3BB-64D-2.54R(63)	610-0043-0 63	64	85.85	78.74	80.01	81.38	One at center		

The products marked with ★ comply with MIL standard.

Socket



Note1 : The number of polarizing keys and polarizing keyways changes according to products. For details, refer to the list as shown below.
Note2 : The 6 contact has no polarizing mark.

Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	C	D	Polarizing Guide (Note 1)	RoHS
HIF3B- 6D-2.54R(63)	610-0012-6 63	6	12.19	5.08	6.35	7.72	None	YES
HIF3B-10D-2.54R(63)	610-0001-0 63	10	17.27	10.16	11.43	12.80	One on left side	
HIF3B-14D-2.54R(63)	610-0002-2 63	14	22.35	15.24	16.51	17.88	One on right and left sides, resp.	
HIF3B-16D-2.54R(63)	610-0003-5 63	16	24.89	17.78	19.05	20.42		
HIF3B-20D-2.54R(63)	610-0004-8 63	20	29.97	22.86	24.13	25.50		
HIF3B-26D-2.54R(63)	610-0005-0 63	26	37.59	30.48	31.75	33.12		
HIF3B-30D-2.54R(63)	610-0006-3 63	30	42.67	35.56	36.83	38.2		
HIF3B-34D-2.54R(63)	610-0007-6 63	34	47.75	40.64	41.91	43.28		
HIF3B-40D-2.54R(63)	610-0008-9 63	40	55.37	48.26	49.53	50.90		
HIF3B-50D-2.54R(63)	610-0009-1 63	50	68.07	60.96	62.23	63.6		
HIF3B-60D-2.54R(63)	610-0010-0 63	60	80.77	73.66	74.93	76.3		
HIF3B-64D-2.54R(63)	610-0011-3 63	64	85.85	78.74	80.01	81.38		

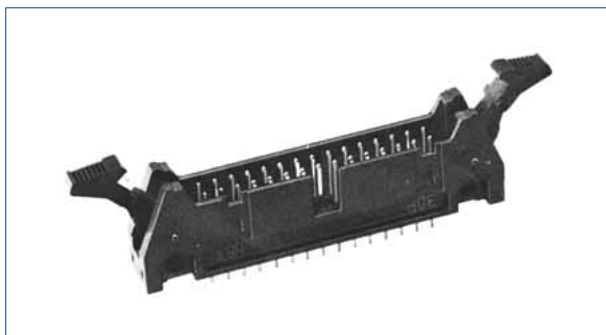
The products marked with ★ comply with MIL standard.

Technical drawing of a mechanical part showing dimensions and tolerances. The drawing includes a top view and a side view. Key dimensions and tolerances are:

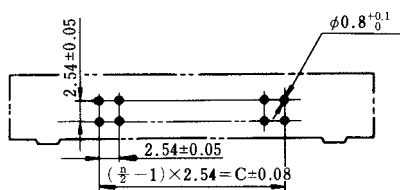
- Top view dimensions: 0.74 , 2.54 ± 0.05 , $\phi 0.8^{+0.1}_0$, 2.54 ± 0.05 , $\phi 2.7$, $E \pm 0.15$, $(\frac{n}{2} - 1) \times 2.54 = C \pm 0.08$.
- Side view dimensions: 2.54 ± 0.05 .

