

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.

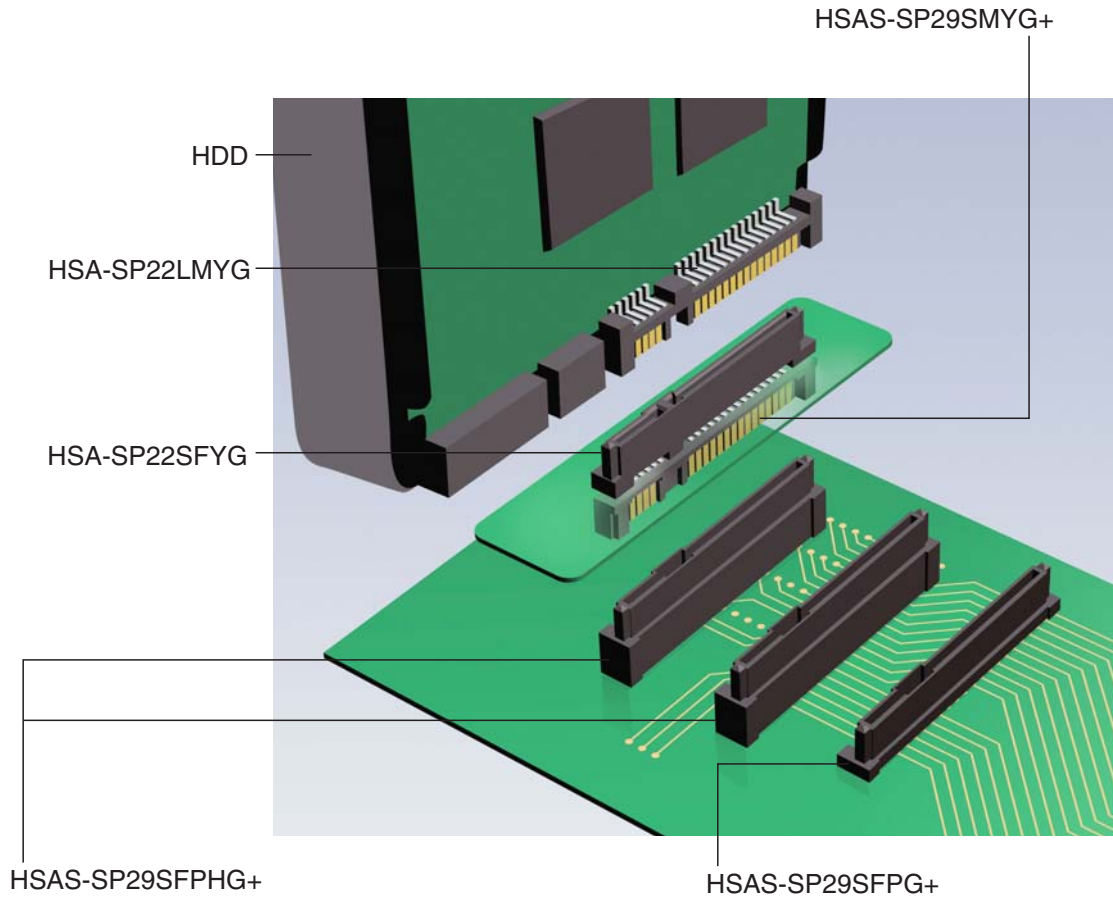
Electrical Characteristics

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)

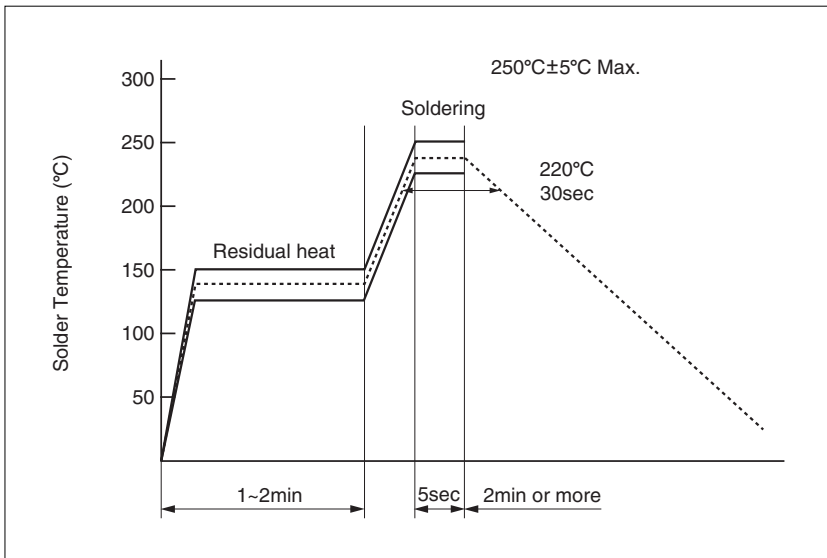
Document Disclaimer

- 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)



