High Speed Connectors

HSA series

Connectors for interfacing to storage devices (Conforms to Serial ATA Standard)

Outline

This series of connectors for high-speed transmission conform to Serial ATA (SATA) standard, which are successors to the parallel type ATA connector. Currently, as memory capacity of hard disks increases, high-speed interfacing is required. To respond to that need, serial transmission has been used. Compared with a parallel ATA connector, the serial ATA connector further contributes to the improvement of thermal design and the implementation of small-sized systems, because cable wiring and mounting become simpler with use thin flexible cable and the small-sized connector with few pins. Further, wiring on the motherboard can be more easily and flexibly routed.

Features

- Conforms to Serial ATA standard (Rev 1.0)
- Transmission speed: 1.5 or 3.0 Gigabits per second
- Excellent transmission characteristics are obtained by utilizing electromagnetic field simulator.
- Characteristic impedance is matched.
- Low crosstalk
- Low insertion loss
- Low reflection attenuation

Principal Applications

HDD (Hard Disk Drives), storage equipment, servers, PCs, etc.

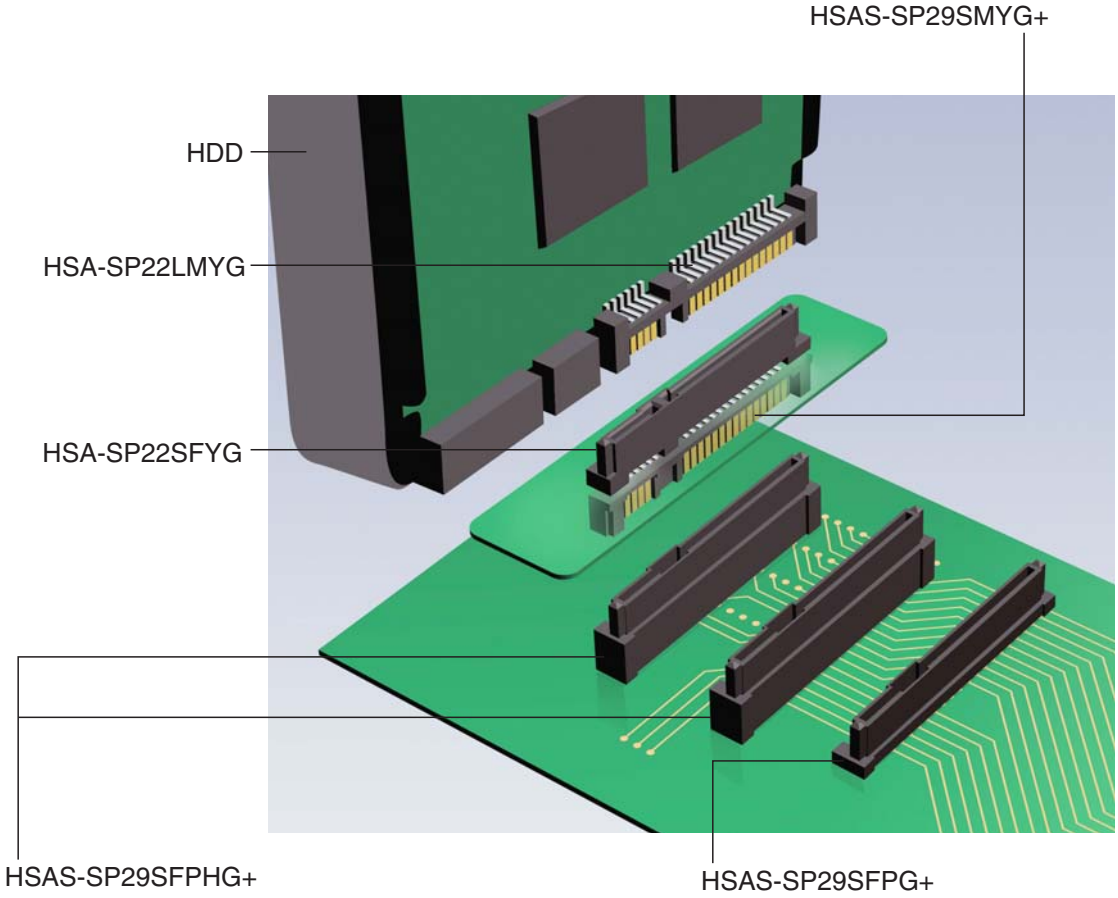
Electrical Characteristics

Rated voltage	100V AC (r.m.s.)
Rated current	1.5 A/terminal
Temperature range	-20 to +85 ˚C
Humidity	95% RH, or less
Characteristic impedance (differential)	100 ohms±15 %
Cross talk (differential)	Up to 5% (near end)

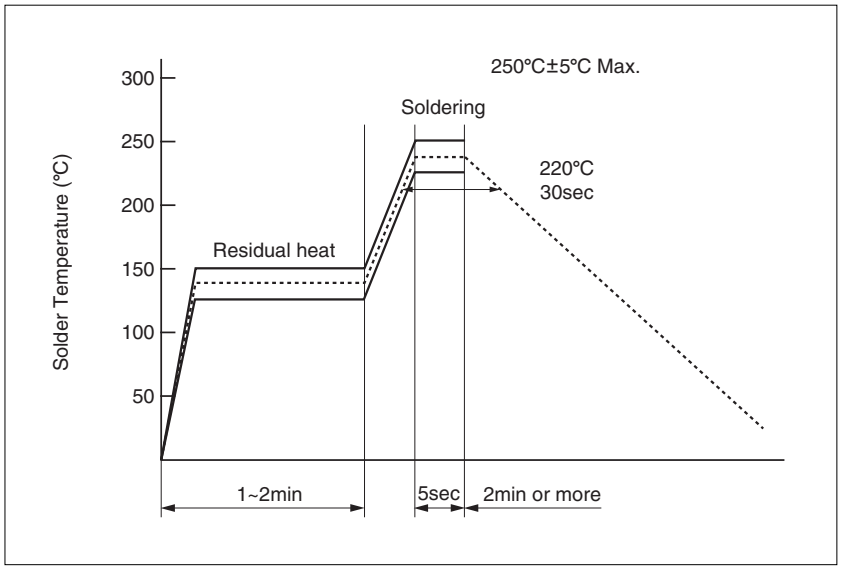
Document Disclaimer

- When placing orders with us, minimum order quantities are set for every product.
- Be sure to contact us before starting preliminary design of PCBs using our connectors.
- The specifications and information shown in the catalog are subject to change without notice.