HRS B19

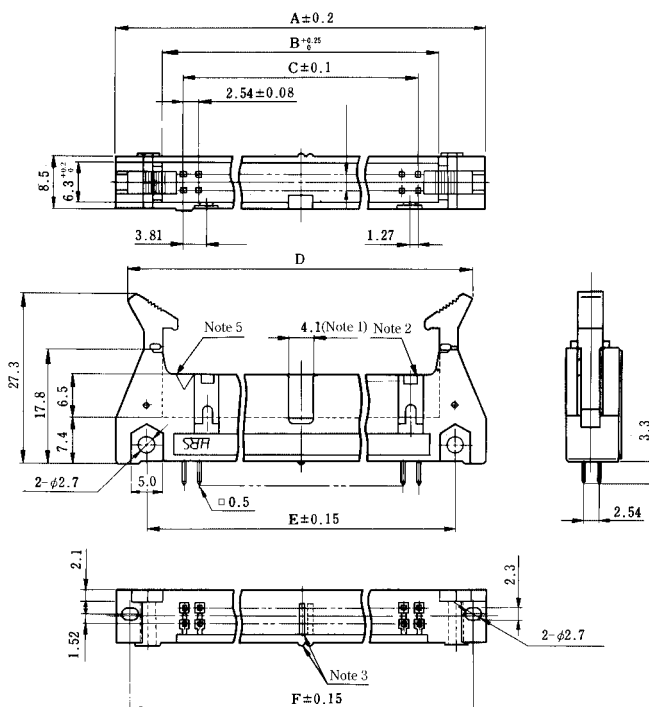
■Four-Wall Straight Through hole



◆PCB mounting pattern



■n=number of contacts



Note 1, Note 2 : The number of polarizing slot and key installed positions changes according to products. Refer to the list as shown below.

Note 3 : The spacer moves to the right according to the number of contacts.

Note 4 : The 10, 50, 60 and 64 contact connectors contain two types of polarizing slots.

Use products, confirming (Note 1) (Note 2).

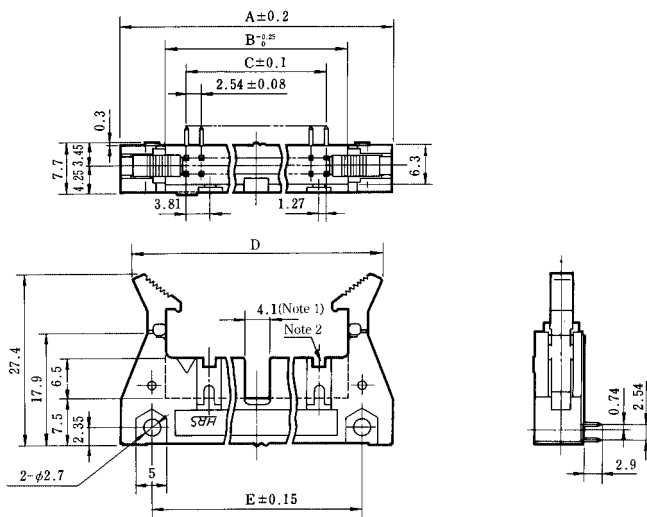
Note 5 : The 6 contact has no polarity mark.

Unit : mm

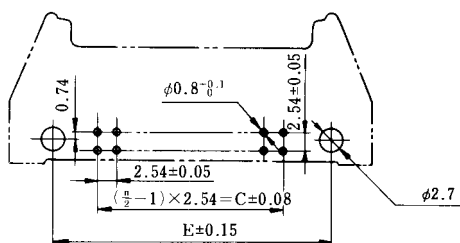
	Part No.	HRS No.	No. of Contacts	A	B	C	D	E	F	Polarizing Slot (Note 1)	Polarizing Key Install (Note 2)	RoHS
★	HIF3-6PA-2.54DSA(71)	562-0503-9 71	6	26.92	12.42	5.08	23.06 MAX46.02	16.7	22.82	One at center	None	YES
	HIF3BA-10PA-2.54DSA(63)	610-0111-8 63	10	32.0	17.5	10.16	28.14 MAX51.1	21.8	27.9	None	One on right side	
★	HIF3BD-10PA-2.54DSA(63)	610-0181-3 63	10	32.0	17.5	10.16	28.14 MAX51.1	21.8	27.9	One at center	None	
★	HIF3BA-14PA-2.54DSA(63)	610-0112-0 63	14	37.1	22.6	15.24	33.24 MAX56.2	26.9	33.0		One on right side	
★	HIF3BA-16PA-2.54DSA(63)	610-0113-3 63	16	39.6	25.1	17.78	35.74 MAX58.7	29.5	35.5		One on right and left sides, resp.	
★	HIF3BA-20PA-2.54DSA(63)	610-0114-6 63	20	44.7	30.2	22.86	40.84 MAX63.8	34.5	40.6			
★	HIF3BA-26PA-2.54DSA(63)	610-0115-9 63	26	52.3	37.8	30.48	48.44 MAX71.4	42.2	48.3			
★	HIF3BA-30PA-2.54DSA(63)	610-0116-1 63	30	57.4	42.9	35.56	53.54 MAX76.5	47.2	53.3			
★	HIF3BA-34PA-2.54DSA(63)	610-0117-4 63	34	62.5	48.0	40.64	58.64 MAX81.6	52.3	58.4			
★	HIF3BA-40PA-2.54DSA(63)	610-0118-7 63	40	70.1	55.6	48.26	66.24 MAX89.2	59.9	66.0			
★	HIF3BA-50PA-2.54DSA(63)	610-0119-0 63	50	82.8	68.3	60.96	78.94 MAX101.9	72.6	78.7	One on right and left sides, resp.		
★	HIF3BB-50PA-2.54DSA(63)	610-0141-9 63	50	82.8	68.3	60.96	78.94 MAX101.9	72.6	78.7	One at center		
★	HIF3BA-60PA-2.54DSA(63)	610-0120-9 63	60	95.5	81.0	73.66	91.64 MAX114.6	85.3	91.4	One on right and left sides, resp.		
★	HIF3BB-60PA-2.54DSA(63)	610-0142-1 63	60	95.5	81.0	73.66	91.64 MAX114.6	85.3	91.4	One at center		
★	HIF3BA-64PA-2.54DSA(63)	610-0121-1 63	64	100.6	86.1	78.74	96.74 MAX119.7	90.4	96.5	One on right and left sides, resp.		
★	HIF3BB-64PA-2.54DSA(63)	610-0143-4 63	64	100.6	86.1	78.74	96.74 MAX119.7	90.4	96.5	One at center		

