HONDA TSUSHIN KOGYO CO., LTD. TOKYO JAPAN	Sheet	1 of 9	
	Date	Sep 7, 2006	
Product Specification 0.3mm pitch 0.7mm height stacking connector with shell and hold down P/N: LPZ-E( )SFY+ P/N: LPZ-( )SMY+	Approved by	Checked by	Written by
	K. Kasai	K. Takahashi	K. Kuwana

LTR.	Date	By	Description
△			

1. Scope: This specification covers the 0.3mm pitch 0.7mm height stacking connector with shell and hold down.

2. Product part number

Type	Part number	No. of pos.	Note
Plug connector	LPZ-32SMY+	32 pos.	0.3mm pitch 0.7mm stacking connector with shell and hold down, 0.7mm stack height SMT connector.
	LPZ-40SMY+	40 pos.	
Receptacle connector	LPZ-E32SFY+	32 pos.	
	LPZ-E40SFY+	40 pos.	

3. Rating

Item	Rating
Current Rating	0.25 Amps. DC maximum
Voltage Rating	50 Volts AC (r.m.s.)
Operating Temperature	-55℃~85℃
Storage Temperature	-10℃~60℃
Humidity	95%RH maximum

4. Performance

4 - 1. Electrical performance

No.	Item	Specification
4-1-1	Insulation Resistance	When tested in accordance with EIA364-21, insulation resistance shall be a minimum of 100 Mohm at 250 volts DC.
4-1-2	Dielectric Withstanding Voltage	When tested in accordance with method B of EIA364-20, there shall be no breakdown of insulation or flashover at 100 volts AC (r.m.s.) for a minute.

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No.	Item	Specification
4-1-3	Contact Resistance	When tested in accordance with EIA 364-23, contact resistance shall not exceed 90 mohm including the conductor resistance. Hold down to shell resistance shall not exceed 100 mohm including the conductor resistance.

4 - 2. Mechanical Performance

No.	Item	Specification
4-2-1	Connector Insertion and Withdrawal Force (Overall)	• Insertion Force The force required to insert a connector into the mating one shall not exceed the value in the below table. • Withdrawal Force The force required to withdraw a connector from the mating one shall not be less than the value in the below table. Unit: N
4-2-2	Durability	When subject to 30 cycles of insertion and withdrawal cycle with mating connector at the rate of 500 cycles maximum per hour, there shall be no physical damage to the connector. After test, contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm.

No. of pos.	Insertion Force	Withdrawal Force
32 pos.	18.8 max.	3.1 min.
40 pos.	23.5 max.	3.9 min.

No.	Item	Specification
4-2-3	Vibration	When tested in accordance with EIA-364-28B, test condition I, there shall be no physical damage to the connector. During vibration, there shall be no discontinuity of the circuit greater than 1 microsecond. (100 mA DC of current is applied to the circuit.) After test, contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm. Sweep time (10~55~10 Hz): 1 minute Amplitude: 1.52mm
4-2-4	Physical Shock	When tested in accordance with EIA-364-27B, test condition A, there shall be no physical damage to the connector. During test, there shall be no discontinuity of the circuit greater than 1 microsecond. (100 mA DC of current is applied to the circuit.) After test, contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm. Acceleration: 490m/s^2 (Semi-sine wave) Standard holding time: 11 milliseconds Number of test time: 3 times in each of 6 mutually perpendicular directions.

