



PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

【 1. 適用範囲 SCOPE 】

本仕様書は、\_\_\_\_\_ 殿 に納入する。

\_\_\_\_\_ 5mmピッチMTC(マルチターミナルコネクタ) \_\_\_\_\_ について規定する。

This specification covers the 5mm PITCH MTC (MULTI TERMINAL CONNECTOR) series.

関連規格(Normative references)

VDE0110 低電圧設備内の電気機器に対する絶縁協調

Insulation co-ordination for equipment within low-voltage systems

【 2. 製品名称及び型番 PRODUCT NAME AND PART NUMBER 】

製品名称 Product Name		製品型番 Parts Number
クリンプリセプタクルハウジング Crimp Receptacle Housing		5 1 2 4 0 - * * * *
クリンプターミナル Crimp Terminal	無鉛 LEAD-FREE	5 6 1 2 5 - * * 2 8
リセプタクルハウジングアッセンブリ Receptacle Housing Assembly	無鉛 LEAD-FREE	5 4 9 2 7 - * * 2 *
ヘッダーハウジングアッセンブリ Header Housing Assembly	無鉛 LEAD-FREE	5 5 7 5 7 - * * 2 *

\* : 図面参照 Refer to the drawing.

REV.	A																			
SHEET	1~9																			
REVISE ON PC ONLY					TITLE:															
A	新規作成 RELEASED J2006-0310 '05/08/01 M.NABEI				5mm PITCH MTC (MULTI TERMINAL CONNECTOR) -LEAD FREE- 製品仕様書															
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DOCUMENT NUMBER PS-51240-005															FILE NAME PS51240005.doc	SHEET 1 OF 9				



PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

【 3. 定格及び適用電線 RATINGS AND APPLICABLE WIRE 】

項目 Item	規格 Standard	
最大許容電圧 Rated Voltage (MAX.)	250 V	
最大許容電流 及び適用電線 Rated Current (MAX.) and Applicable Wires	AWG#14	16A/PIN
	AWG#16	12A/PIN
	AWG#18	9A/PIN
	AWG#20	7A/PIN
	AWG#22	5A/PIN
	AWG#24	4A/PIN
	AWG#26	3A/PIN
使用温度範囲 Ambient Temperature Range	-30 °C ~ +85 °C *1	

[ AC ( 実効値 rms ) / DC ]  
被覆外径 : Φ3.8mm maximum  
Insulation O.D.

\*1 : 通電による温度上昇分も含む。 Including terminal temperature raise.

REVISE ON PC ONLY		TITLE:	
<b>A</b>	SEE SHEET 1 OF 9	5mm PITCH MTC (MULTI TERMINAL CONNECTOR) -LEAD FREE- 製品仕様書	
	REV.	DESCRIPTION	THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION
DOCUMENT NUMBER <b>PS-51240-005</b>		FILE NAME PS51240005.doc	SHEET 2OF 9



PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

【 4. 性 能 PERFORMANCE 】

4 - 1. 電氣的性能 Electrical Performance

項 目 Item	条 件 Test Condition	規 格 Requirement
4-1-1 接 触 抵 抗 Contact Resistance	コネクタを嵌合させ、開放電圧 20mV 以下、短絡電流 10mA 以下にて測定する。 (JIS C5402 5.4) Mate connectors, measure by dry circuit, 20mV MAX. , 10mA MAX. (JIS C5402 5.4)	3 milliohms maximum
4-1-2 絶 縁 抵 抗 Insulation Resistance	コネクタを嵌合させ、隣接するターミナル間及びターミナル、アース間に、DC 500V を印加し測定する。 (JIS C5402 5.2/MIL-STD-202 試験法 302) Mate connectors, measure by applying 500V DC between adjacent terminal and ground. (JIS C5402 5.2/MIL-STD-202 Method 302)	1000 Megohms minimum
4-1-3 耐 電 圧 Dielectric Strength	コネクタを嵌合させ、隣接するターミナル間及びターミナル、アース間に、AC 2500V (実効値) を 1分間 印加する。 (JIS C5402 5.1/MIL-STD-202 試験法 301) Mate connectors, apply 2500V AC(r.m.s.) for 1 minute between adjacent terminal and ground. (JIS C5402 5.1/MIL-STD-202 Method 301)	異状なきこと No Breakdown

REVISE ON PC ONLY

**A**

SEE SHEET 1 OF 9

TITLE:

5mm PITCH  
MTC (MULTI TERMINAL CONNECTOR)  
-LEAD FREE- 製品仕様書

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REV.

