

# HSAS series

## Connectors for Storage Interfaces (Conforms to SAS Standard)

### Outline

This series of connectors for high-speed transmission conform to the newest Serial Attached SCSI (SAS) standard. The SAS is compatible with Serial ATA, which achieves high-speed transmission. Furthermore, the SAS is compatible with the existing SCSI (Small Computer System Interface) software standard, and has flexibility in system configuration.

### Features

- Conforms to SAS standard
- Transmission speed: 3 Gigabits per second
- Excellent transmission characteristics are obtained by utilizing electromagnetic field simulator.
- The characteristic impedance is matched.
- Low crosstalk
- Low insertion loss
- Low reflection attenuation

### Principal Applications

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

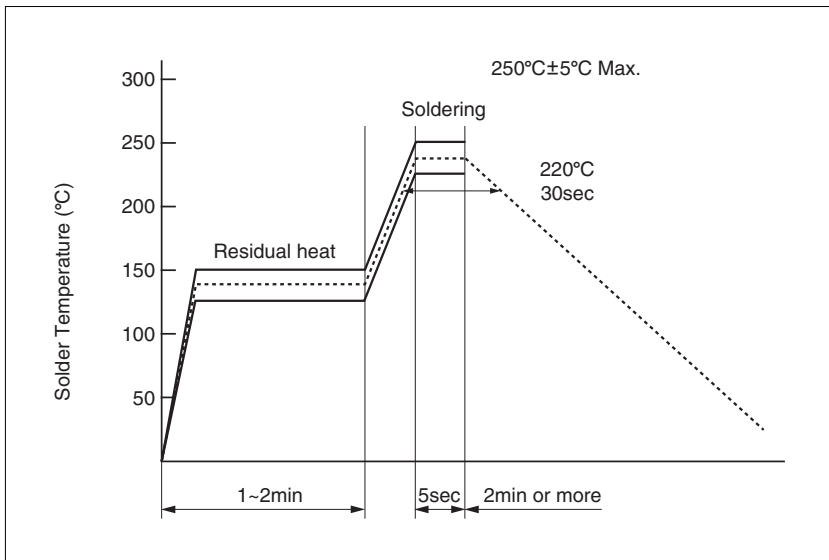
### Electrical Characteristics

Rated voltage	100V AC (r.m.s.)
Rated current	1.5 A/0.5A (terminal No. #S8-S14)
Temperature range	-20 to +85°C
Humidity	95% RH, or less
Characteristic impedance (differential)	100 ohms $\pm$ 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.

## Reflow temperature profile (for reference purposes)



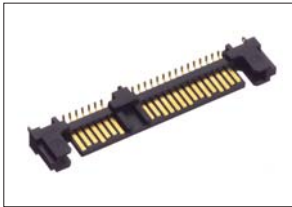
The reflow temperature profile shown in this drawing is for reference purposes. This profile depends on requirements such as reflow equipment, soldering paste, and PCB size. Thus, this profile may not meet with your specific situation. Please evaluate your PCB-mounting soldering and set your own reflow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

### ●Applicable products

HSAS-SP29SMYG+

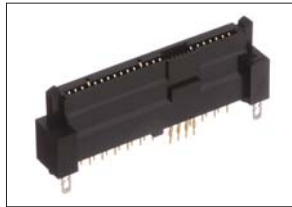
The profile shown in this drawing is applicable only for those products shown above.

## Product List



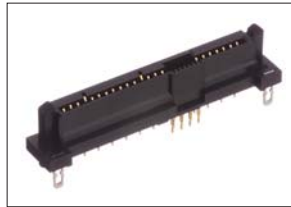
Straight SMT type  
male connector  
HSAS-SP29SMYG+

