TEAC FD-235HG/HF-AXXX (7XXX → AXXX)
TECHNICAL DESCRIPTION OF DIFFERENCES

1.OUTLINE

This document describes the details of changes for the TEAC FD-235HG/HF micro floppy disk drive (hereinafter referred to as FDD) from the -7XXX series to -AXXX series.

In AXXX series, its mechanism, assignment of each pin and main parts, and the front bezel are designed based on the conventional 7XXX series and the components count is reduced, whereby improving reliability and productivity.

This document describes typical models of the 7XXX series and AXXX series as examples. If you have any questions about the specifications of individual models, etc., kindly contact us through our sales department.

2.MODEL NAME AND PART NUMBER

The nameplate attached on the rear of the FDD frame has the indication shown in Table 1, to distinguish between the 7XXX series and AXXX series.

(Table 1) Model name and part number

Indication	7XXX series	AXXX series
Model name	FD-235HF-7XXX	FD-235HF-AXXX
Part Number	1930777X-XX	193077AX-XX

For a model of 7XXX series which can be replaced by the AXXX series as it is, the top digit of the number is changed from "7" to "A" remaining the last three digits as they are.

e.g. FD-235HF-7291 ➡ FD-235HF-A291

3. DIFFERNCES IN EXTERNAL APPEARANCE

For details, refer to each specification or actual model.

Tables 2 to 4 show a list of main differences in the external appearance.

3.1 Mechanical Parts

(Table 2) External appearance differences in mechanical parts

Different points		Detail	Related drawings
Frame		The frame described below has been newly adopted to add to the conventional frame.	
	Top	The tapped hole position to mount the PCBA has been changed.	Marks (a) and (e) in Fig. 1
		The convex has been eliminated.	Mark (b) in Fig. 1
		The shape of the side to mount the SPM has been changed.	Mark (c) in Fig. 1
		The two concaves have been eliminated.	Mark (d) in Fig. 1

3.2 Spindle Moter, Stepping Motor

(Table 3) Motor appearance differences

Different points		Detail	Related drawings
Spindle motor Ass'y	Main body	A G-type (Kumagaya Seimitsu) has been newly added to the conventional S-type, J-type and M-type.	Fig. 2-1
	Switch	The switches made by Mic Electronics have been newly accepted to add to conventional switches made by Alps/Shinmei.	Fig. 2-2
Stepping motor Ass'y	Coil	The resistance of the M-type; 30 ohms to18 ohms, the resistance of the S-type; 25.5 ohms to 15 ohms.	
	STM structure	The S-type structure has been changed from a conventional screw bearing type to a two-pivot type screw.	Fig. 3
	FPC	The soldering section in the PCBA has been changed from 1.25mm pitch to 1.6mm pitch.	

3.3 PCBA MFD Control

(Table 4) PCBA appearance differences

Different points	Detail	Related drawings
LSI	The 52-pin LSI has been newly accepted for use.	
PCB	The PCB for the LSI described above has been accepted for use.	
	The screw hole position for mounting the PCB has been changed and a mounting hole(C) has been newly added as shown in the figure.	Fig. 4
	The land pitch for FPC soldering of the stepping motor has been changed from a conventional 1.25 to 1.6mm.	
I/F Connector	The conventional 34-pin type has been changed to the type in which the pin No. 3 was eliminated. In the FDD with miss-insertion prevention, the prevention method has been changed from using a plate to using a connector of shouldered-type.	
Method of Ass'y	The flow soldering method has been newly accepted to be used in parallel with the conventional re-flow soldering method.	

3.4 Head Carriage Assembly

Different points	Detail
Head piece	A bulked-type has been newly adopted to be used in parrallel with the conventional laminate type.

3.5 Packing Box

Different points		Details
Packing Ass'y	Quantity	20 units → 30 units
	External dimensions	566×456×232 → 566×456×213
	Cushion	PS (Polyethylene) → Paper (recycled)
	Character color (printed)	Black → Dark blue

4.DIFFERENCES IN SPECIFICATIONS

The differences in the specifications are only the current consumption and power consumption of the STM whose winding resistance is changed according to the change in the STM driver (LSI). All the other specifications such as physical dimensions, operational characteristics, environmental conditions, reliability, etc. are the same as for the 7XXX series.