Example



Reflow temperature profile (for reference purposes)



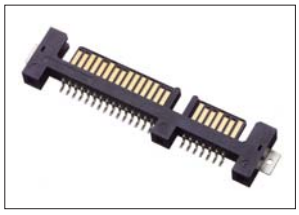
The reflow temperature profile shown in this drawing is for reference purposes. This profile depends on requirements such as reflow equipment, soldering paste, and PCB size. Thus, this profile may not meet with your specific situation. Please evaluate your PCB-mounting soldering and set your own reflow temperature profile.

●Applicable products

HSA-SP22LMYG
HSA-SP22SFYG
HSA-SP22SFYAG
HSA-S7LMYG
HSA-SP34LMYZAG

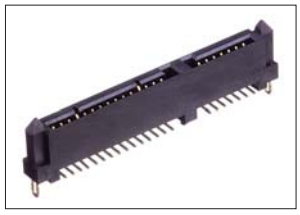
The profile shown in this drawing is applicable only for those products shown above.

Product List

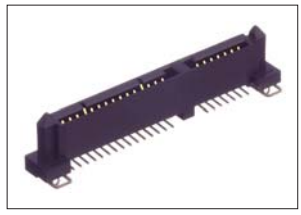


Right-angle SMT type
male connector
HSA-SP22LMYG

J-50
HSA series...4



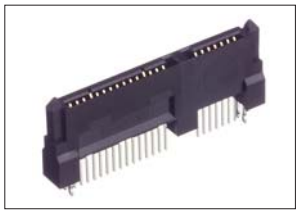
Straight SMT type
female connector
(Standard type)
HSA-SP22SFYG
J-51
HSA series...5



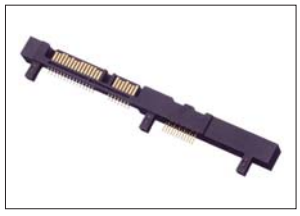
Straight SMT type
female connector
(Standard type)
HSA-SP22SFYAG
J-52
HSA series...6

Right-angle SMT type
male connector
HSA-S7LMYG

J-53
HSA series...7

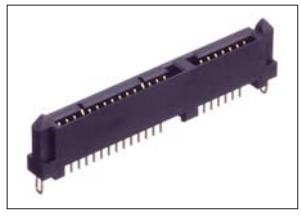


Straight through hole type
female connector
(Extended type)
HSA-SP22SFDHG
J-54
HSA series...8



Right-angle SMT type
male connector
HSA-SP34LMYZAG

J-55
HSA series...9



Straight through hole type
female connector
(Standard type)
HSA-SP22SFDG
J-56
HSA series...10

HONDA TSUSHIN KOGYO CO., LTD.