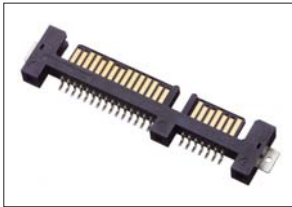
The reflow temperature profile shown in this drawing is for reference purposes. This profile depends on requirements such as reflow equipment, soldering paste, and PCB size. Thus, this profile may not meet with your specific situation. Please evaluate your PCB-mounting soldering and set your own reflow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

●Applicable products

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

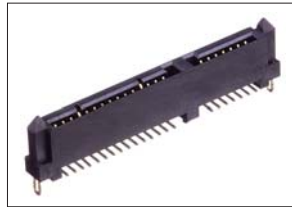
The profile shown in this drawing is applicable only for those products shown above.

Product List



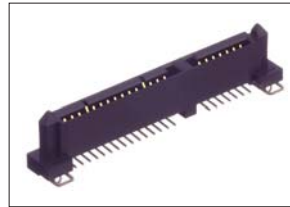
Right-angle SMT type
male connector
HSA-SP22LMYG

J-50
HSA series...4



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

J-51
HSA series...5



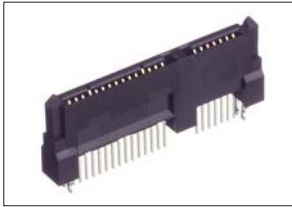
Straight SMT type
female connector
(Standard type)
HSA-SP22SFYAG

J-52
HSA series...6



Right-angle SMT type
male connector
HSA-S7LMYG

J-53
HSA series...7



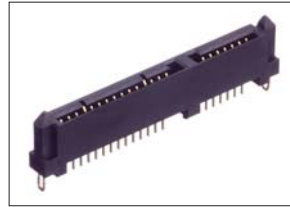
Straight through hole type
female connector
(Extended type)
HSA-SP22SFDHG

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

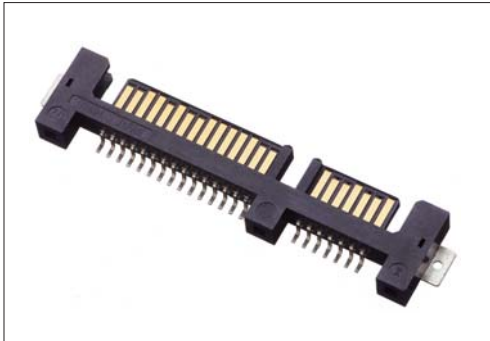
Right-angle SMT type male connector HSA-SP22LMYG

For PCB

Right-angle SMT

Serial ATA standard

RoHS

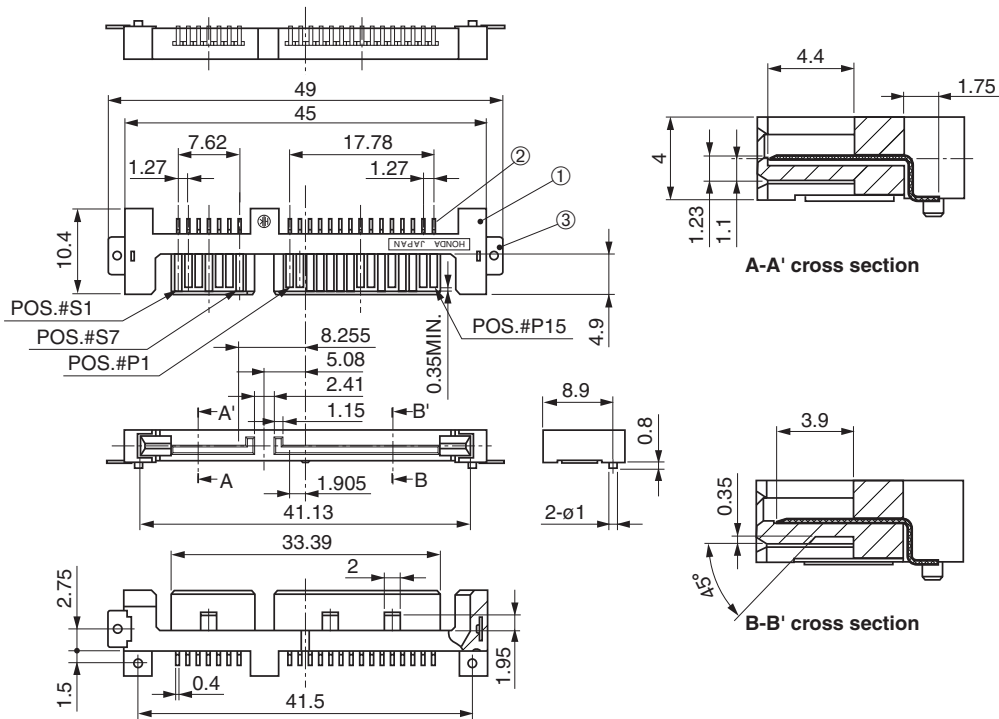


● Configuration of product Part No.

