

SCOTCHARLEN DIP CONNECTOR Specification

SCOPE:

This specification details the requirements for a multiposition DIP plug transition between round conductor flat cable on .050" (1,27 mm) centers and .100" x .300"

(2,54 mm x 7,62 mm) IC socket.

UL FILE NO .:

E 68080

CSA FILE NO.:

LR 46900

SPECIFICATIONS:

PHYSICAL

INSULATOR MATERIAL

Glass Filled Polyester (PBT)

U.L. flammability rating 94V-0

COLOR

Gray

CONTACT MATERIAL

Copper Alloy

CONTACT PLATING

in the contact tail area,

 $30 \mu inch (0.76 \mu m) gold$

over 50 µinch (1,27 µm) nickel

MARKING

Raised figures; 3M logo; part

identification number, and contact

position numbers

WIRE ACCOMMODATION

26 AWG solid or stranded

28 AWG solid or stranded

30 AWG solid

ELECTRICAL

CURRENT RATING

1 A

INSULATION RESISTANCE

 $> 1 \times 10^9 \Omega$

DIELECTRIC WITHSTANDING

VOLTAGE

 $1000 \, \mathrm{V}_{\mathrm{RMS}}$

ENVIRONMENTAL TEMPERATURE RATING

-55°C to + 105°C (-67°F to + 221°F)

CS-4205





製品 仕 様 書 Product Specification

3M 印 1.27mm ピッチ フラットケーブル用コネクタ DIP コネクタ (X)3XXX-0X00 PR、 (X)3XXX-0X00 SC、(X)3XXX-0X00 S

3M Brand Cnnector for 1.27mm Pitch Flat Cable DIP Connector (X)3XXX-0X00 PR, (X)3XXX-0X00 SC, (X)3XXX-0X00 S

APRV. Thanas 6/10 2005 CHKD. 7. Shangs 6/10 2005 PRPD. 1. Nagara 6/10, 2005



ELECTRONIC SOLUTIONS DIVISION TECHNICAL DEPARTMENT

目 次 / CONTENTS

	頁 / PAGI
1.	機能····································
2.	適合対象 ····································
3.	関連仕様図 ····································
4.	関連規格類 ····································
5.	適用····································
6.	品質特性 ····································
7.	製品上めっき仕様識別表示
8.	包装&表示 ····································
9.	保管
10.	注意事項5 ATTENTIONS

JNPS-0846

1. FUNCTION

This connector is designed for IDC (Insulation Displacement Connector) connection with 1.27mm pitch flat cable. This connector has 2 rows of plural U-elements at topside and 2 rows of contact tails at bottom side.

Then, this connector has the function of electrical connection between cable and PC board or cable and compatible IC socket (Plating Suffix : SC or S).

2. COMPATIBLE OBJECTS

2-1 WIRE ACCOMODATION

28 AWG Stranded *corresponding with UL Style 2651

2-2 COMPATIBLE BOARD

Thickness: $1.6 \text{mm} \pm 0.2 \text{mm}$

Through hole diameter: $\phi 1.0 \text{mm} \pm 0.1 \text{mm}$

- * Refer to the drawing 4U-0010-0940-6.
- * In the case that (X)3406-0000 XX (14 pos.) or (X)3416-0000 XX (16 pos.) is mounted on the PC board by soldering, more than 0.5mm thickness spacers (ex. plastic washer with high temperature resistance) should be used for spacing between the connector body and PC board.

2-3 COMPATIBLE IC SOCKET

IS socket should have the compatibility with the following specification of the terminals.

PRODUCT No.	LEAD LENGTH	LEAD SECTION
(X)3406-0000 XX (14Pos.) and (X)3416-0000 XX (16Pos.)	4.4 ± 0.3 mm * These connectors don't have standoff bumps.	
(X)3460-0000 XX (24Pos.)	3.8 ± 0.3 mm * Lower side from the bottom of the standoff bumps (Height: 0.6mm).	0.46 ± 0.05 mm × 0.36 ± 0.05 mm
(X)3508-0000 XX (40Pos.)	3.9 ± 0.3 mm * Lower side from the bottom of the standoff bumps (Height: 0.5mm).	

^{*} IC socket should be used for (X)3XXX-0000 <u>SC</u> and (X)3XXX-0000 <u>S</u>. IC socket can not be used for (X)3XXX-0000 <u>PR</u>.

3. RELATED SPECIFICATION DRAWINGS

See the drawings described in JNPD-0846.

4. RELATED TEST STANDARDS

MIL-STD-202 JEIDA-38-1984

 $\rm JIS \ C\ 0050$

JNTM-0039, JNTM-0040

*JNTM: Test Method Standard of Sumitomo 3M for Electronic and Electrical Component Parts.

5. APPLICATION

PRODUCT NUMBER INFORMATION

 $\begin{array}{c|c} (X) & 3XXX - 0 X 0 0 XX \\ \hline \end{array}$

PLATING SUFFIX

 $\mbox{PR}\,:\,\mbox{U-ELEMENT}$ AREA & TAIL AREA / Gold Flash Plating

SC: U-ELEMENT AREA / Nickel Plating
TAIL AREA / Gold Plating 0.2μm Min
S: U-ELEMENT AREA / Nickel Plating
TAIL AREA / Gold Plating 0.76μm Min.