4.1 Power Interface

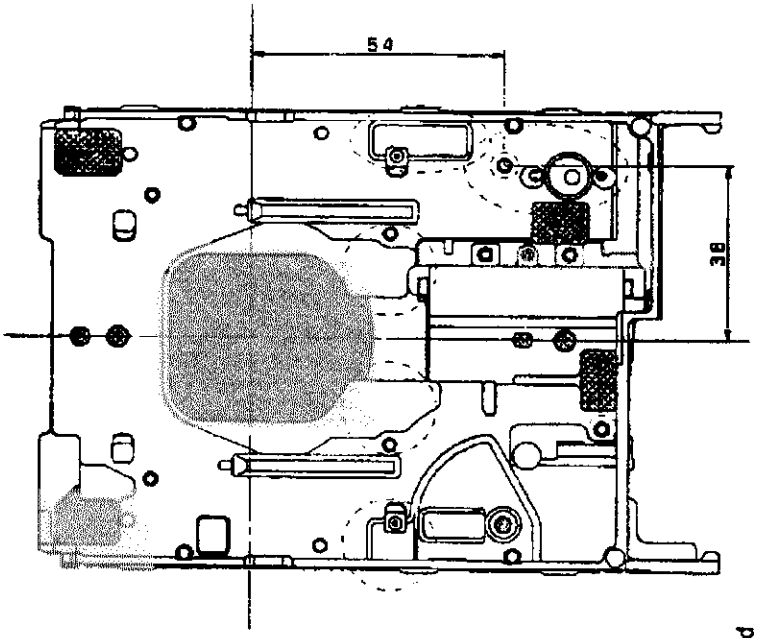
The details of the consumption are described in the specifications.

(1) Current consumption

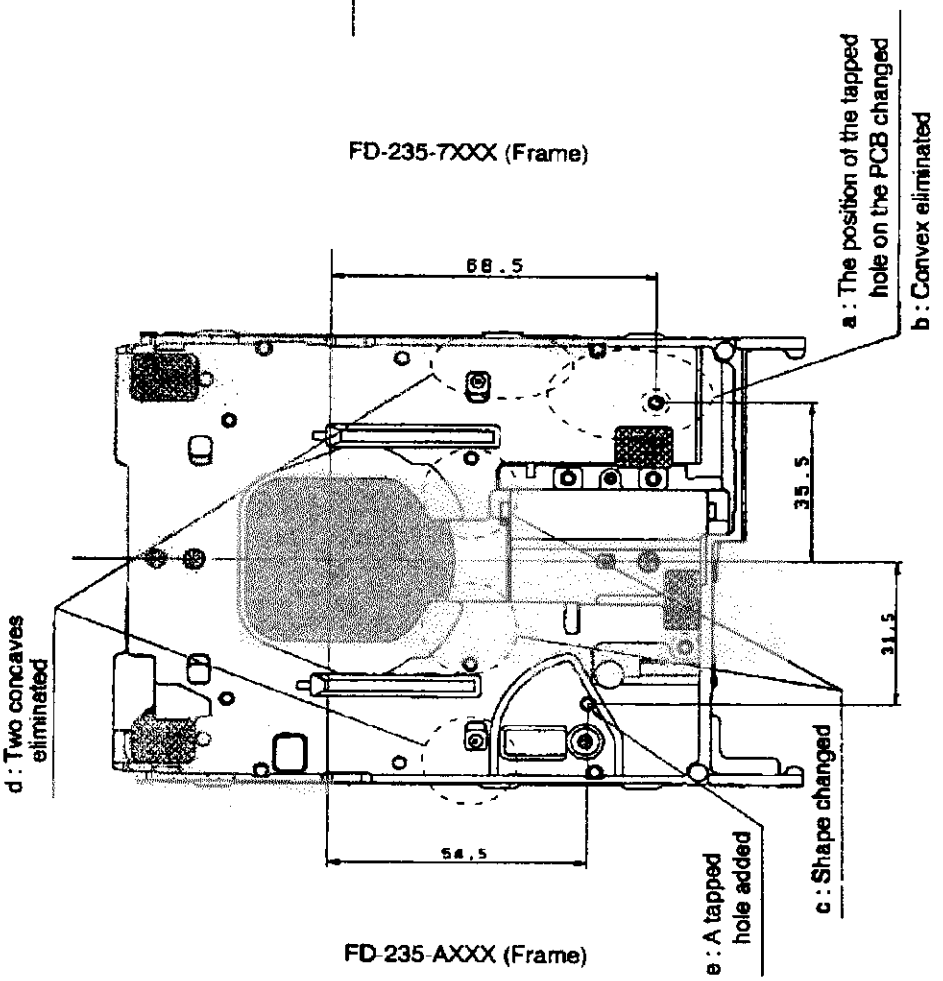
Operating mode		Conventional series		New series	
		Typ.	Max.	Typ.	Max.
During stand-by		3.0mA	5.0mA	8.0mA	10.0mA
During seek, Average	3ms	0.48A	0.58A	0.56A	0.66A
	6ms	0.56A	0.68A	0.60A	0.70A
During seek, Peak		Not described		0.9A	1.0A
At short time Max, Peak		0.9A or less		1.0A or less	