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

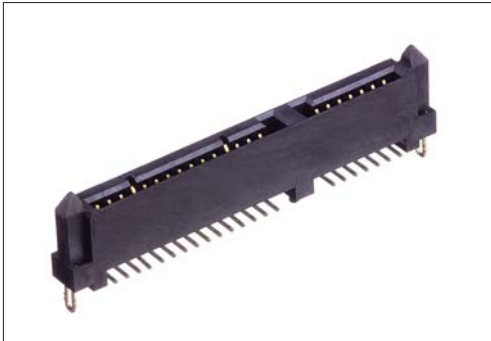


● Components

①	Insulator
②	Contacts
③	Hold down

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

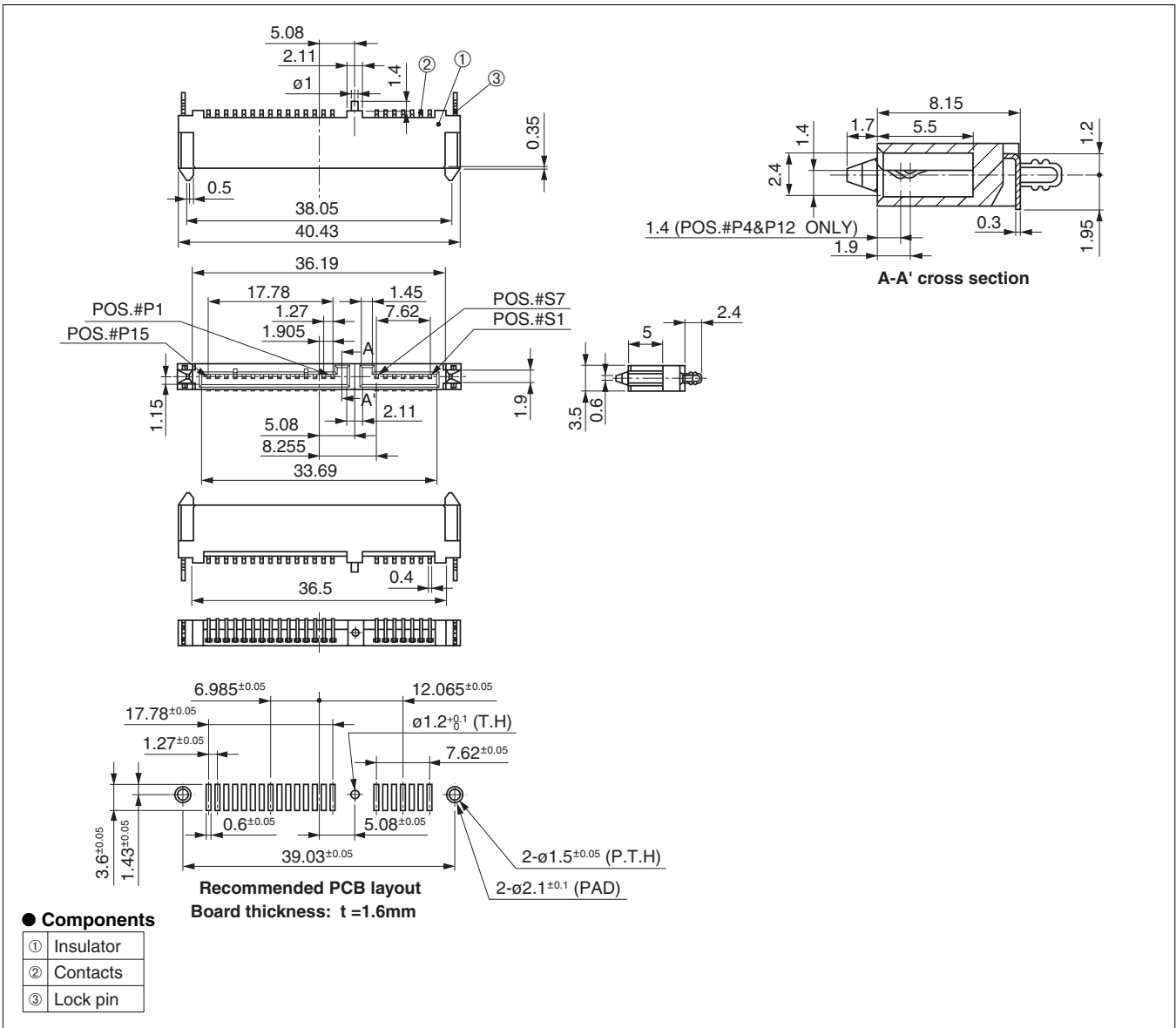
Straight SMT type female connector (Standard type) HSA-SP22SFYG



● Configuration of product Part No.