The products marked with ★ comply with MIL standard.

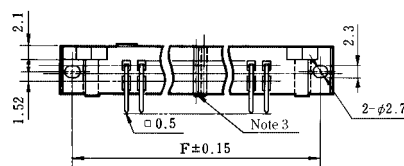
Three Wall Angle Type



PCB mounting pattern



■n=number of contacts



Note 1, Note 2 : The number of polarizing slot and key installed positions changes according to products. Refer to the list as shown below.

Note 3 : The spacer moves according to the number of contacts.

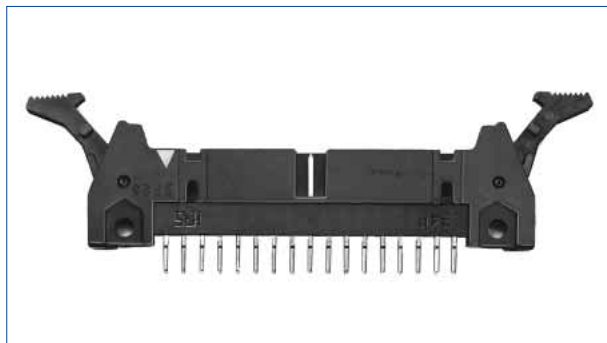
Note 4 : The 10 contact connector consists of two types.
Use products, confirming (Note 1) (Note 2).

Unit : mm

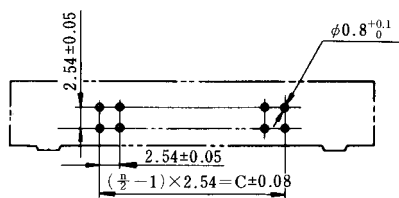
	Part No.	HRS No.	No. of Contacts	A	B	C	D	E	F	Polarizing Slot (Note 1)	Polarizing Key Install (Note 2)	RoHS
★	HIF3B -10PA-2.54DS(63)	610-0051-8 63	10	32.0	17.5	10.16	28.14 MAX51.1	21.8	27.9	None	One on right side	YES
	HIF3BC-10PA-2.54DS(63)	610-0151-2 63	10	32.0	17.5	10.16	28.14 MAX51.1	21.8	27.9	One at center	None	
★	HIF3B -16PA-2.54DS(63)	610-0052-0 63	16	39.6	25.1	17.78	35.74 MAX58.7	29.5	35.5		One on right and left sides, resp.	
★	HIF3B -20PA-2.54DS(63)	610-0053-3 63	20	44.7	30.2	22.86	40.84 MAX63.8	34.5	40.6			
★	HIF3B -26PA-2.54DS(63)	610-0054-6 63	26	52.3	37.8	30.48	48.44 MAX71.4	42.2	48.3			
★	HIF3B -30PA-2.54DS(63)	610-0055-9 63	30	57.4	42.9	35.56	53.54 MAX76.5	47.2	53.3			
★	HIF3B -34PA-2.54DS(63)	610-0056-1 63	34	62.5	48.0	40.64	58.64 MAX81.6	52.3	58.4			
★	HIF3B -40PA-2.54DS(63)	610-0057-4 63	40	70.1	55.6	48.26	66.24 MAX89.2	59.9	66.0			
★	HIF3B -50PA-2.54DS(63)	610-0058-7 63	50	82.8	68.3	60.96	78.94 MAX101.9	72.6	78.7			
★	HIF3B -60PA-2.54DS(63)	610-0059-0 63	60	95.5	81.0	73.66	91.64 MAX114.6	85.3	91.4			
★	HIF3B -64PA-2.54DS(63)	610-0060-9 63	64	100.6	86.1	78.74	96.74 MAX119.7	90.4	96.5			

The products marked with ★ comply with MIL standard.