(2) Power consumption

Operating mode		Conventional series		New series	
		Typ.	Max.	Typ.	Max.
During stand-by		1.5mW	28mW	40mW	55mw
During seek, Average	3ms	2.40W	3.19W	2.80W	3.63W
	6ms	2.80W	3.74W	3.00W	3.85W
During seek, Peak		Not described		4.50W	5.50W

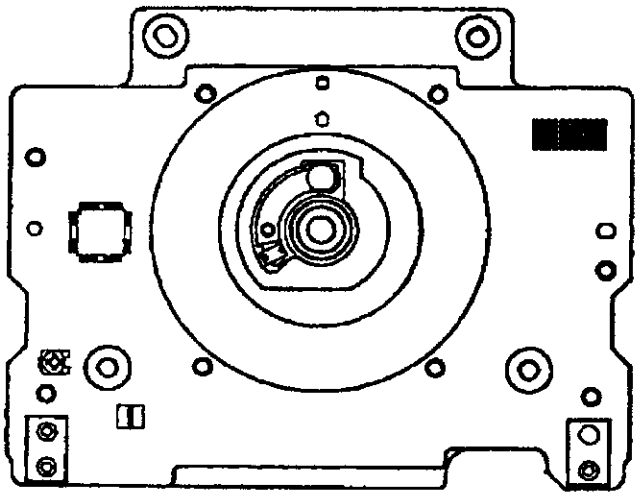


FD-235-7XXX (Frame)

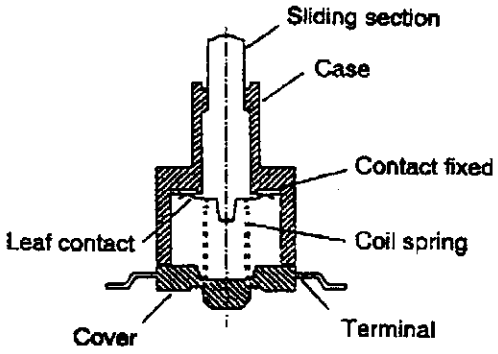


FD-235-AXXX (Frame)

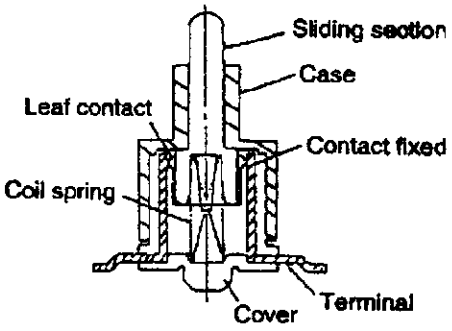
(Fig. 1)



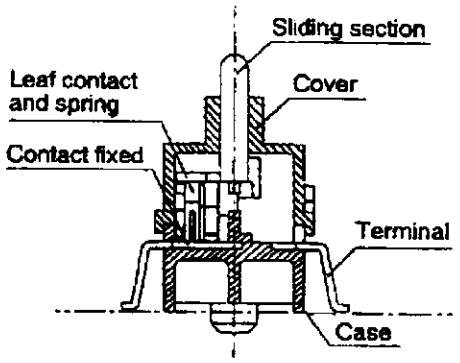
(Fig. 2-1)