HSA- SP 22 SFY G

- 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



Mating connector: HSA-SP22LMYG

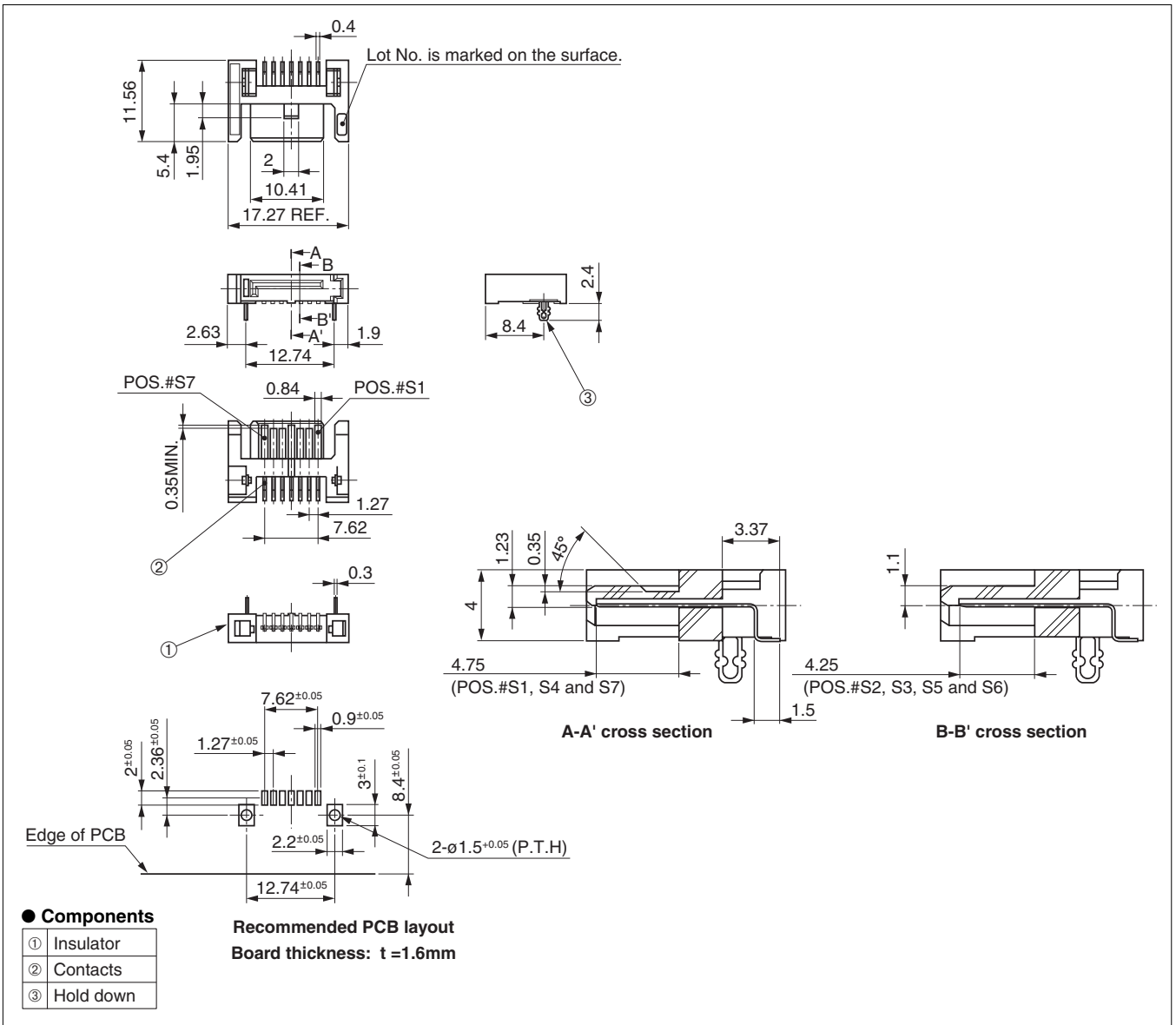
Right-angle SMT type male connector HSA-S7LMYG



● Configuration of product Part No.