Right-angle SMT type male connector
HSA-SP22LMYG

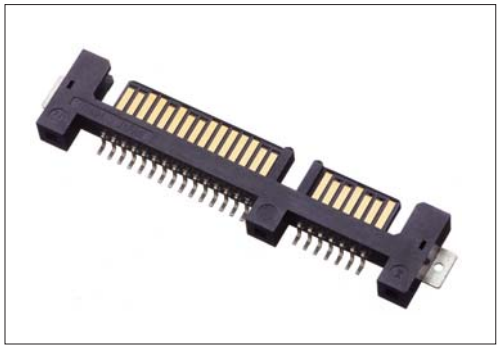
For high-speed transmission

For PCB

Right-angle SMT

Serial ATA standard

RoHS

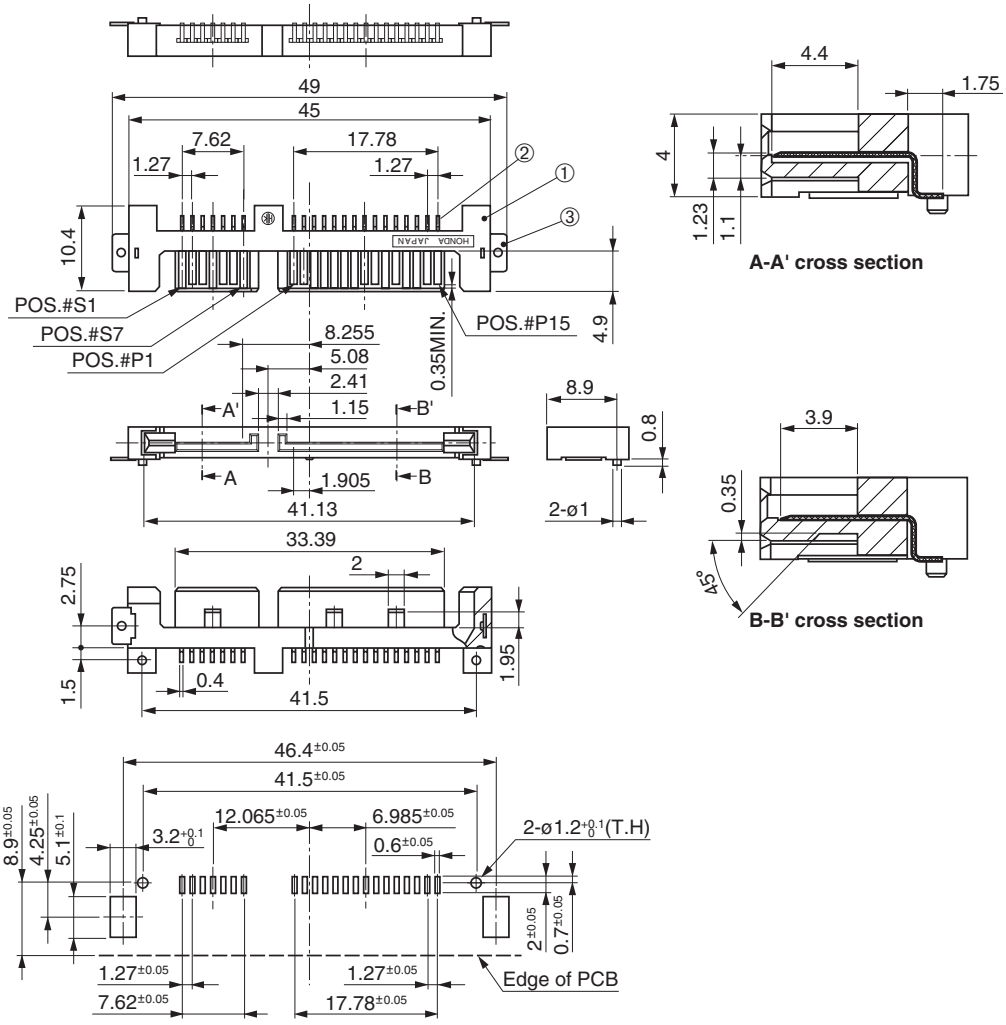


● **Configuration of product Part No.**

HSA- SP 22 LMY G

① ② ③ ④ ⑤

① Series name
② For signals and power supply
③ No. of contacts: 22
④ Right-angle SMT type, female
⑤ Contact plating
G: Gold plate



Recommended PCB layout

● **Components**

①	Insulator
②	Contacts
③	Hold down

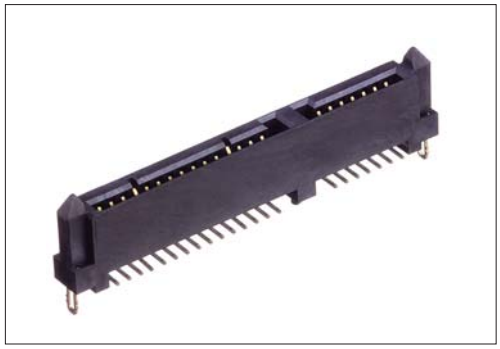
Mating connector: HSA-SP22SFYG, HSA-SP22SFYAG, HSA-SP22SFDHG, HSA-SP22SFDG

Through hole | SMT | Press-in | IDC | Soldering | Crimping | Wire wrapping | Others

Straight SMT type female connector (Standard type)
HSA-SP22SFYG

RoHS

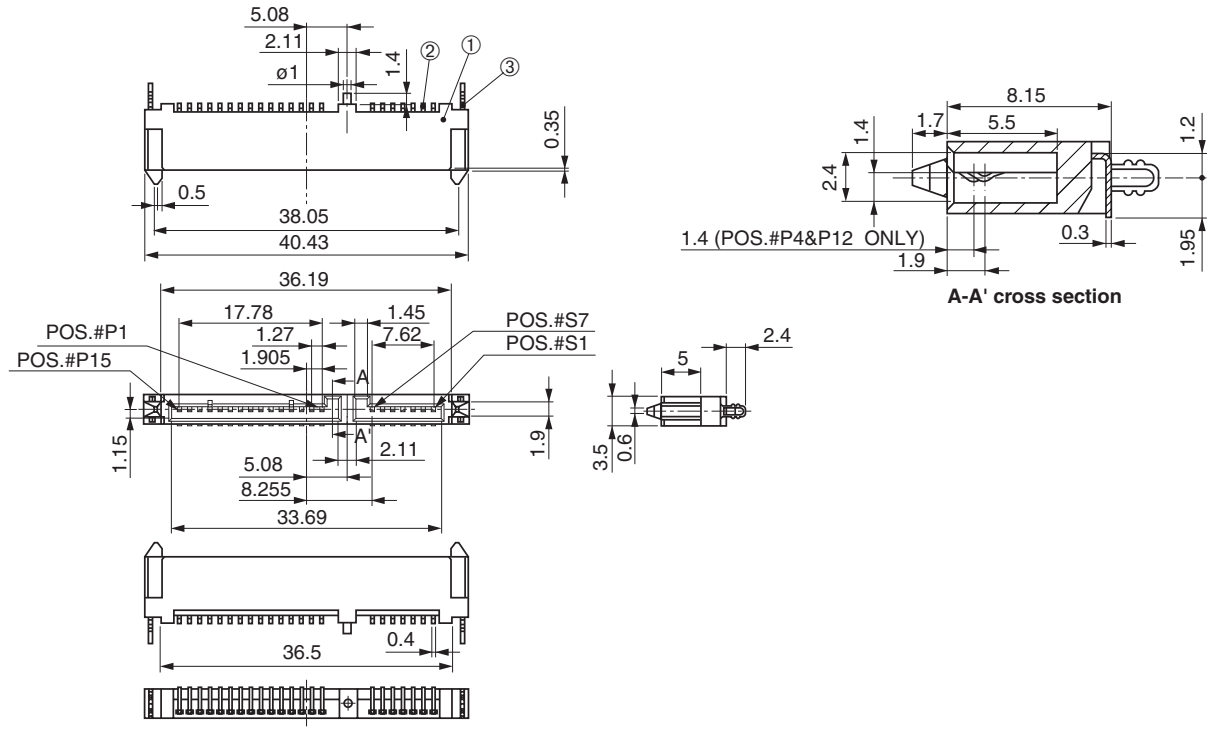
For high-speed transmission
For PCB
Straight SMT
Serial ATA standard