Shinmei

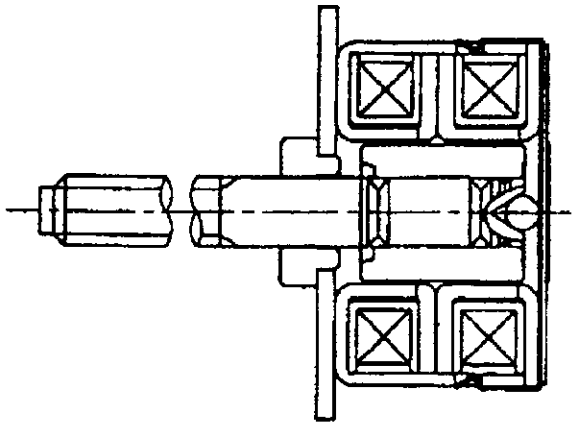


Alps

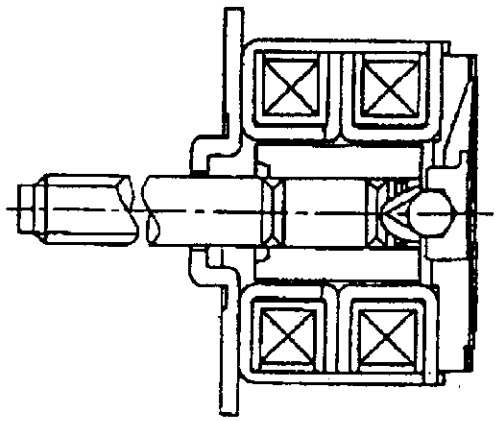


Mic Electronics

(Fig. 2-2)

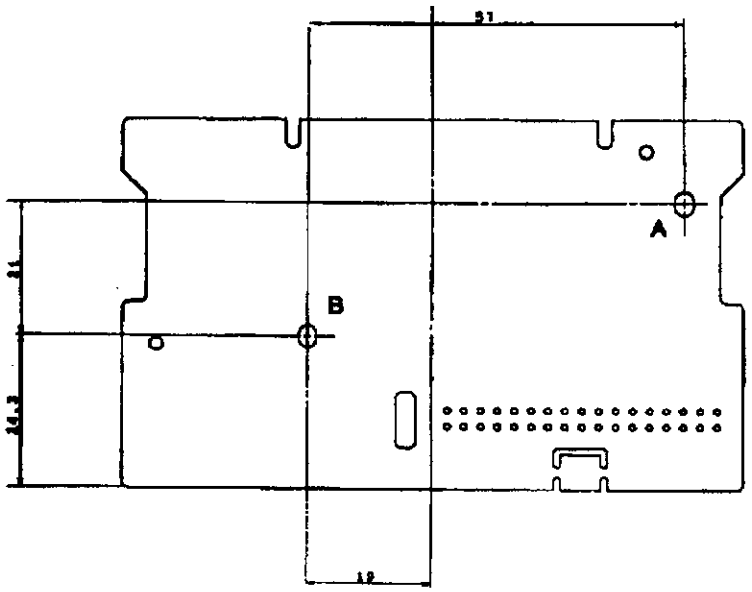


FD-235-7XXX (Stepping motor)

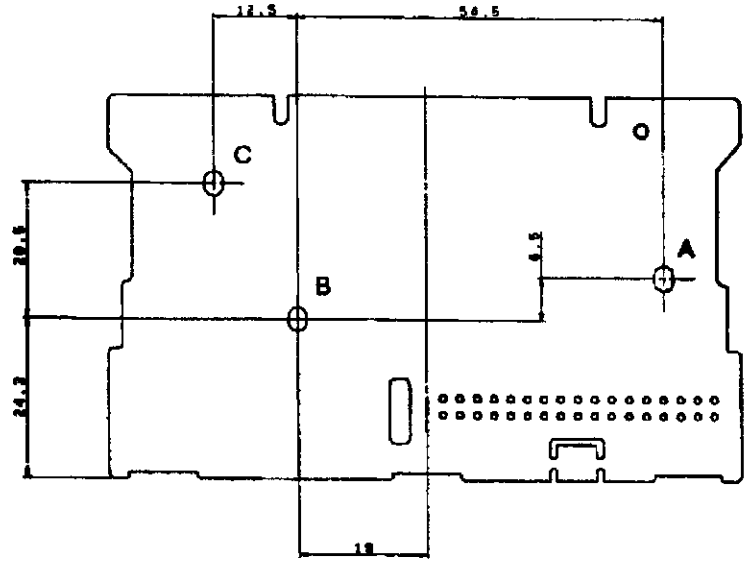


FD-235-AXXX (Stepping motor)