SHAPE OF TAIL SECTION

0: Rectangular Pin (0.46mm × 0.36mm)

CONTACT DISPOSITION

0: Standard (Body Color: Gray)

1: Mirror Image Type (Body Color: Black)

CONTACT QUANTITY

3406: 14P (Distance of terminal row: 7.62mm) 3416: 16P (Distance of terminal row: 7.62mm) 3460: 24P (Distance of terminal row: 15.24mm) 3508: 40P (Distance of terminal row: 15.24mm)

BODY COLOR

Blank: Gray (Contact Disposition: Standard)

D : Black (Contact Disposition : Mirror Image Type)

6. QUALITY PERFORMANCE

6-1 RATING

ITEM	RATING
CURRENT	1.0A Max.
VOLTAGE	AC: 250V Max. / DC: 300V Max.
TEMPERATURE	-55°C ~ 105°C

6-2 PHYSICAL SPECIFICATIONS

* The value in () is reference.

TEST DESCRIPTION	REQUIREMENT	TEST CONDITION	RELATED STANDARD
VIBRATION	Electrical discontinuity: Less than 1μs	Sweep Freq.: 10~55Hz, Amplitude: 1.52mm(or 98 m/s²), Sweep Cycle: 1min., Sweep time: 2 hours Sweep in each direction: (X,Y,Z)	MIL-STD- 202F 101A
MECHANICAL SHOCK	Electrical discontinuity: Less than 1μs	490 m/s², 11ms, Half sine shock pulse. 3 times / X,Y,Z directions (Total 18 times)	MIL-STD- 202E 213B
SOLDERABILITY	Wetting: 95% Min. or Zero cross time: 3 seconds Max.	Solder: Sn-3Ag-0.5Cu - Wetting Measurement: 245°C, 3 seconds - Wetting Balance Method: 245°C	JNTM-0039 JIS C 0050
SOLDERING HEAT RESISTANCE	Connector should not have any defect portions after test.	Dip soldering: 260°C, 10 seconds, 2 times or 263°C, 5 seconds, 2 times * without Pre-heating Soldering Iron: Dependence on soldering conditions. * It need the evaluation under actual conditions.	JNTM-0040

6-3 ELECTRICAL SPECIFICATIONS

TEST DESCRIPTION	REQUIREMENT	TEST CONDITION	RELATED STANDARD
DIELECTRIC WITHSTANDING VOLTAGE	No appearance of arcing and break down. Leak current: 1mA Max.	Impressed voltage is AC 1000V rms. between adjacent two contacts for one minute.	
INSULATION RESIDENSE	1000MΩ Min.	Impressed voltage is DC 500V between adjacent two contacts for one minute.	
CONTACT RESISTANCE	- Initial / $$25~\text{m}\Omega$$ Max. - Change of contact resistance after environmental tests / $$20~\text{m}\Omega$$ Max.	Contact resistance is measured at Short Circuit. Current: 1.5mA Open Circuit Voltage: 20mV by 4 terminal method. * Measurement values include the resistance of contact pins as conductive material. * Refer to Table 1 regarding the conditions of each environmental test.	See Table 1.

Table 1: ENVIROMENTAL TEST

ITEM	TEST CONDITION	RELATED STANDARD
MOISTURE	-10 ~ 65°C, Relative Humidity 95% / 10 cycles	MIL-STD-202F106D
SALT SPRAY	NaCl 5% solution, 35°C / 48 hours	MIL-STD-202F101D
THERMAL SHOCK	-55°C→25°C→85°C→25°C / 5 cycles	MIL-STD-202F107G
HUMIDITY (STEADY STATE)	40°C, Relative Humidity 95% / 96 hours	MIL-STD-202F103B
THERMAL LIFE	Steady Current: Current Rating × 110%, 85°C / 1000 hours	
H ₂ S GAS	3 ± 1 ppm, 40°C, Relative Humidity $70 \sim 80\% / 96$ hours	JEIDA-38-1984

7. PLATING SPEC INDICATION ON CONNECTOR

The first letter, in stamped 3 letters on the connector body for lot numbering, identified the following plating specs.

 $\begin{array}{cccc} \underline{N} \ XX & \text{or} & \underline{n} \ XX : PR \ plating \\ \underline{C} \ XX & \text{or} & \underline{c} \ XX : SC \ plating \\ \underline{S} \ XX & \text{or} & \underline{s} \ XX : S \ plating \\ & * \ XX : two \ alphabet \ letters \end{array}$

8. PACKAGE & IDENTIFICATION

These products are packed with plastic tray and carton box for transit. Carton box are identified by part number, quantity, maker name and lot number.

9. STORAGE

This products shall be stored in a room, ambient temperature $5 \sim 35^{\circ}$ C, and ambient humidity $40 \sim 70\%$.

10. ATTENTIONS

10-1 BOARD MOUNTING

In the case that (X)3406-0000 XX (14 pos.) or (X)3416-0000 XX (16 pos.) is mounted on the PC board by soldering, more than 0.4mm thickness spacers (ex. plastic washer with high temperature resistance) should be used for spacing between the connector body and PC board.

10-2 COMPATIBILITY WITH IC SOCKET

IC socket should be used for (X)3XXX-0000 \underline{SC} and (X)3XXX-0000 \underline{S} . IC socket can not be used for (X)3XXX-0000 \underline{PR} .