**J-60**  
HSAS series...4



Straight press-in type  
female connector  
(Extended type)  
HSAS-SP29SFPHG+

**J-61**  
HSAS series...5



Straight press-in type  
female connector  
(Standard type)  
HSAS-SP29SFPG+

**J-62**  
HSAS series...6

# Straight SMT type male connector HSAS-SP29SMYG+

For PCB

Straight SMT

SAS standard

RoHS

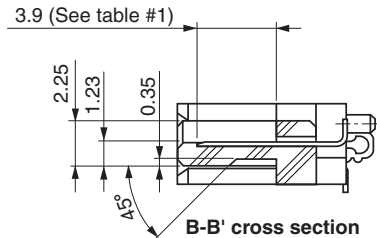
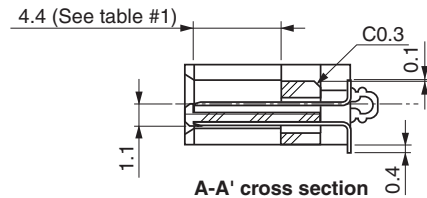
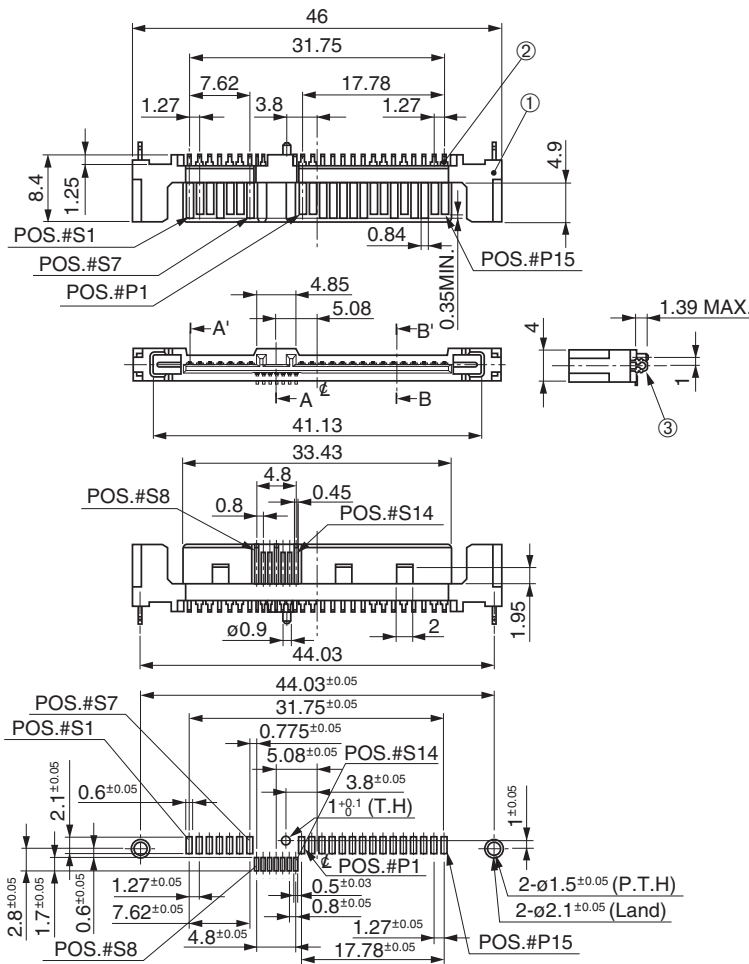


● Configuration of product Part No.

## HSAS- SP 29 SMY G +

① ② ③ ④ ⑤

- ① Series name
- ② For signals and power supply
- ③ No. of contacts: 29
- ④ Straight SMT type, male
- ⑤ Contact plating  
G: Gold plating



● Components

①	Insulator
②	Contacts
③	Lock pin

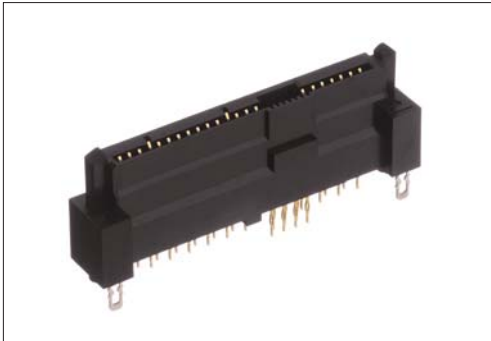
Recommended PCB layout  
Board thickness: t=1.6mm

● Table 1

CONTACT POS. NO.	LENGTH
S2, S3, S5, S6, S9, S10, S12, S13, P1, P2, P8, P9, P11, P14, P15	3.9
S1, S4, S7, S8, S11, S14, P3~P7, P10, P12, P13	4.4