(Fig. 3)



FD-235-7XXX (PCB)



FD-235-AXXX (PCB)

(Fig. 4)

TEAC FD-235HG/HF-AXXX (8XXX → AXXX)
TECHNICAL DESCRIPTION OF DIFFERENCES

1.OUTLINE

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In AXXX series, its mechanism, assignment of each pin and main parts, and the front bezel are designed based on the conventional 8XXX series and the components count is reduced, whereby improving reliability and productivity.

This document describes typical models of the 8XXX series and AXXX series as examples. If you have any questions about the specifications of individual models, etc., kindly contact us through our sales department.

2.MODEL NAME AND PART NUMBER

The nameplate attached on the rear of the FDD frame has the indication shown in Table 1, to distinguish between the 8XXX series and AXXX series.

(Table 1) Model name and part number

Indication	8XXX series	AXXX series
Model name	FD-235HF-8XXX	FD-235HF-AXXX
Part Number	1930778X-XX	193077AX-XX

For a model of 8XXX series which can be replaced by the AXXX series as it is, the top digit of the number is changed from "8" to "A" remaining the last three digits as they are.

e.g. FD-235HF-8291 → FD-235HF-A291

3. DIFFERNCES IN EXTERNAL APPEARANCE

For details, refer to each specification or actual model.

Tables 2 to 6 show a list of main differences in the external appearance.

3.1 Mechanical Parts

(Table 2) External appearance differences in mechanical parts

Different points		Detail	Related drawings
Frame		The frame described below has been newly adopted to add to the conventional frame.	
	Top	The tapped hole position to mount the PCBA has been changed.	Fig.1

3.2 Spindle Motor, Stepping Motor

(Table 3) Motor appearance differences

Different points		Detail	Related drawings
Spindle motor Ass'y	Main body	A G-type (Kumagaya Seimitsu) has been newly added to the conventional S-type, J-type and M-type.	
	Switch	The switches made by Mic Electronics and by Alps Electronics have been newly accepted to add to conventional switches made by Alps/Shinmei.	Fig. 2

3.3 PCBA MFD Control

(Table 4) PCBA appearance differences

Different points	Detail	Related drawings
LSI	The 52-pin LSI (two suppliers) has been newly accepted for use.	
PCB	The PCB for the LSI described above has been accepted for use.	
	The screw hole position for mounting the PCB has been changed and a mounting hole(C) has been newly added as shown in the figure.	Fig. 3

3.4 Head Carriage Assembly

(Table 5)HCA appearance differences

Different points	Detail
Head piece	A bulked-type has been newly adopted to be used in parrallel with the conventional laminate type.

