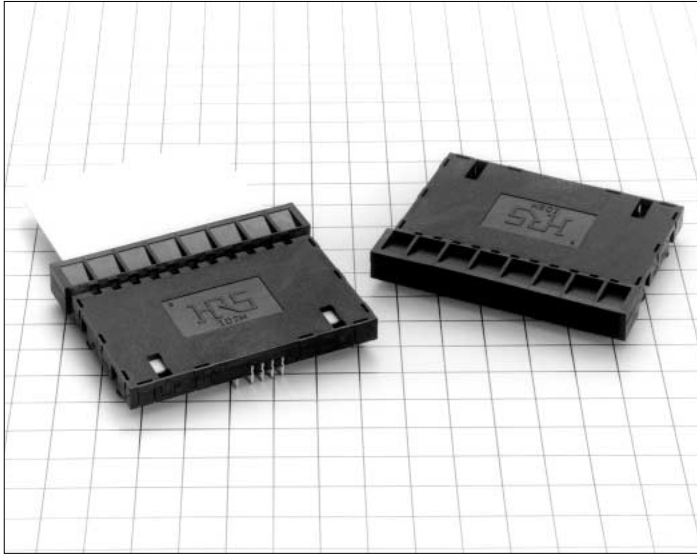# Smart Card Sockets

ID2M Series

■Features

1. Suited to Smart Cards Conforming to ISO-7816

Smart cards feature a high level of reliability in terms of security when compared to contemporary credit cards and so these cards will be indispensable in the anticipated systems of the future such as settlement of accounts. The rapid worldwide growth seen in digital satellite broadcasting also makes use of these smart cards, which are used in the associated fee payment system.

The ID2M Series of smart card sokets were developed for use with these digital satellite broadcast receiver (IRD) and are considered to be userfriendly.

These smart card sockets can be used in a wide range of applications.

2. Eight Contacts

Sockets are available with 8 contacts only, in conformity with ISO-7816

3. Equipped with a Card Detection Switch

A switch that detects whether the smart card has been inserted securely prevents erroneous operation.

This swich will be set to OFF(i.e., the nonconducting condition) when the smart card has been inserted all the way.

■Applications

Digital satellite broadcast receivers (IRD) and other devices that use smart cards.

4. Excellent Detection Switch Construction

- The distance from the dip post to the contact has been extended to form a contact shape that is not susceptible to tje adherence of flux.
- A 2-point contact structure using two springs improves contact reliabilty.
- The smart card holding structure keeps cards in place and prevents erroneous operation of the detecion swich due to light shocks and vibration.Taking into account inadvertent card removal,the design also features a spring-shaped portion on top of the housing that holds the card.

5. Large Insertion Slot

The insertion slot for the smart card has been made large to improve ease of use.

6. Equipped with a Board Provisional

This socket has s fastening boss for 1.6mm thich boards, a design feature that keeps boards in place at time of mounting.

7. Insertion/Removal Guarantee of 10,000 Times

■Product Specification

Rating	Current rating	1A	Operating temperature	-50℃ to +80℃(NOTE 1)	Storage temperature	-40℃ to +60℃(NOTE 1)
	Voltage rating	150V AC	Operating humidity	40 to 80%	Storage humidity	40 to 70%(NOTE 2)

Item	Specification	Conditions
1. Insulation resistance	1000 M ohms min.	500 VDC
2. Withstanding voltage	No flashover or insulation breakdown.	500 V AC / 1 minute
3. Contact resistance	30 m ohms max.(40m ohms max.for switch portion)	20 mV AC max.,measured at 1 mA
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)	Contact resistance: 40 m ohms max. (50 m ohms max.for the switch portion) Insulation resistance: 1000M ohms man.	96 hours at temperature of 40℃ and humidity of 90% to 95%
6. Temperature cycle	Contact resistance: 40 m ohms max. (50 m ohms max.for the switch portion) Insulation resistance: 1000M ohms man.	(-55℃: 30 minutes→ 5 to 35℃:10 minutes→85℃:30 minutes → 5 to 35℃:10 minutes)for 5 cycles
7.Durability (mating/unmating)	Contact resistance: 40 m ohms max. (50 m ohms max.for the switch portion)	100000 cycles
9.Resistance to soldering heat	No deformation of components affecting performance.	Flow: 255° for 5 seconds Manual soldering: 300℃ for 3 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.