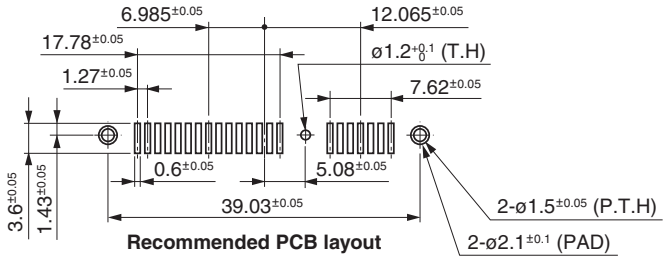


● **Configuration of product Part No.**

HSA- SP 22 SFY G
① ② ③ ④ ⑤

① Series name
② For signals and power supply
③ No. of contacts: 22
④ Straight SMT type, female
⑤ Contact plating
G: Gold plate





Recommended PCB layout
Board thickness: t =1.6mm

● **Components**

①	Insulator
②	Contacts
③	Lock pin

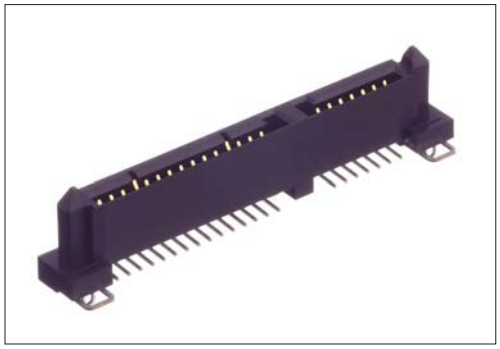
Mating connector: HSA-SP22LMYG

HONDA TSUSHIN KOGYO CO., LTD.

Straight SMT type female connector (Standard type)
HSA-SP22SFYAG

RoHS

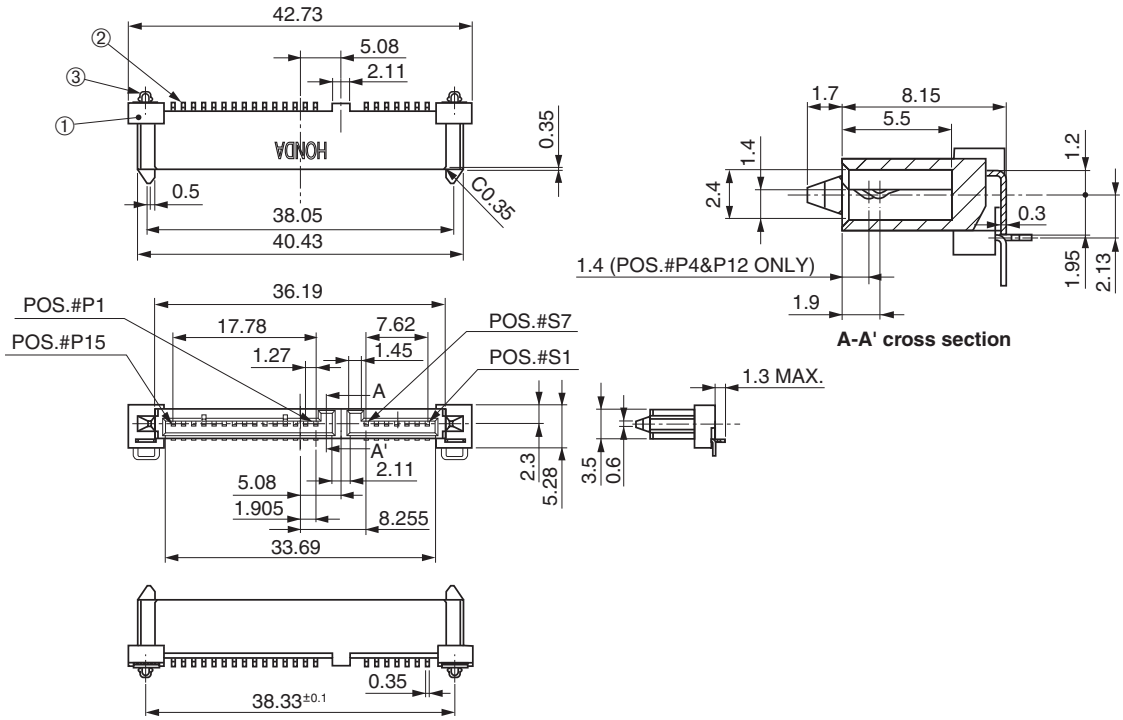
For high-speed transmission
For PCB
Straight SMT
Serial ATA standard

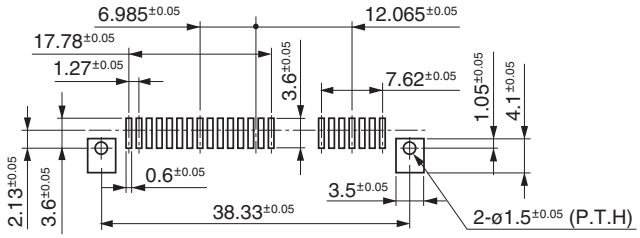


● **Configuration of product Part No.**

HSA- SP 22 SFYA G
① ② ③ ④ ⑤

① Series name
② For signals and power supply
③ No. of contacts: 22
④ Straight SMT type, female
⑤ Contact plating
G: Gold plate





Recommended PCB layout
Board thickness: t =1.6mm

● **Components**

①	Insulator
②	Contacts
③	Lock pin

Mating connector: HSA-SP22LMYG

Through hole | SMT | Press-in | IDC | Soldering | Crimping | Wire wrapping | Others

HONDA TSUSHIN KOGYO CO., LTD.