HSA- S 7 LMY G

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



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

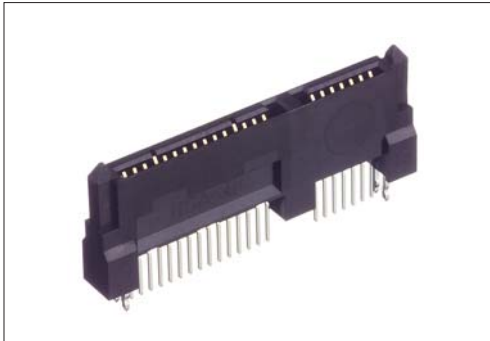
Straight through hole type female connector (Extended type) HSA-SP22SFDHG

For PCB

Straight Through hole

RoHS

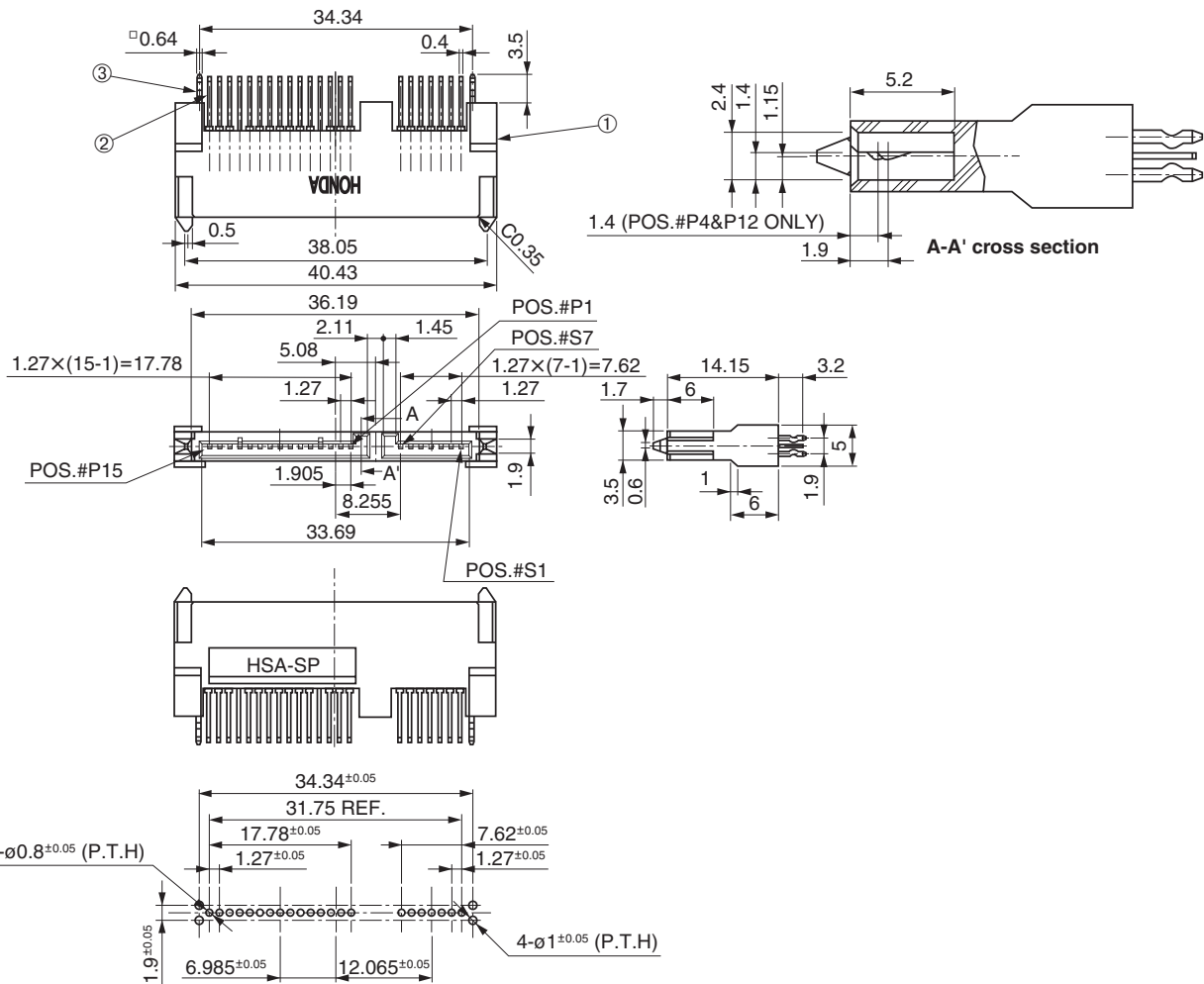
Serial ATA standard



● Configuration of product Part No.