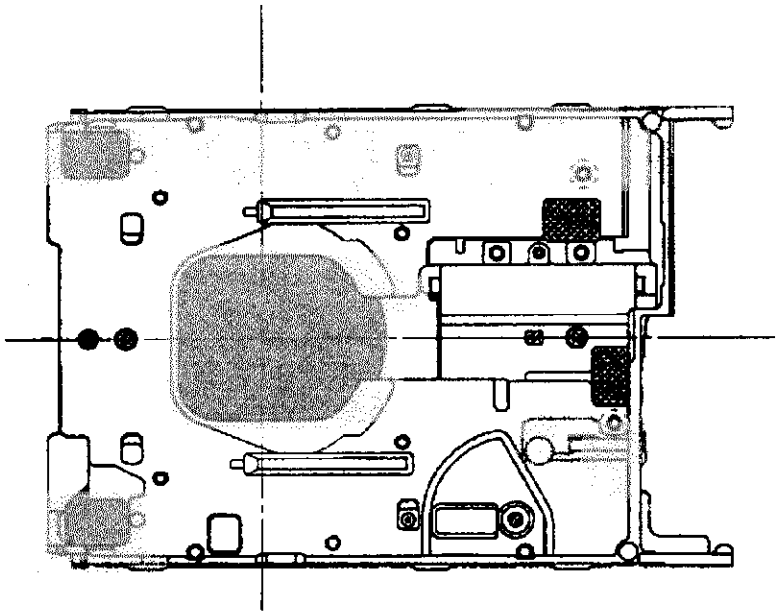
3.5 Packing Box

(Table 6)Packing Box appearance differences

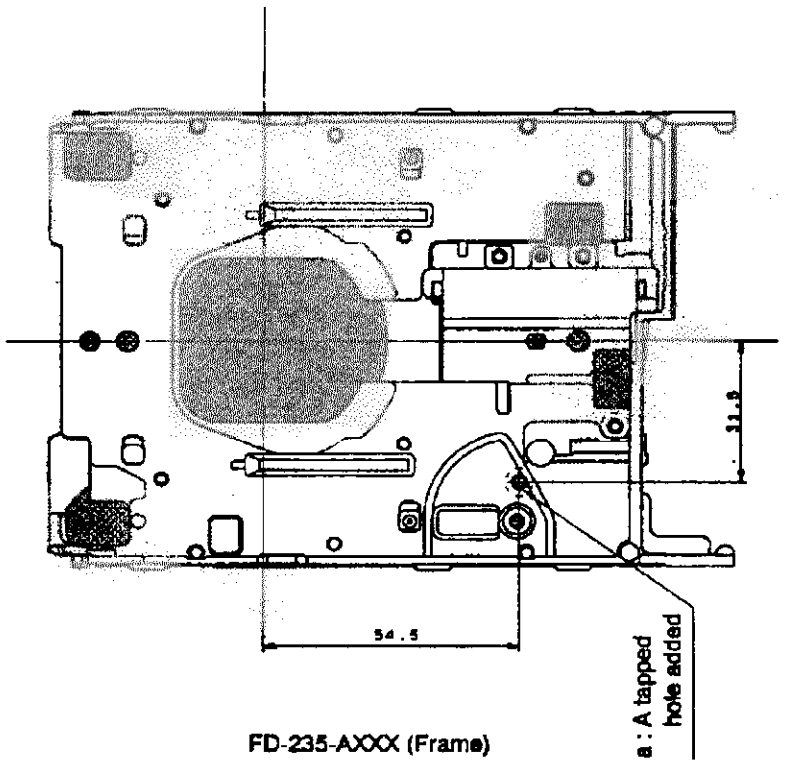
Different points		Details
Packing Ass'y	Quantity	20 units → 30 units
	External dimensions	566×456×232 → 566×456×213
	Cushion	PS (Polyethylene) → Paper (recycled)
	Character color (printed)	Black → Dark blue

4.DIFFERENCES IN SPECIFICATIONS

All the specifications such as physical dimensions, operational characteristics, environmental conditions, reliability, etc. are the same as for the 8XXX series.

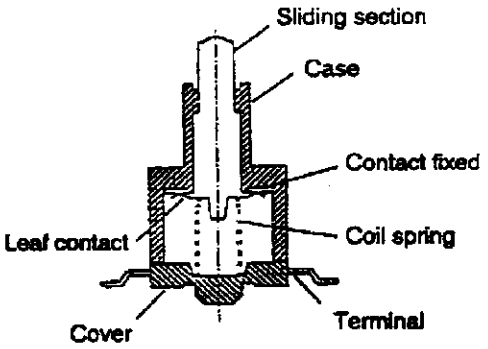


FD-235-8XXX (Frame)

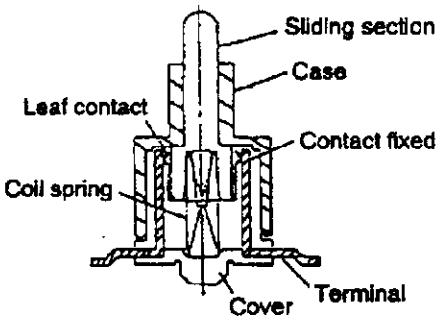


FD-235-AXXX (Frame)