Right-angle SMT type male connector
HSA-S7LMYG

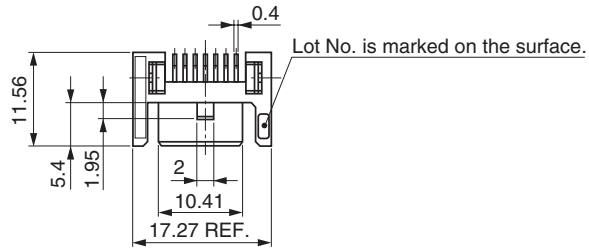
RoHS

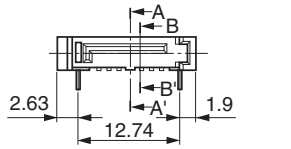
For high-speed transmission
For PCB
Right-angle SMT
Serial ATA standard

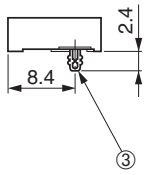
● **Configuration of product Part No.**

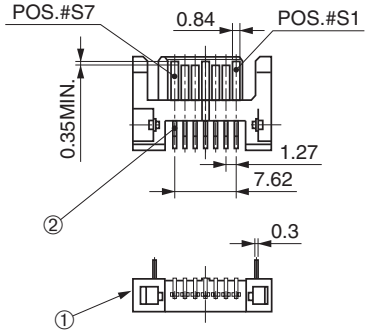
HSA- S 7 LMY G
① ② ③ ④ ⑤

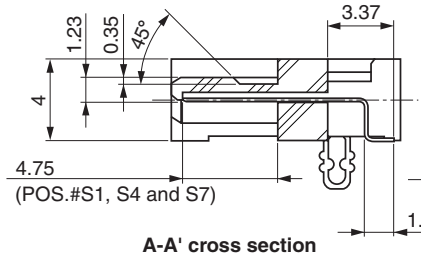
① Series name
② For signals
③ No. of contacts: 7
④ Right-angle SMT type, male
⑤ Contact plating
G: Gold plate



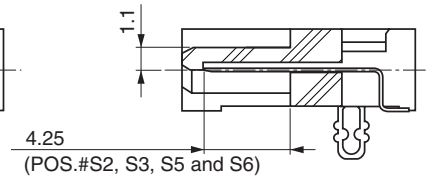




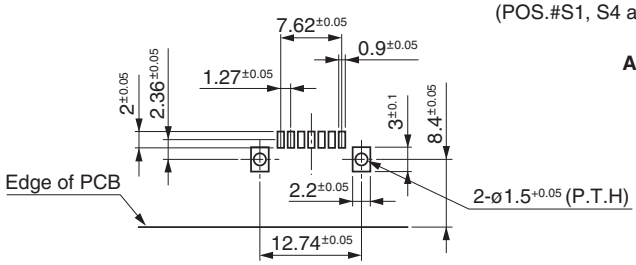




A-A' cross section



B-B' cross section



Recommended PCB layout
Board thickness: t =1.6mm

● **Components**

①	Insulator
②	Contacts
③	Hold down

Mating connector: Conforms to Serial ATA standard 7 contacts female connector

HONDA TSUSHIN KOGYO CO., LTD.