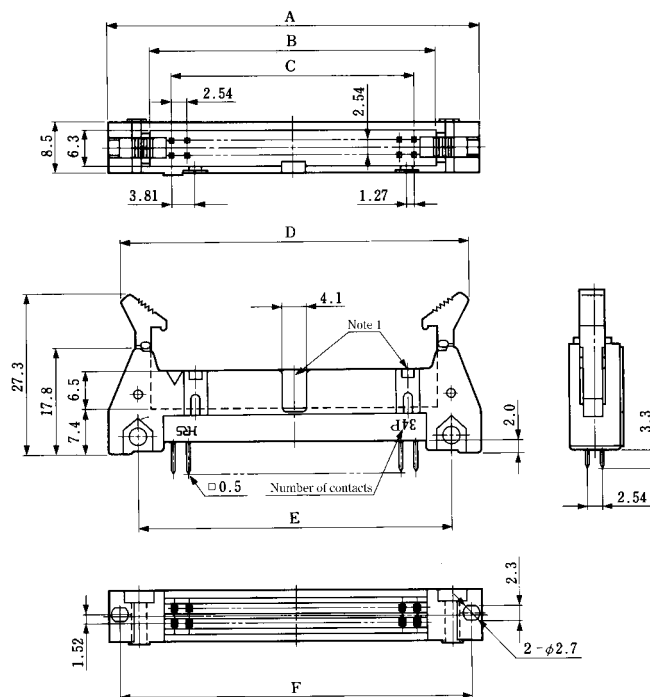
■Four Wall Straight Through hole [Flux Blister Prevention Type]



◆PCB mounting pattern



■n=number of contacts



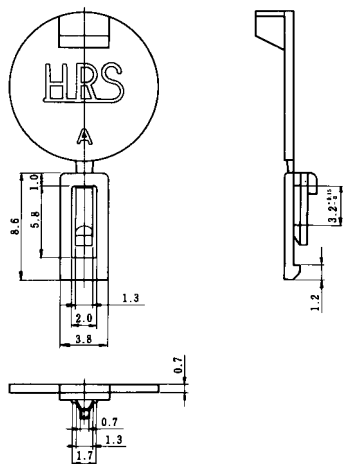
Note1 : The number of polarizing slot and key installed positions changes according to products. Refer to the list as shown below.

Unit : mm

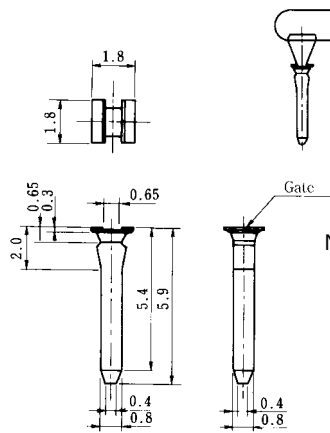
	Part No.	HRS No.	No. of Contacts	A	B	C	D	E	F	Polarizing Slot	Polarizing Key Install	RoHS
★	HIF3CA-10PA-2.54DSA(63)	610-0701-1 63	10	32.0	17.5	10.16	28.14 MAX51.1	21.8	27.9	None	One on right side	YES
	HIF3CD-10PA-2.54DSA(63)	610-0722-1 63	10	32.0	17.5	10.16	28.14 MAX51.1	21.8	27.9		None	
★	HIF3CA-16PA-2.54DSA(63)	610-0703-7 63	16	39.6	25.1	17.78	35.74 MAX58.7	29.5	35.5	One at center	One on right and left sides, resp.	
★	HIF3CA-20PA-2.54DSA(63)	610-0704-0 63	20	44.7	30.2	22.86	40.84 MAX63.8	34.5	40.6			
★	HIF3CA-26PA-2.54DSA(63)	610-0705-2 63	26	52.3	37.8	30.48	48.44 MAX71.4	42.2	48.3			
★	HIF3CA-30PA-2.54DSA(63)	610-0706-5 63	30	57.4	42.9	35.56	53.54 MAX76.5	47.2	53.3			
★	HIF3CA-34PA-2.54DSA(63)	610-0707-8 63	34	62.5	48.0	40.64	58.64 MAX81.6	52.3	58.4			
★	HIF3CA-40PA-2.54DSA(63)	610-0708-0 63	40	70.1	55.6	48.26	66.24 MAX89.2	59.9	66.0			
★	HIF3CA-50PA-2.54DSA(63)	610-0709-3 63	50	82.8	68.3	60.96	78.94 MAX101.9	72.6	78.7			
★	HIF3CB-50PA-2.54DSA(63)	610-0721-9 63	50	82.8	68.3	60.96	78.94 MAX101.9	72.6	78.7	One at center		
★	HIF3CB-60PA-2.54DSA(63)	610-0723-4 63	60	95.5	81.0	73.66	91.64 MAX114.6	85.3	91.4			
★	HIF3CB-64PA-2.54DSA(63)	610-0724-7 63	64	100.6	86.1	78.74	96.74 MAX119.7	90.4	96.5			