Mating connector: HSAS-SP29SFPG+, HSAS-SP29SFPHG+

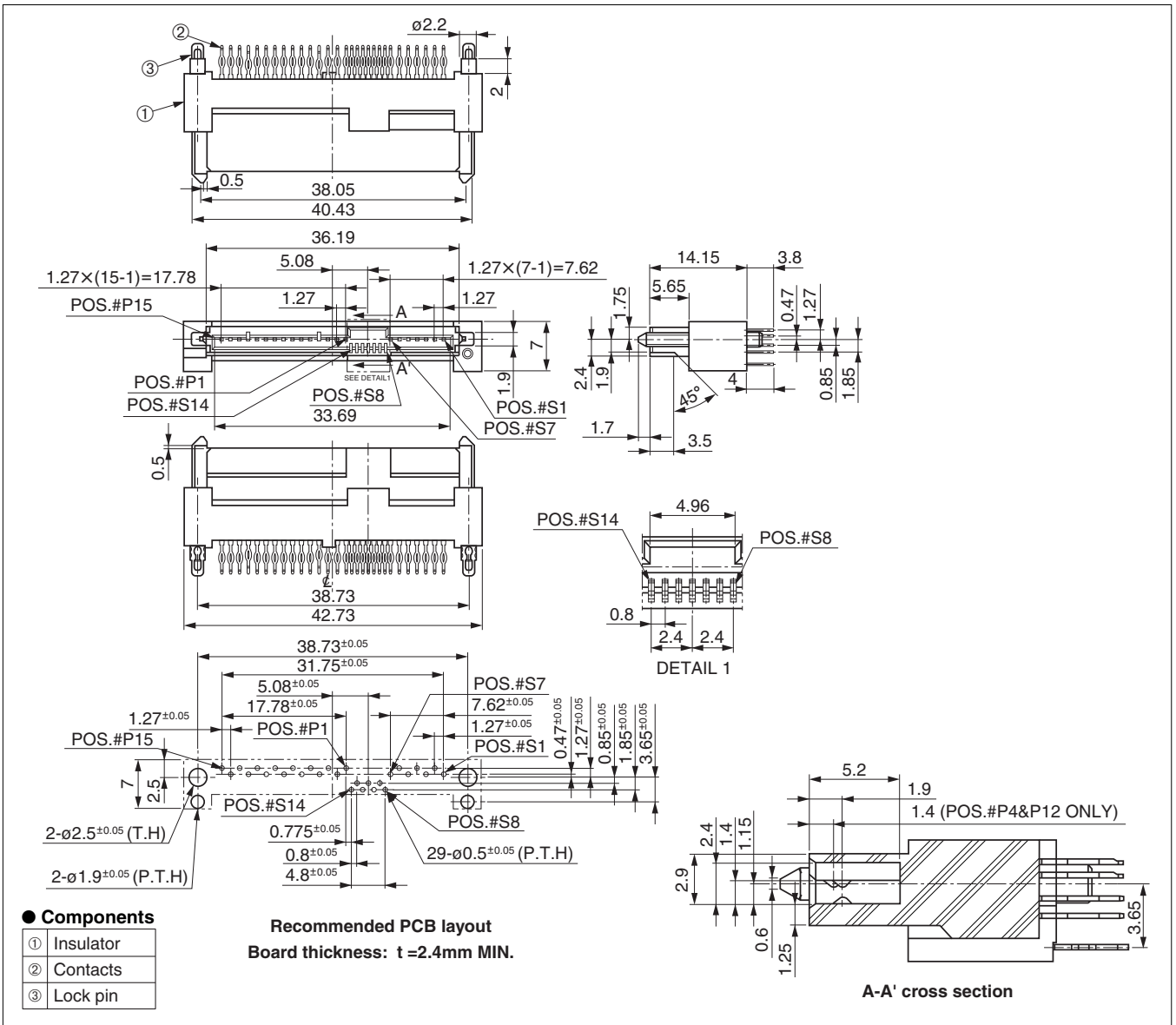
# Straight press-in type female connector (Extended type) HSAS-SP29SFPHG+



● Configuration of product Part No.

## HSAS- SP 29 SFPH G +

- ① Series name
  - ② For signals and power supply
  - ③ No. of contacts: 29
  - ④ Straight press-in type, high profile, female
  - ⑤ Contact plating
- G: Gold plate



Mating connector: HSAS-SP29SMYG+

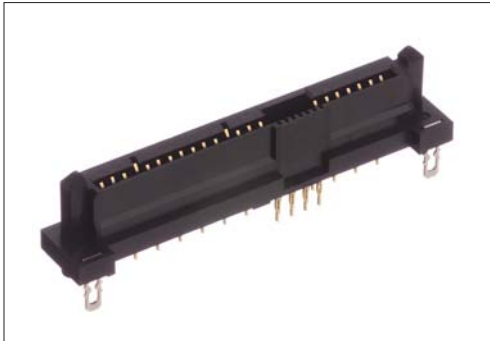
# Straight press-in type female connector (Standard type) HSAS-SP29SFPG+