For high-speed transmission

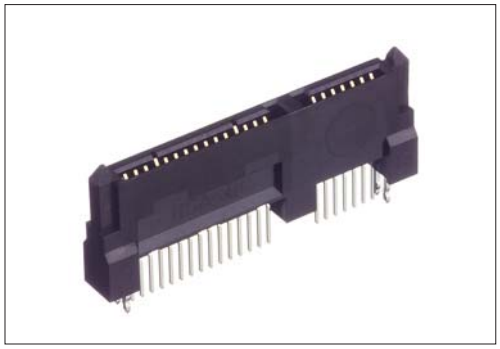
For PCB

Straight Through hole

Serial ATA standard

Straight through hole type female connector (Extended type) HSA-SP22SFDHG

RoHS

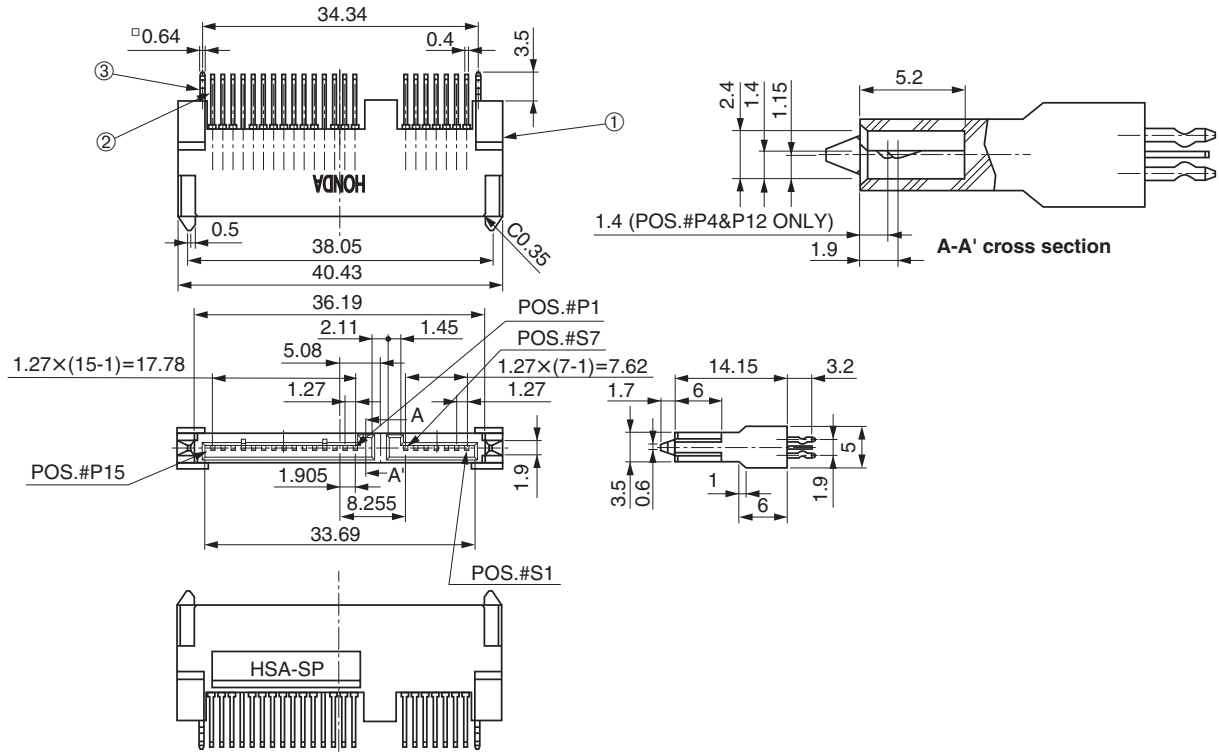


● **Configuration of product Part No.**

HSA- SP 22 SFDH G

① ② ③ ④ ⑤

① Series name
② For signals and power supply
③ No. of contacts: 22
④ Straight through hole type, high profile, female
⑤ Contact plating
G: Gold plate



● **Components**

①	Insulator
②	Contacts
③	Lock pin

Recommended PCB layout
Board thickness: t =2.4mm

Mating connector: HSA-SP22LMYG

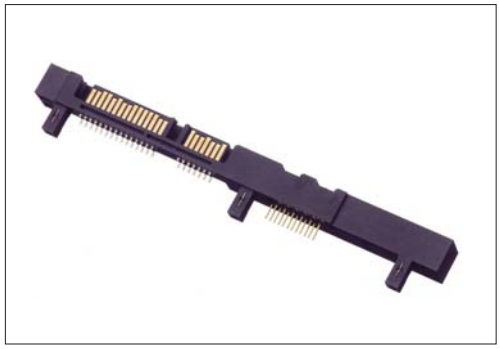
Through hole | SMT | Press-in | IDC | Soldering | Crimping | Wire wrapping | Others

HONDA TSUSHIN KOGYO CO., LTD.

Right-angle SMT type male connector
HSA-SP34LMYZAG

RoHS

For high-speed transmission
For PCB
Right-angle SMT
Serial ATA standard

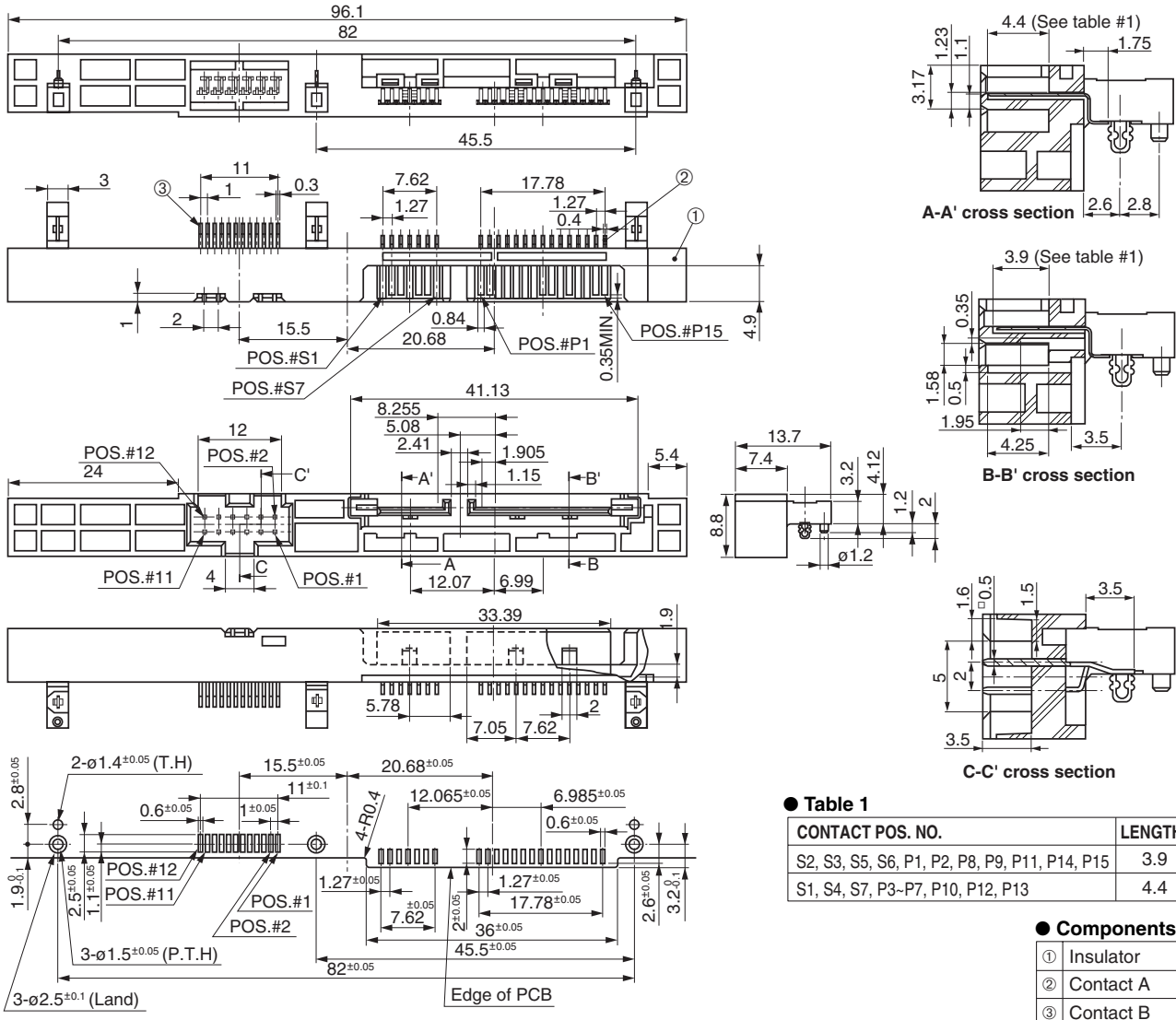


● **Configuration of product Part No.**

HSA- SP 34 LMY ZA G

① ② ③ ④ ⑤ ⑥

① Series name
② For signals and power supply
③ No. of contacts
④ Right-angle SMT type, male
⑤ Composite jumper (pin header) type
⑥ Contact plating
G: Gold plate