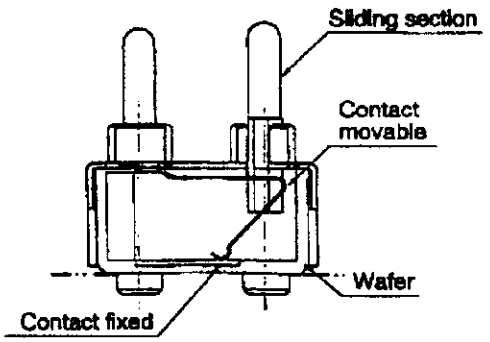
(Fig. 1)



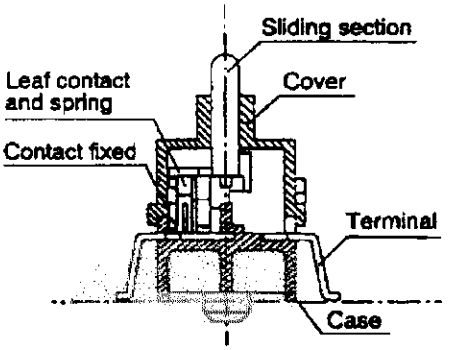
Shinmei



Alps

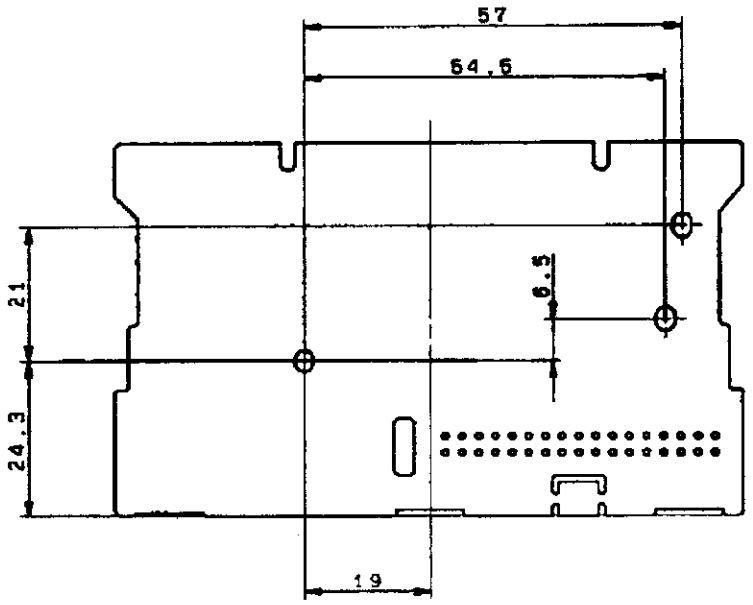


Alps (new)

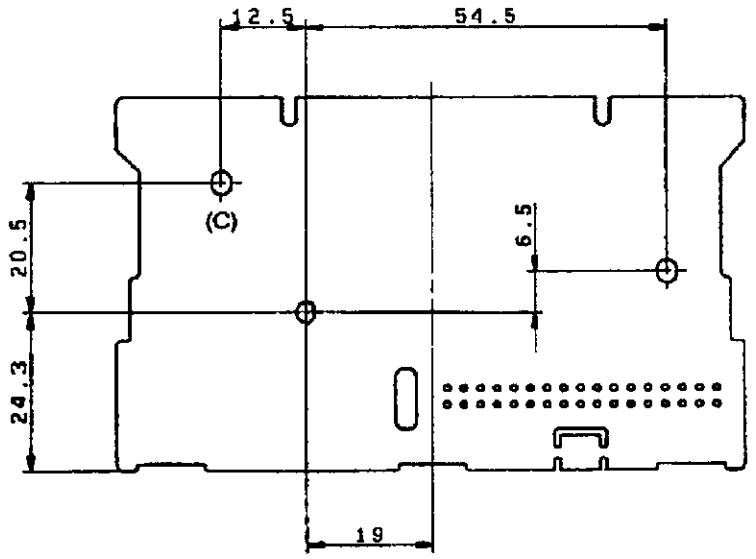


Mic Electronics

(Fig. 2)



FD-235-8XXX (PCB)



FD-235-AXXX (PCB)

(Fig. 3)