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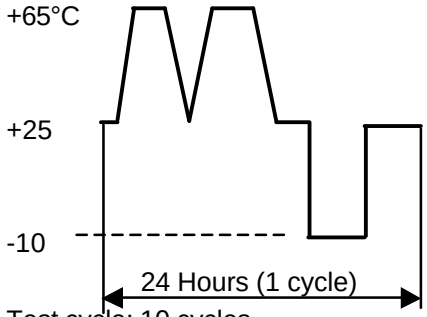
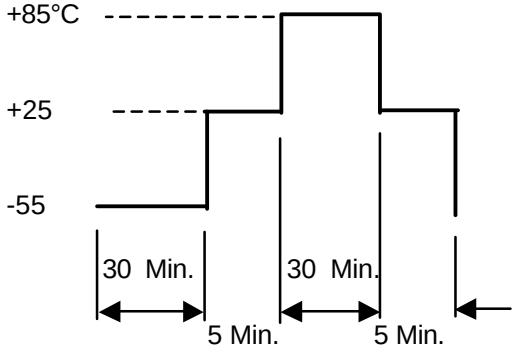
4 - 3. Environmental Performance

No.	Item	Specification
4-3-1	Humidity Temperature Cycling	When tested in accordance with EIA364-31A , test method **III** shown in below program, there shall be no any excessive corrosion on the every part of connector. After test, insulation resistance shall be no less than 10Mohm and there shall be no breakdown of insulation or flashover at 100 volts AC (r.m.s) for a minute. Contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm. Temperature: -10~65℃ Humidity: 90~98%RH  Test cycle: 10 cycles
4-3-2	Thermal Shock	When tested in accordance with EIA364-32B shown in below program, there shall be no physical damage to the connector. After test, insulation resistance shall be no less than 10Mohm and there shall be no breakdown of insulation or flashover at 100 volts AC (r.m.s) for a minute. Contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm.  Test cycle: 5 cycles

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No.	Item	Specification
4-3-3	Humidity	When mated connectors are tested in accordance with EIA364-31A, test condition A, there shall be no any excessive corrosion on the every part of connector. After test, insulation resistance shall be no less than 10Mohm and there shall be no breakdown of insulation or flashover at 100 volts AC (r.m.s) for a minute. Contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm. Temperature: 40±2℃ Humidity: 90~95%RH Test time: 96 hours
4-3-4	High Temperature Life	When tested in accordance with EIA364-17A, test method A, there shall be no physical damage to the connector. After test, contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm. Temperature: 85℃ Test time: 250 hours
4-3-5	Salt Spray	When tested in accordance with MIL-STD-202G, test method 101E, there shall be no any excessive corrosion on the every part of connector. After test, contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm. Concentration: 5% Temperature: 35℃ Test time: 48 hours
4-3-6	Resistance to Mix Flowing Gas	When tested in accordance with EIA364-65, environment class Ⅱ, there shall be no any excessive corrosion on the every part of connector. After test, contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm. Concentration: Cl_2 gas: 10 ± 3ppb NO_2 gas: 200 ± 50ppb H_2S gas: 10 ± 20ppb Test time: 168 hours.
4-3-7	Cold Resistance	When tested in accordance with JIS C 5402,7.9, there shall be no physical damage to the connector. After test, contact resistance shall not exceed 90mohm and hold down to shell resistance shall not exceed 100mohm. Temperature: -55℃ Test time: 96 hours