The products marked with ★ comply with MIL standard.

◆Polarizing Key



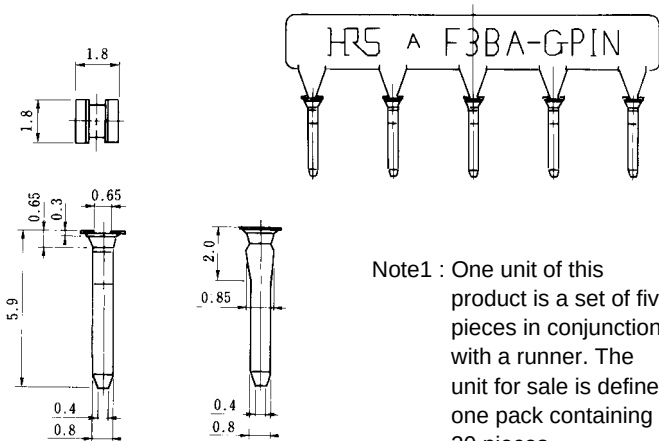
HIF3-GPIN(A)



Note1 : One unit of this product is a set of five pieces in conjunction with a runner. The unit for sale is defined one pack containing 20 pieces.

Note2 : This product is applicable to HIF3A-*D2.54R, HIF3C-*D2.54C and HIF3BA-*D2.54C products.

HIF3BA-GPIN



Note1 : One unit of this product is a set of five pieces in conjunction with a runner. The unit for sale is defined one pack containing 20 pieces.

Note2 : This product is applicable to the HIF3BA-*D2.54R product.

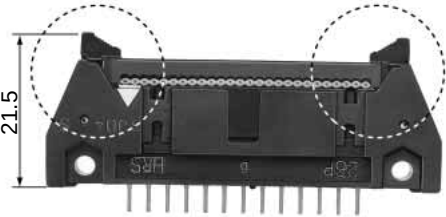
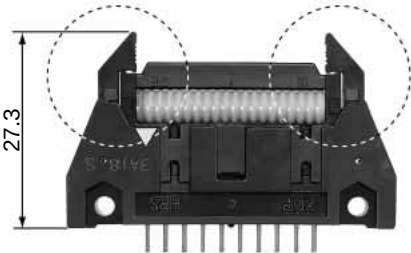
Part No.	HRS No.	Material	Remarks	RoHS
HIF3-GPIN(A)	562-0126-6	Poly acetal (white)	A set of 5 pieces	YES

Part No.	HRS No.	Material	Remarks	RoHS
HIF3BA-GPIN	612-0500-2	Poly acetal (white)	A set of 5 pieces	YES