■Materials

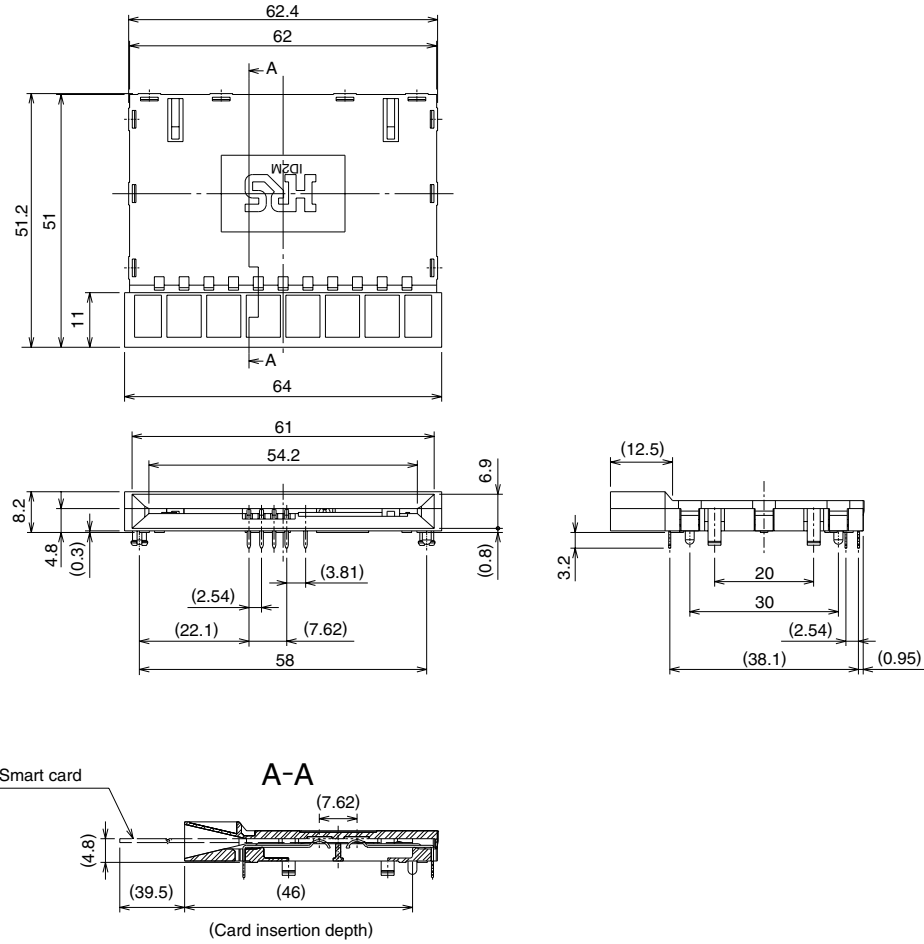| Part	Material	Finish	Remarks
Insulator	PBT	Color:Black	UL94V-0
Singnal contacts	Phosphor bronze	Contact portion:gold plating Lead portion: Solder plating	
Switch contacts	Phosphor bronze	Gold plating	
	Brass	Gold plating	

■Ordering Information

ID2M – **8** **S** – **2.54** **DS**
❶   ❷ ❸   ❹   ❺

❶	Series name: ID2M
❷	Number of contacts:8
❸	Contacts type S: Socket
❹	Contact pitch: 2.54 mm
❺	Terminal type DS:Right-angle dip

■Socket

Smart card

A-A

(Card insertion depth)

| Part Number	CL No.	Number of Contacts	Packaging
ID2M-8S-2.54DS	645-0151-6	8	Tray