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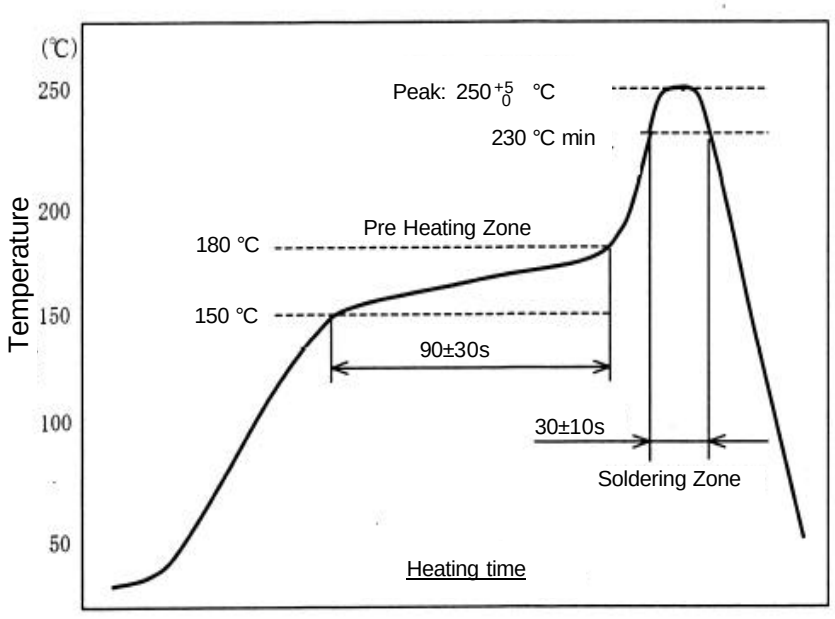
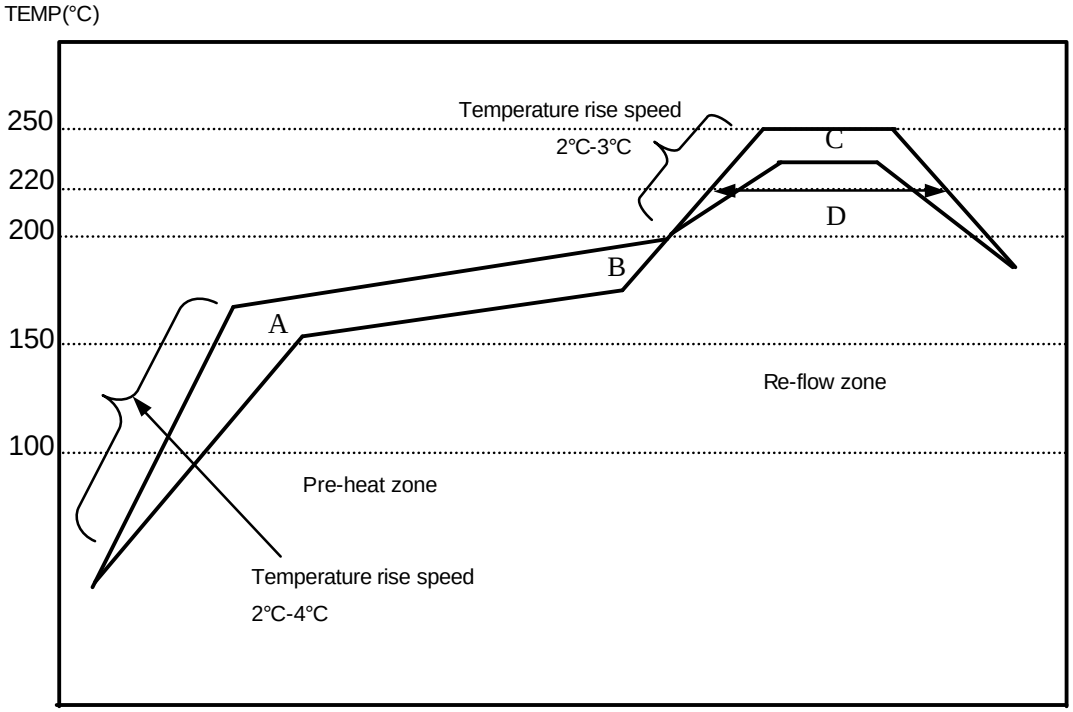
No.	Item	Specification
4-3-8	Solderability	When tested in accordance with MIL-STD-202F, test method 208E, The termination should be 95% covered with new continuous solder coating. Solder temperature: 245±5℃ Test time: 3 seconds
4-3-9	Resistance to Solder Heat	When exposed to the following re-flow soldering condition, there shall be no any excessive thermal damage on the every part of connector. Peak temperature: 250 ℃ +5/-0℃ Soldering temperature: 230℃ minimum for 30 ±10 seconds Pre heating temperature: 150℃ ~180°C for 90 ±30seconds The number of Re-flow Soldering is limited to two times. 

5. Product shape, dimensions and materials

   Refer to the product drawing.