HSA- SP 22 SFDH G

- 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



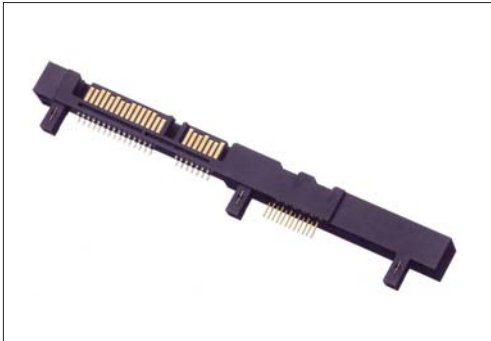
● Components

①	Insulator
②	Contacts
③	Lock pin

Recommended PCB layout
Board thickness: t = 2.4mm

Mating connector: HSA-SP22LMYG

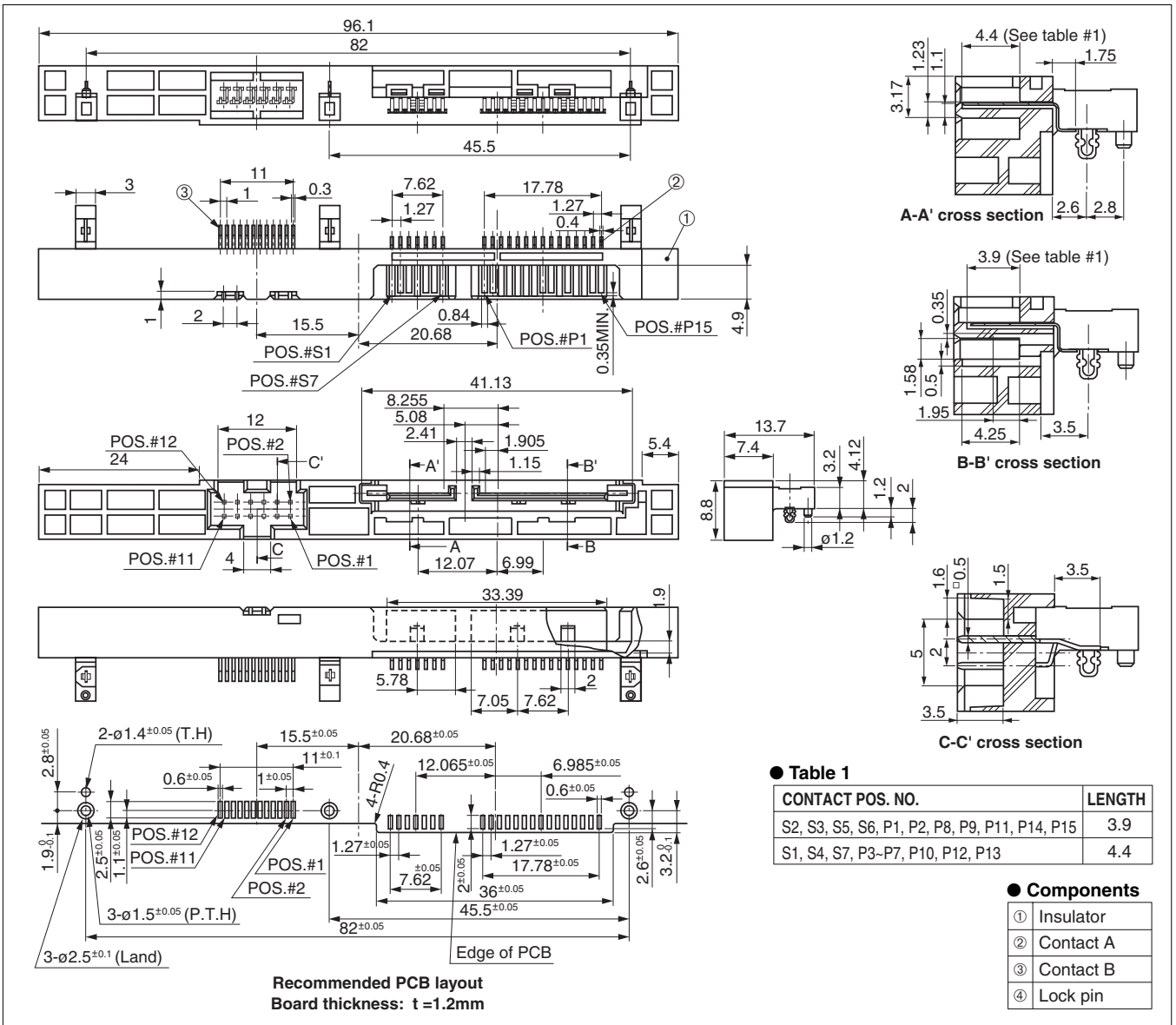
Right-angle SMT type male connector HSA-SP34LMYZAG



● Configuration of product Part No.