■PCB mounting pattern

Insertion Slot Side
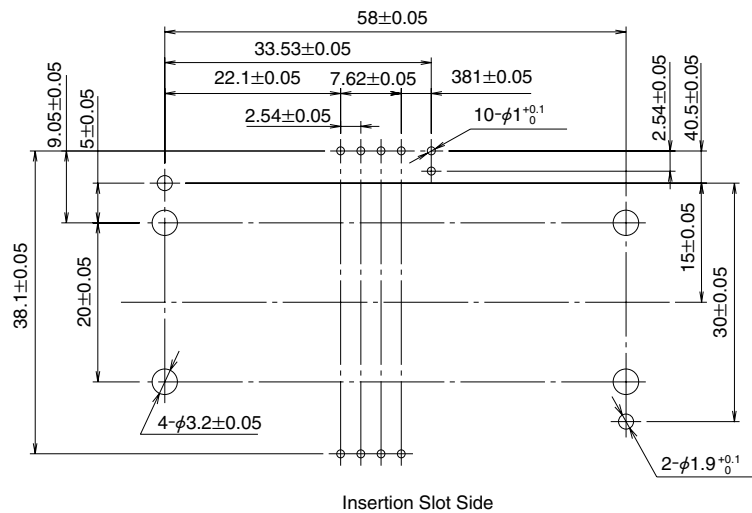
■Method of Using the Sockets

1. The orientation of the card should have the contact surface inserted face-down as illustrated in the diagram below.

Card insertion direction

Card contact surface faces downward
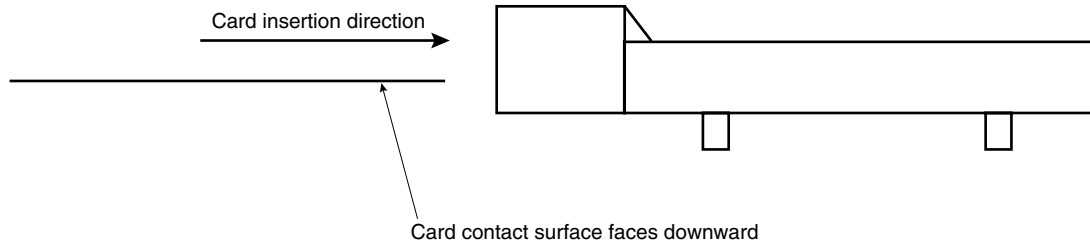
2. After the smart card has been inserted, be sure not to appy excessive force to the card portion that protrudes from the insertion slot.
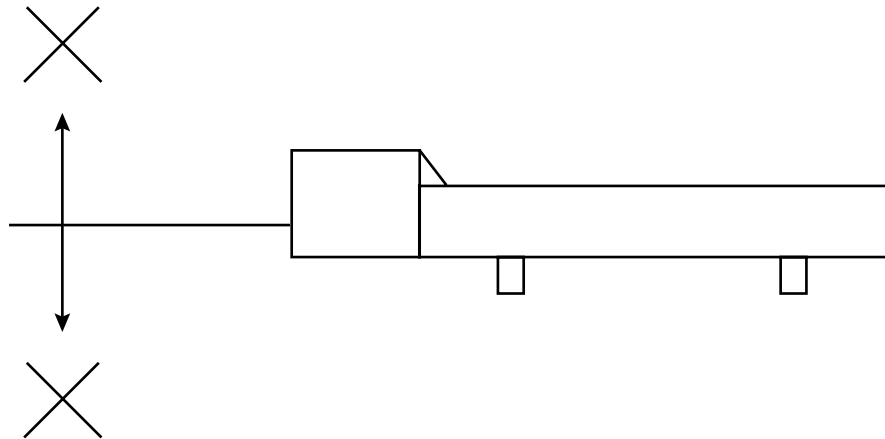
3. When the board warps greatly due to solder flow, the socket may rise up from the board.Please limit as much as possible this board warpage due to solder flow.

■Washing Conditions

This product is a no-wash item, but in the case of washing, please observe the following conditions.

1.Oranic Solvent Washing

Solvent	Normal temperature washing	Heated washing
IPA(Isopropyl alcohol)	Yes	Yes
HCFC(Hydrochlorofluorocarbon)	Yes	Yes

2.Water Type Washing

When using water type cleaning agents(e.g., terpene, and alkali saponifiers), select the cleaning agent based on the documentation issued by the various manufacturers of cleaning agents which describes the effects on metals and resins.Be careful that parts are not left with moisture remaining on them

3.Washing Precautions

Residual flux or cleaning agent on the contacts when washing with organic solvents or water type cleaners can give rise to the deterioration of electrical performance. In this regard it is important to check whether a thorough washing has been performed.