6. Recommended Re-flow temperature profile



Recommended values at each point:

A (Pre-heating starting point): 150~170°C
B (Pre-heating terminal point): 170~190°C
Time between A and B: 90 ± 30 seconds
C (Peak temperature): 230~250°C
D (Time more than 220 °C): 30~40 seconds

Note: Please adjust re-flow soldering condition with your re-flow soldering machine using connector samples because re-flow condition is easy to be changed by the circumstance such as soldering devices, size of PC Board.

7. Recommended P.C.B. layout

Refer to the product drawing.

8. Recommended stencil aperture ratio

100% (When stencil thickness is 0.12mm)

9. Handling instruction

Mate connectors in parallel, fitting the plug connector to the interface opening of the receptacle connector (Fig. 1). Unmate connectors in parallel (Fig. 1), or with rocking them right to left slightly (Fig.2).
There is an angle tolerance at 5 degree maximum for mating and unmating (Fig. 3).

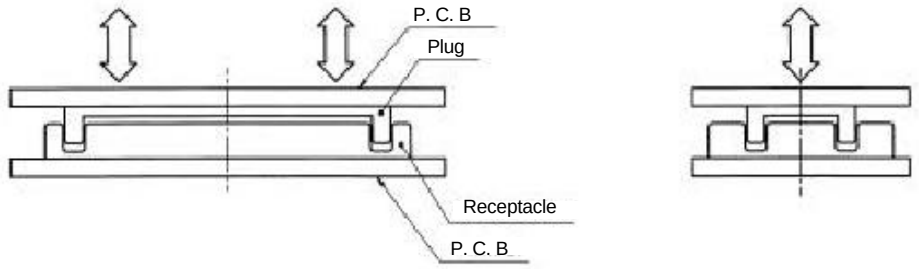


Fig.1 Mate and unmate connectors in parallel

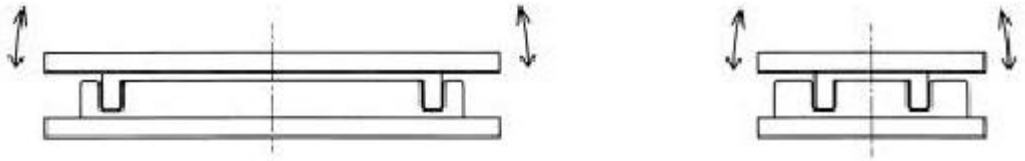


Fig. 2 Unmate connectors with rocking slightly

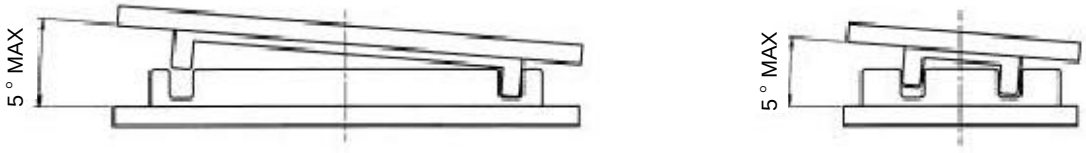


Fig. 3 Worst case for mating and unmating

Do not wrap PCB or FPC after connector is populated. (Fig. 4)

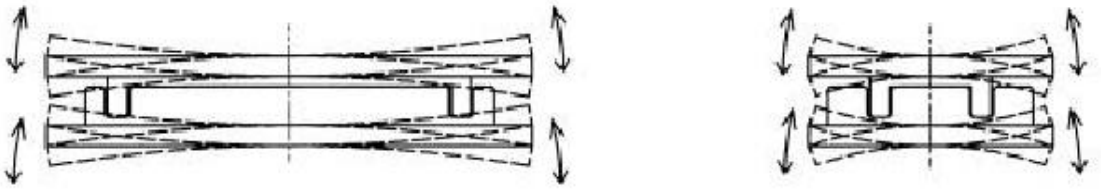


Fig. 4 Restriction of PCB wrap age