◆Lock

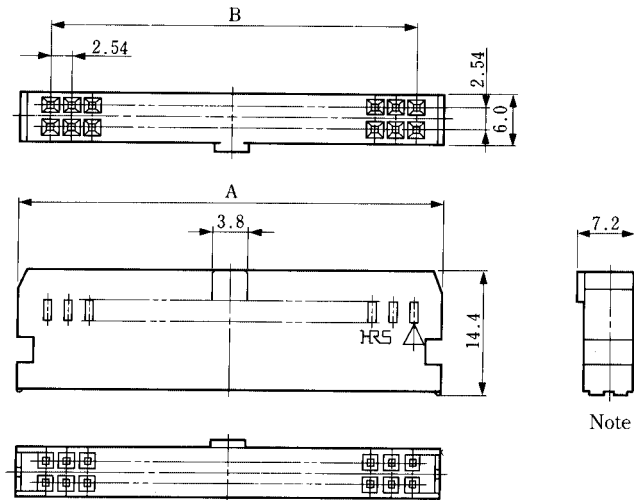
●Low Profile Lock Pin Header

●F Type Lock Pin Header

Lock G	Lock F
Part Number : HIF3BAG-**PA-2.54DSA(63)  ●Low profile type, and used for lock ejection. Connector height is reduced. Since no connector clamp is needed on the cable side, this is used without turning back on the cable side. Take care about this point.	Part Number : HIF3BAG-**PA-2.54DSA(63)  ●Locking range more reduced than conventional lock type. Even if connectors are aligned laterally, the mounting space is reduced. Note : The clamp must be replaced for HIF3A socket type 60 contacts only. Take care about this point.

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■Socket for Crimping

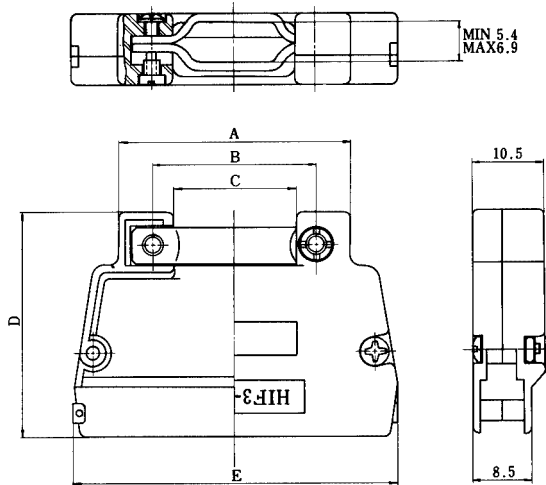


Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	Polarizing Guide	RoHS	
HIF3BA-10D-2.54C(63)	610-1041-0 63	10	17.25	10.16	One at center	YES	
HIF3BA-14D-2.54C(63)	610-1051-3 63	14	22.35	15.24			
HIF3BA-16D-2.54C(63)	610-1042-2 63	16	24.8	17.78			
HIF3BA-20D-2.54C(63)	610-1043-5 63	20	29.95	22.86			
HIF3BA-26D-2.54C(63)	610-1044-8 63	26	37.55	30.48			
HIF3BA-30D-2.54C(63)	610-1045-0 63	30	42.63	35.56			
HIF3BA-34D-2.54C(63)	610-1046-3 63	34	47.75	40.64			
HIF3BA-40D-2.54C(63)	610-1047-6 63	40	55.35	48.26	One right and left side, resp.		YES
HIF3BA-50D-2.54C(63)	610-1048-9 63	50	68.04	60.96			
HIF3BB-50D-2.54C(63)	610-1061-7 63				One at center		
HIF3BA-60D-2.54C(63)	610-1049-1 63	60	80.77	73.66	One right and left side, resp.		
HIF3BB-60D-2.54C(63)	610-1062-0 63				One at center		
HIF3BA-64D-2.54C(63)	610-1064-5 63	64	85.85	78.74	One right and left side, resp.		
HIF3BB-64D-2.54C(63)	610-1063-2 63				One at center		

Note : Some variations may differ from those in above figures.

■Cover Case for Crimping socket



Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	C	D	E	RoHS
HIF3-20CV(72)	562-0201-0 72	20	24.5	18.0	12.0	30.5	29.95	YES
HIF3-26CV(72)	562-0202-2 72	26	30.2	20.0	14.0	32.0	37.55	
HIF3-30CV(72)	562-0203-5 72	30	32.2	22.0	16.0	33.0	42.63	
HIF3-34CV(72)	562-0204-8 72	34	34.2	24.0	18.0	33.5	47.75	
HIF3-40CV(72)	562-0205-0 72	40	36.2	26.0	20.0	35.5	55.35	
HIF3-50CV(72)	562-0206-3 72	50	39.2	29.0	23.0	38.0	68.04	
HIF3-60CV(72)	562-0207-6 72	60	42.2	32.0	26.0	40.5	80.77	

Note 1 : The type F lock pin header cannot be used for a mating member.

Note 2 : Note that the product cannot be used with AWG #20.

Applicable jacket diameters are as described below.