HSA- SP 34 LMY ZA G

- 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



Mating connector: HSA-SP22SFYG, HSA-SP22SFDHG

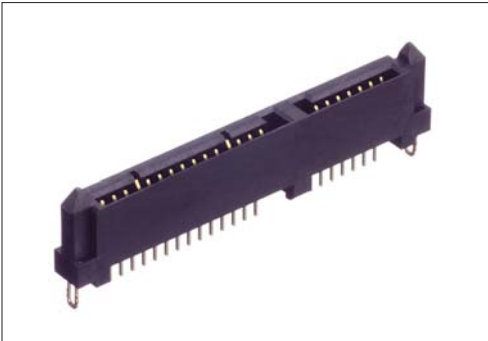
Straight through hole type female connector (Standard type) HSA-SP22SFDG

For PCB

Straight Through hole

RoHS

Serial ATA standard

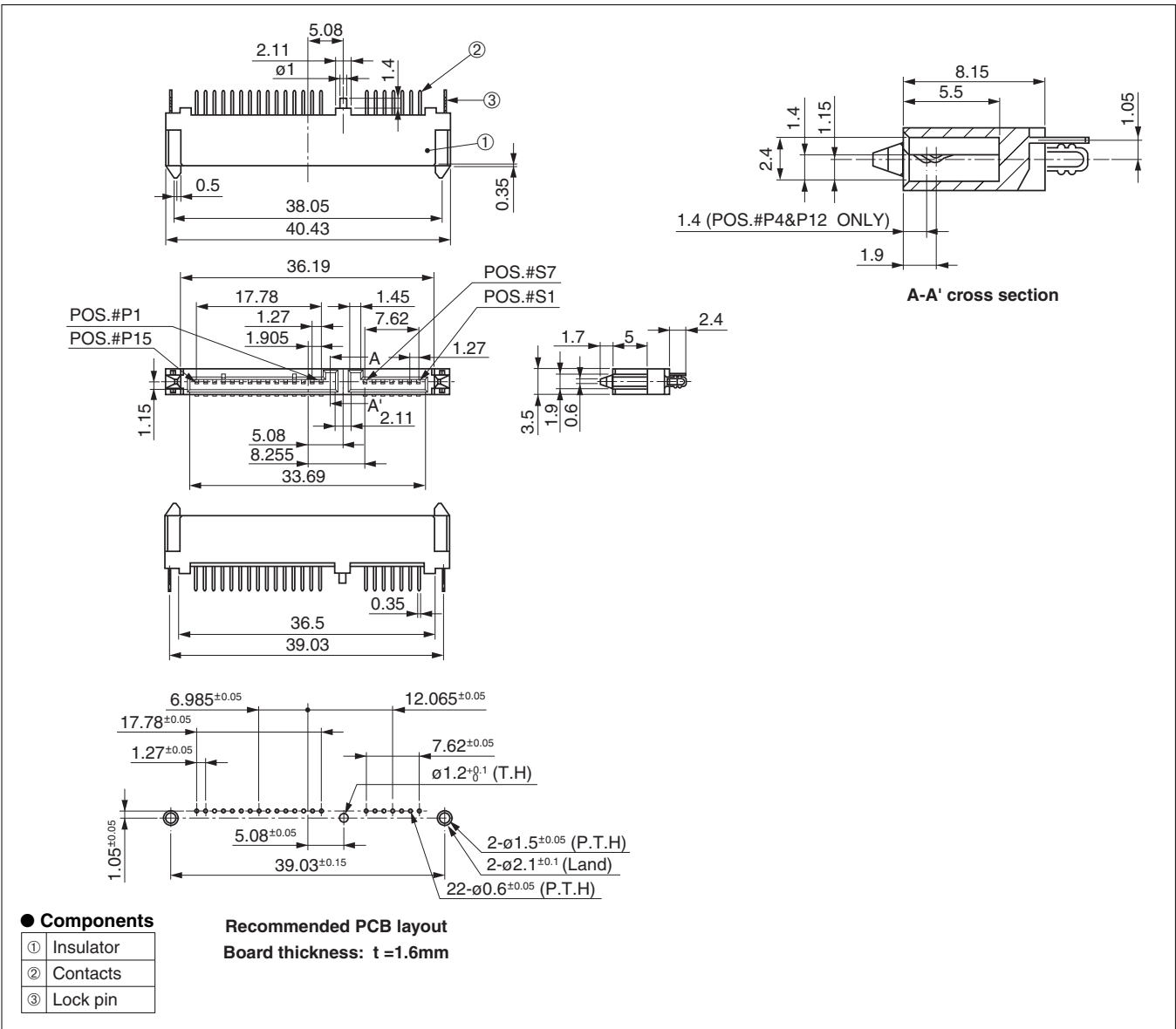


● Configuration of product Part No.