For PCB

Straight press-in

SAS standard

RoHS

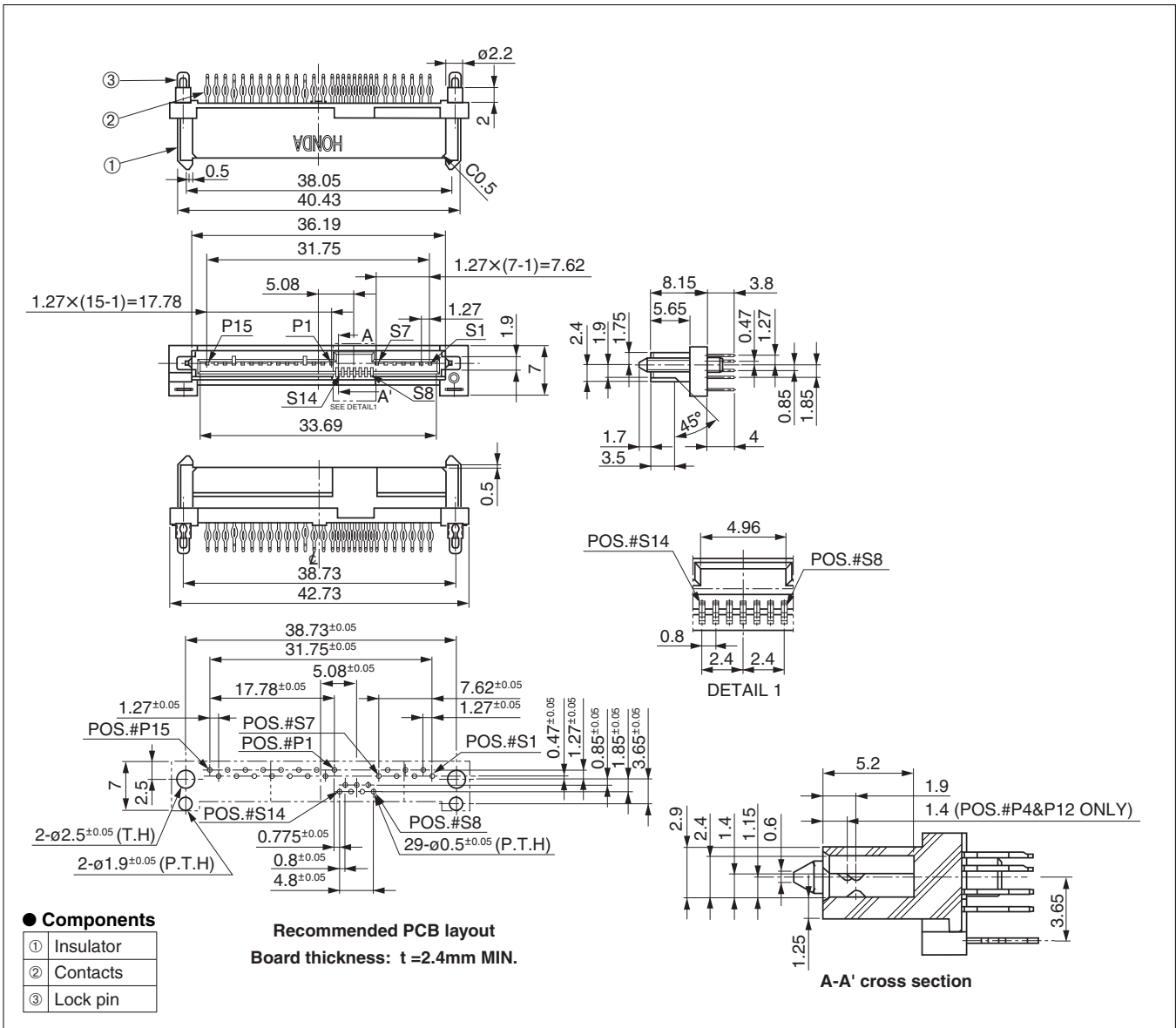


● Configuration of product Part No.