- 20 contacts : 1.7mm diameter MAX
- 26 to 40 contacts : 1.6mm diameter MAX
- 50 to 60 contacts : 1.4mm diameter MAX

HRS B27

◆Tools

●Crimping Tool



Manual Crimping Tool HIF3-T2226HC

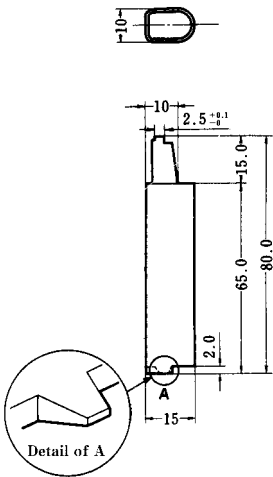
Part No.	HRS No.
HIF3-T2226HC	550-0063-8

●Automatic Crimping Tool (Type : CM-105C)



Part No.	HRS No.
CM-105C	901-0001-0

●Contact Extraction Tools



Part No.	HRS No.
HIF1-PO	550-0049-7

How to use the extraction tool

(1) How to extract contacts

As shown in Figure 1, where the extraction tool is inserted in the lance fixed slot on the insulated case, slightly pull the cable, and the contact can be removed.

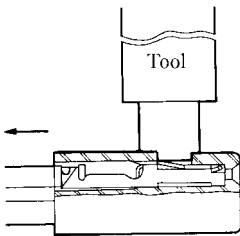


Figure 1

(2) How to adjust the lance (raise)

In order to re-insert the contact removed from the insulated case, raise the contact lance area using the tool A, and re-insert the contact, as shown in Figure 2.

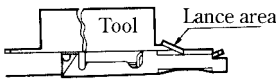


Figure 2

◆Socket Side (Crimping) Assembling Procedures

- (1) As shown in Figure 1, peel the applicable cable (AWG#20 to #26) jacket, and connect it using crimping jig HIF3-TA2022HC, HIF3-TA2226HC, or HIF3-TA2426HC. In this case, insert the cable so as to hit the contact cable stripper position as shown Figure 2.
- (2) After connection as shown Figure 2, check the contact direction, and insert the contact as shown Figures 3 and 4. Slightly pull the cable, and check whether the contact lance position is firmly fixed to the insulation case, as shown in the area (A).

Note1 : For handling procedures for special crimping tools, refer to the "Handling Instruction Manual".

Note2 : Wire strip length : Refer to crimp condition sheet.

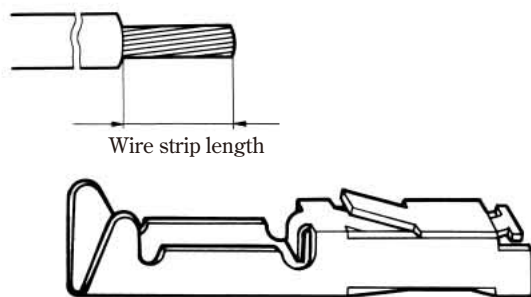


Figure 1

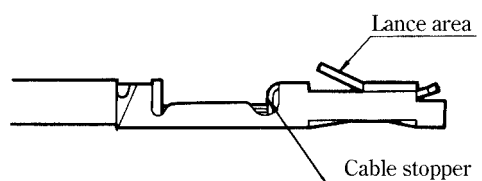


Figure 2

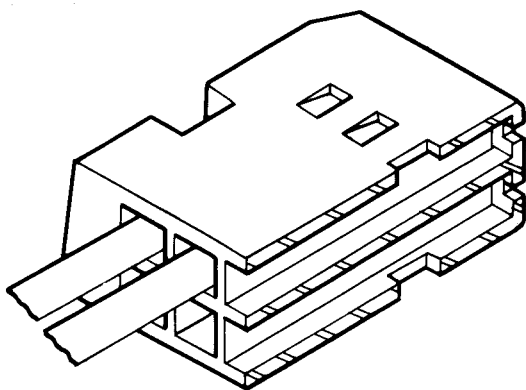


Figure 3

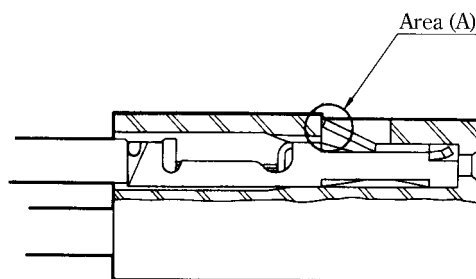


Figure 4