Recommended PCB layout
Board thickness: t =1.2mm

● **Table 1**

CONTACT POS. NO.	LENGTH
S2, S3, S5, S6, P1, P2, P8, P9, P11, P14, P15	3.9
S1, S4, S7, P3~P7, P10, P12, P13	4.4

● **Components**

①	Insulator
②	Contact A
③	Contact B
④	Lock pin

Mating connector: HSA-SP22SFYG, HSA-SP22SFDHG

HONDA TSUSHIN KOGYO CO., LTD.

For high-speed transmission

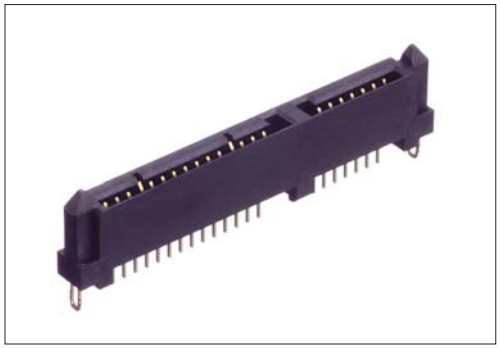
For PCB

Straight Through hole

Serial ATA standard

Straight through hole type female connector (Standard type) HSA-SP22SFDG

RoHS

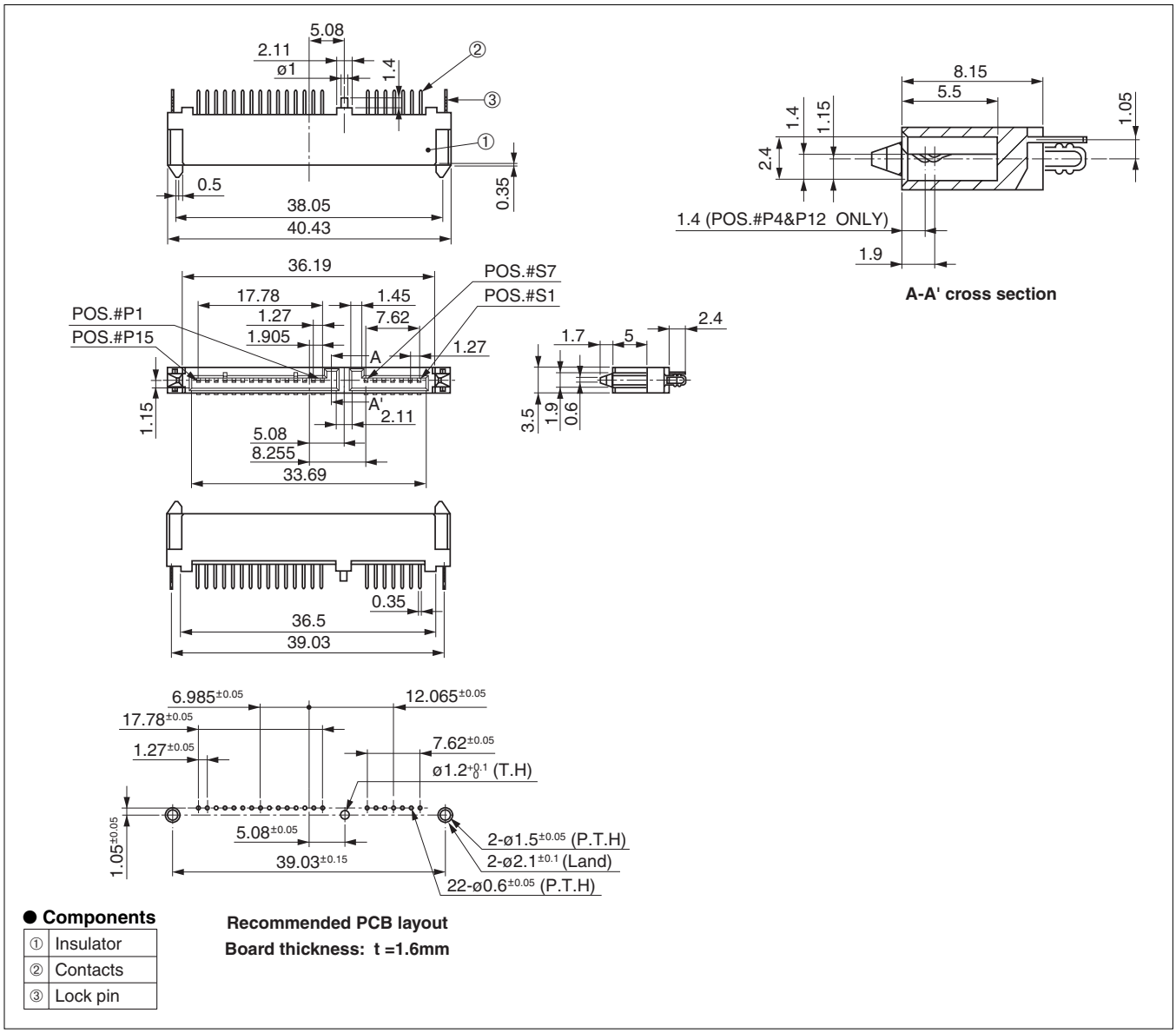


● **Configuration of product Part No.**

HSA- SP 22 SFD G

① ② ③ ④ ⑤

① Series name
② For signals and power supply
③ No. of contacts: 22
④ Straight through hole type, female
⑤ Contact plating
G: Gold plate