DESCRIPTION

DOCUMENT NUMBER

**PS-51240-005**

FILE NAME

PS51240005.doc

SHEET

3OF 9

EN-37-1(019)



PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

4 - 2. 機械的性能 Mechanical Performance

項目 Item		条件 Condition	規格 Standard	
4-2-1	挿入力及び抜去力 Insertion and Withdrawal Force	毎分 25±3mm の速さで、挿入、抜去を行う。 Insert and withdraw connectors at the speed rate of 25±3mm per minute.	第6項参照 Refer to paragraph 6	
4-2-2	圧着部引張り強度 (56125に適用) Pull Out Force on Crimped Portion (Applies to 56125)	適合電線を圧着接続し、毎分 25±3mm の速さで、 電線を軸方向に引張る。 Apply axial pull out force on the wire at the speed rate of 25±3 mm per minute.	AWG#14	150N{15.3kgf} minimum
			AWG#16	120N{12.2kgf} minimum
			AWG#18	100N{10.2kgf} minimum
4-2-3	電線保持力 (54927に適用) Wire Retention Force (Applies to 54927)	適合電線を接続し、毎分 25±3mm の速さで 電線を軸方向に引張る。 Apply axial pull out force on the wire at the speed rate of 25±3 mm per minute.	AWG#14	50N{5.1kgf} minimum
			AWG#16	40N{4.1kgf} minimum
			AWG#18	30N{3.1kgf} minimum
			AWG#20	30N{3.1kgf} minimum
			AWG#22	20N{2.0kgf} minimum
			AWG#24	10N{1.0kgf} minimum
4-2-4	ピン保持力 Pin Retention Force	毎分 25±3mm の速さでピンを軸方向に押す。 Apply axial push force at the speed rate of 25±3mm per minute.	29.4N{3.0kgf} minimum	
			4-2-5	ターミナル挿入力 Terminal Insertion Force
4-2-6	ターミナル保持力 Terminal / Housing Retention Force	圧着されたターミナルをハウジングに装着し、電線 を軸方向に毎分25±3mmの速さで引張る Apply axial Pull out force at speed rate of 25±3mm per minute on the terminal assembled in the housing.	49N{5.0kgf} maximum	

REVISE ON PC ONLY		TITLE:	
<b>A</b>	SEE SHEET 1 OF 9	5mm PITCH MTC (MULTI TERMINAL CONNECTOR) -LEAD FREE- 製品仕様書	
		THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION	
REV.	DESCRIPTION	DOCUMENT NUMBER	FILE NAME
		<b>PS-51240-005</b>	PS51240005.doc
			SHEET 4OF 9
EN-37-1(019)			



PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

4-3. その他 Environmental Performance and Others

項目 Item		条件 Condition	規格 Standard	
4-3-1	繰返し挿抜 Repeated Mate / Un-mate	1分間に10回以下の速さで挿入、 抜去を30回繰り返す。 When mate and un-mated up to 30 cycles repeatedly at a rate of 10 cycles per minute.	接触抵抗 Contact Resistance	10 milliohms maximum
4-3-2	温度上昇 Temperature Rise	コネクタを嵌合させ、最大許容電流を通電し、コネクタの温度上昇分を測定する。 (UL 498) Mate connector and measure the temperature rise of contact when the maximum AC rated current is passed. (UL 498)	温度上昇 Temperature Rise	30 °C maximum
4-3-3	耐振動性 Vibration Exposure	DC 1mA 通電状態にて、嵌合軸を含む互いに垂直な3方向に掃引割合毎分10~55~10 Hz/分 全振幅 1.5mm の振動を各2時間加える。 (MIL-STD-202 試験法 201) Mate connectors and subject to the following vibration conditions, for a period of 2 hours in each of 3 mutually perpendicular axes, passing DC 1 mA during the test. Amplitude : 1.5mm P-P Frequency : 10~55~10Hz in 1 minute Duration : 2 hours in each X-,Y-,Z-, axes. (MIL-STD-202 Method 201)	外観 Appearance	異常なきこと No damage
			接触抵抗 Contact Resistance	10 milliohms maximum
			瞬断 Discontinuity	1.0 microsecond maximum
4-3-4	耐衝撃性 Mechanical Shock	DC 1mA 通電状態にて、嵌合軸を含む互いに垂直な6方向に490m/s <sup>2</sup> { 50G }の衝撃を各3回加える。 (JIS C60068-2-27/MIL-STD-202 試験法 213) Mate connectors and subject to the following shock conditions. 3 times of shocks shall be applied for each 6 directions along 3 mutually perpendicular axes, passing DC 1 mA current during the test.(Total of 18 shocks) Test pulse : Half Sine Peak value : 490 m/s <sup>2</sup> (50G) Duration : 11 ms (JIS C60068-2-27/MIL-STD-202 Method 213)	外観 Appearance	異常なきこと No damage
			接触抵抗 Contact Resistance	10 milliohms maximum
			瞬断 Discontinuity	1.0 microsecond maximum

REVISE ON PC ONLY	
<b>A</b>	SEE SHEET 1 OF 9
REV.	DESCRIPTION

TITLE: 5mm PITCH MTC (MULTI TERMINAL CONNECTOR) -LEAD FREE- 製品仕様書
THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

DOCUMENT NUMBER <b>PS-51240-005</b>	FILE NAME PS51240005.doc	SHEET 5OF 9
EN-37-1(019)		



PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

Environmental Performance and Others (Continued)

項目 Item		条件 Condition	規格 Standard	
4-3-5	耐熱性 Heat Resistance	コネクタを嵌合させ、85±2℃の雰囲気中に96時間放置後取り出し、1~2時間室温に放置する。 (JIS C60068-2-2/MIL-STD-202 試験法 108) Mate connectors and expose to 85±2℃ for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (JIS C60068-2-2/MIL-STD-202 Method 108)	外観 Appearance	異常なきこと No damage
			接触抵抗 Contact Resistance	10 milliohms maximum
4-3-6	耐寒性 Cold Resistance	コネクタを嵌合させ、-30±3℃の雰囲気中に96時間放置後取り出し、1~2時間室温に放置する。 (JIS C60068-2-1) Mate connectors and expose to -30±3℃ for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (JIS C60068-2-1)	外観 Appearance	異常なきこと No damage
			接触抵抗 Contact Resistance	10 milliohms maximum
4-3-7	耐湿性 Humidity Exposure	コネクタを嵌合させ、60±2℃、相対湿度90~95%の雰囲気中に96時間放置後取り出し、1~2時間室温に放置する。 (JIS C60068-2-3/MIL-STD-202 試験法 103) Mate connectors and expose to 60±2℃, relative humidity 90 to 95% for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. (JIS C60068-2-3/MIL-STD-202 Method 103)	外観 Appearance	異常なきこと No damage
			接触抵抗 Contact Resistance	10 milliohms maximum
			耐電圧 Dielectric Strength	4-1-3項 満足のこと Must meet 4-1-3
			絶縁抵抗 Insulation Resistance	100 Megohms minimum

REVISE ON PC ONLY		TITLE:	
<b>A</b>	SEE SHEET 1 OF 9	5mm PITCH MTC (MULTI TERMINAL CONNECTOR) -LEAD FREE- 製品仕様書	
		THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION	
REV.	DESCRIPTION		
DOCUMENT NUMBER <b>PS-51240-005</b>		FILE NAME PS51240005.doc	SHEET 6OF 9



PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

Environmental Performance and Others (Continued)