## HSAS- SP 29 SFP G +

① ② ③ ④ ⑤

- ① Series name
- ② For signals and power supply
- ③ No. of contacts: 29
- ④ Straight press-in type, female
- ⑤ Contact plating  
G: Gold plate



Mating connector: HSAS-SP29SMYG+

# Right-angle board-edge type and SMT type male connector for PC cards

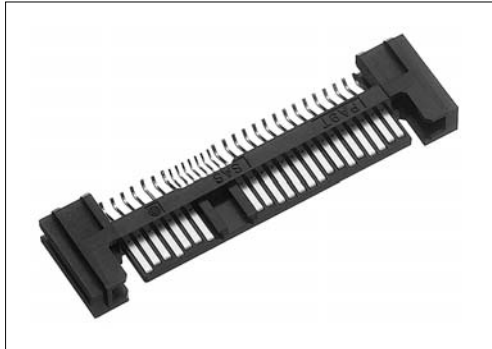
## HSAS-SP29LMTAG+

For PCBs

Right-angle, board-edge, SMT

RoHS

Conforms to SAS standard

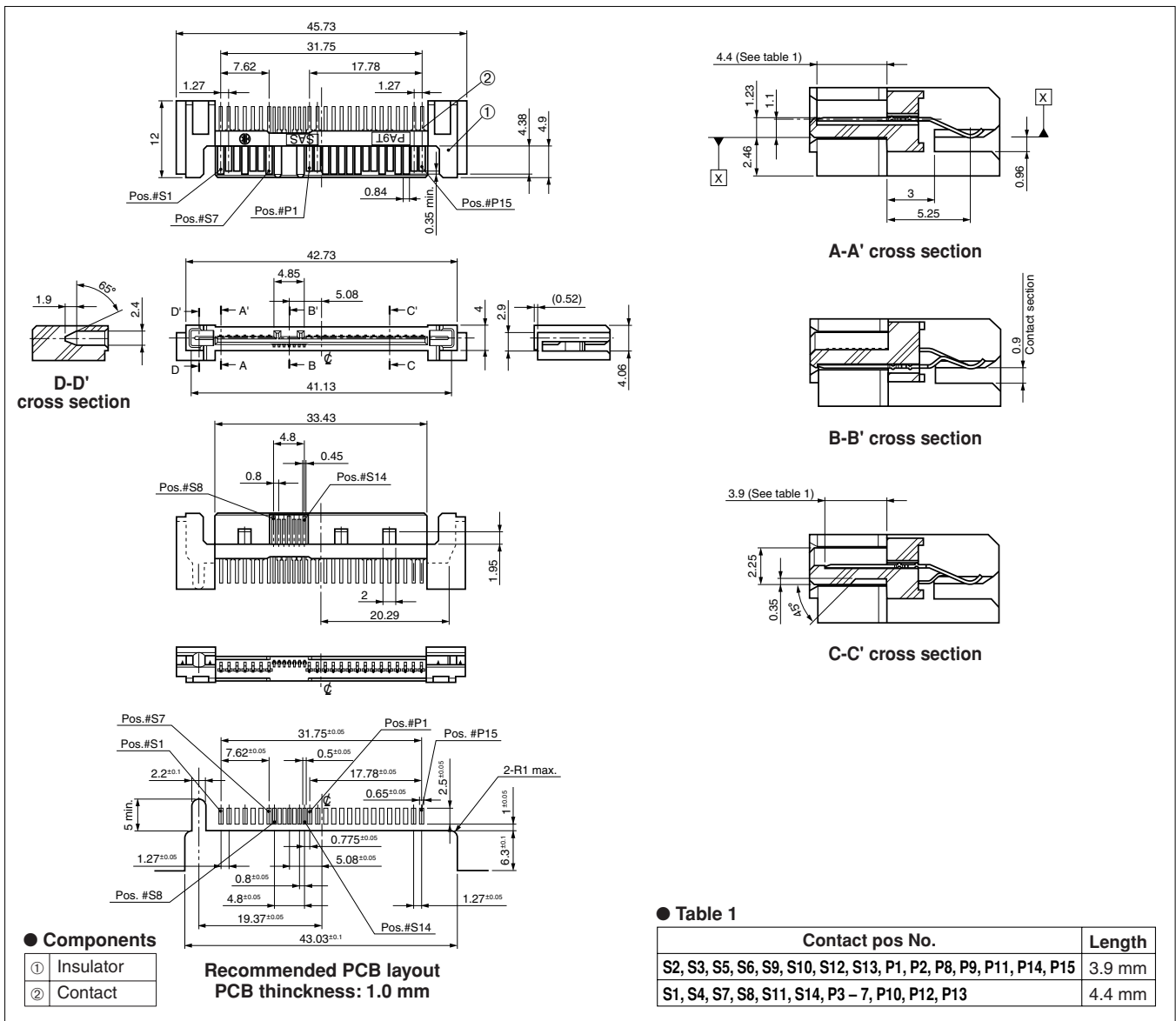


● Configuration of product Part No.