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



Mating connector: HSA-SP22LMYG

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

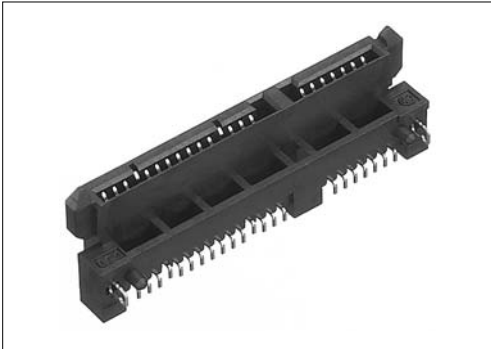
Connector for high-speed transmission

For PCBs

Right-angle SMT

Conforms to Serial ATA standard

RoHS

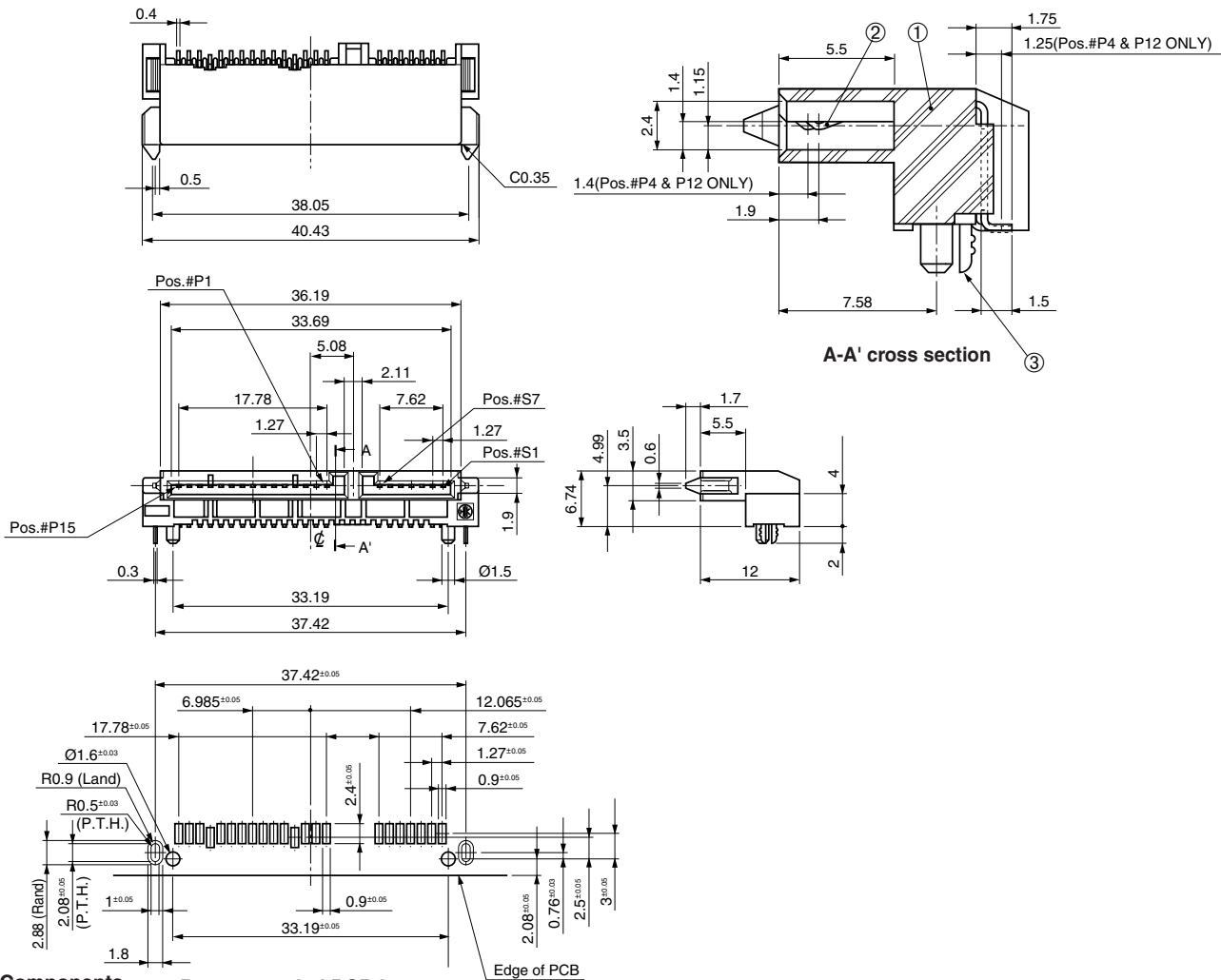


● Configuration of product Part No.

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



● Components

①	Insulator
②	Contact
③	Lock pin

Recommended PCB layout
PCB thickness: 1.2 mm

Mating case: HSA-SP22LMYG