項目 Item		条件 Condition	規格 Standard	
4-3-8	温度サイクル Temperature Cycling	コネクタを嵌合させ、-30°C に 30分、+85°C に 30分、これを 1サイクル とし 5サイクル 繰返す。但し、温度移行時間は 5分以内 とする。 試験後、1~2時間 室温に放置する。 (JIS C0025) Mate connectors and subject to the following conditions for 5 cycles. Upon completion of the exposure period, the specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. 1 cycles a) -30°C 30minutes b) +85°C 30minutes Transit time shall be within 5 minutes. (JIS C0025)	外観 Appearance	異常なきこと No damage
			接触抵抗 Contact Resistance	10 milliohms maximum
4-3-9	塩水噴霧 Salt Spray Exposure	コネクタを嵌合させ、35±2°C にて 5±1% 重量比の塩水を 48±4時間 噴霧し、試験後常温で水洗いした後、室温で乾燥させる。 (JIS C60068-2-11/MIL-STD-202 試験法101) Mate connectors and expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water, after which the specified measurements shall be performed. NaCl solution Concentration : 5±1% Spray time : 48±4 hours Ambient temperature : 35±2°C (JIS C60068-2-11/MIL-STD-202 Method 101)	外観 Appearance	著しい腐食なきこと There shall be no remarkable corrosion
			接触抵抗 Contact Resistance	10 milliohms maximum

REVISE ON PC ONLY	
<b>A</b>	SEE SHEET 1 OF 9
REV.	DESCRIPTION

TITLE:  
 5mm PITCH  
 MTC (MULTI TERMINAL CONNECTOR)  
 -LEAD FREE- 製品仕様書

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DOCUMENT NUMBER <b>PS-51240-005</b>	FILE NAME PS51240005.doc	SHEET 7OF 9
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PRODUCT SPECIFICATION



LANGUAGE

JAPANESE  
ENGLISH

Environmental Performance and Others (Continued)

項目 Item		条件 Condition	規格 Standard	
4-3-10	亜硫酸ガス SO <sub>2</sub> Gas	コネクタを嵌合させ、40±2℃にて50±5ppmの亜硫酸ガス中に、24時間放置する。 Mate connectors and expose to 50±5ppm SO <sub>2</sub> Gas, ambient temperature 40±2℃ for 24 hours.	外観 Appearance	異常なきこと No Damage
			接触抵抗 Contact Resistance	10 milliohms maximum
4-3-11	半田付け性 Solderability	ターミナルをフラックスに浸し、230±5℃の半田に3±0.5秒浸す。 Dip soldertails in flux immerse in solder bath at 230±5℃ for 3±0.5 sec.	濡れ性 Solder Wetting	浸漬面積の95%以上 95% of immersed area must show no voids, pin holes
4-3-12	半田耐熱性 Resistance to Soldering Heat	ピンを260±5℃の半田に5±1秒浸す。 Dip soldertails into the molten solder <held at 260±5℃>. The dwell time shall be 5±1sec	外観 Appearance	端子ガタ、割れ等 異常なきこと No Damage

( ) : 参考規格 Reference Standard

【 5. 外観形状、寸法及び材質 PRODUCT SHAPE, DIMENSIONS AND MATERIALS 】

図面参照 Refer to the drawing.

【 6. 挿入力及び抜去力 INSERTION / WITHDRAWAL FORCE 】

極数 Number of Circuits	挿入力 (最大値) Insertion Force (maximum)	抜去力 (最小値) Withdrawal Force (minimum)
3	64.7N {6.6kgf}	9.8N {1.0kgf}
4	76.4N {7.8kgf}	10.8N {1.1kgf}
5	88.2N {9kgf}	11.7N {1.2kgf}
6	100N {10.2kgf}	12.7N {1.3kgf}

REVISE ON PC ONLY		TITLE:	
<b>A</b>	SEE SHEET 1 OF 9	5mm PITCH MTC (MULTI TERMINAL CONNECTOR) -LEAD FREE- 製品仕様書	
		THIS DOCUMENT CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INC. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION	
REV.	DESCRIPTION	FILE NAME	SHEET
DOCUMENT NUMBER <b>PS-51240-005</b>		PS51240005.doc	8OF 9