### HSAS- SP 29 LMTA G+

① ② ③ ④ ⑤

- ① Series name
- ② For signals and power supply
- ③ No. of contacts: 29
- ④ Form of contact  
LMTA: Right-angle, board-edge, SMT type, male
- ⑤ Contact plating  
G: Gold plate



Mating connector: HSAS-SP29SFPG+, HSAS-SP29SFPHG+

# Right-angle board-edge type and SMT type male connector for PC cards

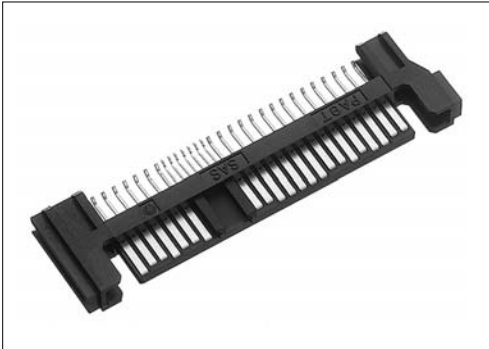
## HSAS-SP29LMTG+

For PCBs

Right-angle, board-edge, SMT

RoHS

Conforms to SAS standard

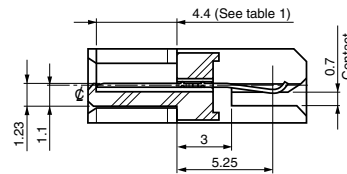
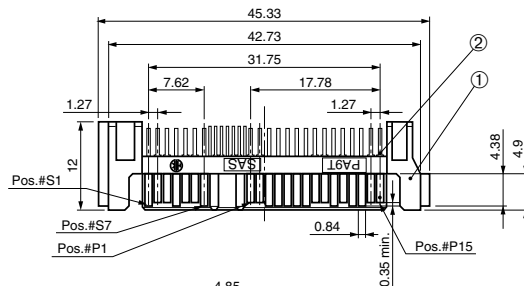


● Configuration of product Part No.

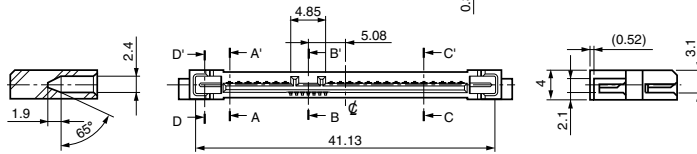
### HSAS- SP 29 LMT G+

① ② ③ ④ ⑤

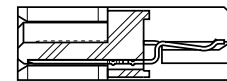
- ① Series name
- ② For signals and power supply
- ③ No. of contacts: 29
- ④ Form of contact  
LMT: Right-angle, board-edge, SMT type, male
- ⑤ Contact plating  
G: Gold plate



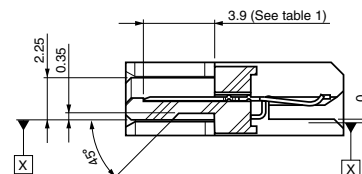
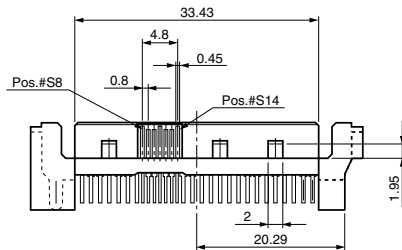
A-A' cross section



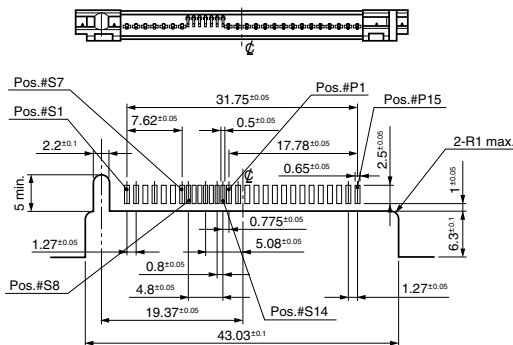
D-D' cross section



B-B' cross section



C-C' cross section



Recommended PCB layout  
PCB thickness: 0.8 mm

● Components

①	Insulator
②	Contact

● Table 1

Contact pos No.	Length
S2, S3, S5, S6, S9, S10, S12, S13, P1, P2, P8, P9, P11, P14, P15	3.9 mm
S1, S4, S7, S8, S11, S14, P3 - 7, P10, P12, P13	4.4 mm

Mating connector: HSAS-SP29SFPG+, HSAS-SP29SFPHG+