● **Components**

①	Insulator
②	Contacts
③	Lock pin

Recommended PCB layout
Board thickness: t =1.6mm

Mating connector: HSA-SP22LMYG

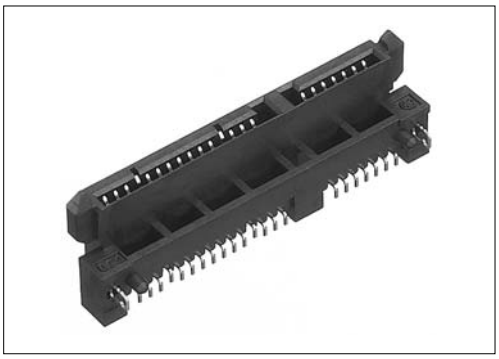
Through hole | SMT | Press-in | IDC | Soldering | Crimping | Wire wrapping | Others

HONDA TSUSHIN KOGYO CO., LTD.

Right-angle SMT type female connector for PCBs
HAS-SP22LFYG1

RoHS

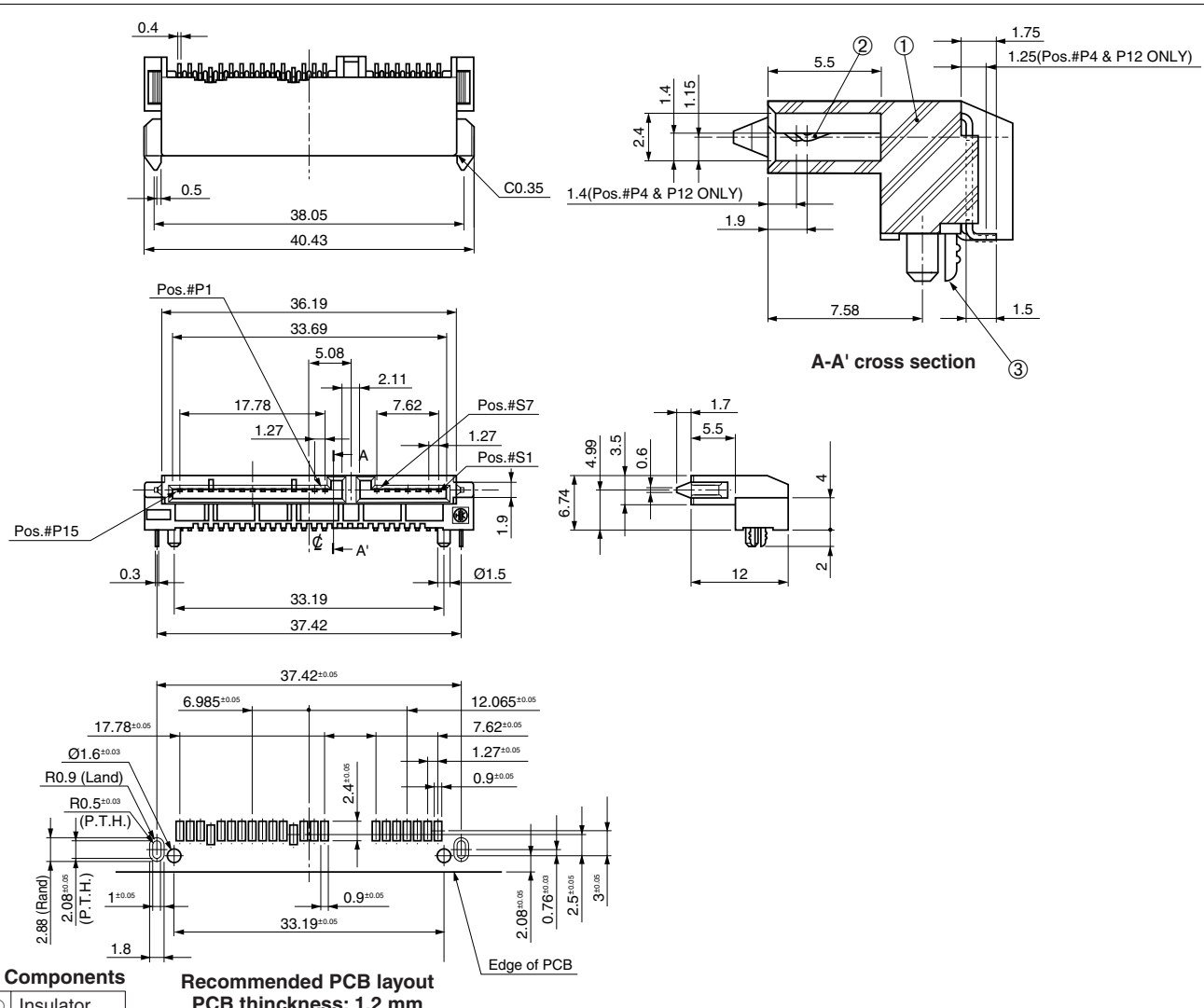
Connector for high-speed transmission
For PCBs
Right-angle SMT
Conforms to Serial ATA standard



● **Configuration of product Part No.**

HAS- SP 22 LFY G1
① ② ③ ④ ⑤

① Series name
② For signals and power supply
③ No. of contacts: 22
④ Form of contact
LFY: Right-angle, SMT type, female
⑤ Plating of contact and SMT section
G1: Gold plate



Recommended PCB layout
PCB thinckness: 1.2 mm

● **Components**

①	Insulator
②	Contact
③	Lock pin

Mating case: HSA-SP22LMYG

Dip **SMT** **Press-in** **IDC** **Soldering** **Crimping** **Wire wrapping** **Others**