PRODUCT SPECIFICATION

PRODUCT SERIES NAME：B2512 SERIES | PAGE： 1/5

Index

1. Scope

2. Part name & part numbers

3. Construction. dimensions. material & surface finisl

4. Ratings & applicable wires

5. Conditions

6. Performance

6.1 Electrical perofrmance

6.2 Mechanical perofrmance

6.3 Environmental perofrmance and others

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PRODUCT SPECIFICATION

PRODUCT SERIES NAME：B2512 SERIES

1.SCOPE:

This specification covers the requirements for product performance of 2.50 mm pitch board-in connector series.

2.PART NAME & PART NUMBERS

Part name	Part number
Housing	B2512H
Terminal	B2512-T

3. CONSTRUCTION. DIMENSIONS . MATERIAL & SURFACE FINISH

Construction and dimensions shall be in accordance with the referenced drawings.
Material and surface finish shall be as specified below.

Part name	Material	Surface finish
Housing	Nylon 66	UL94V-0
Terminal	Phosphor bronze/Brass	Tin over Nickel/Gold over Nickel

4. RATINGS & APPLICABLE WIRES

<table>
<tr><td>Item</td><td colspan="3">Standard</td></tr>
<tr><td>Rated Voltage (max.)</td><td colspan="2">250V AC DC</td><td rowspan="5">Insulation O.D.
1.70mm (max.)</td></tr>
<tr><td rowspan="4">Rated Current (max.)
and Applicable Wires</td><td>AWG #22</td><td>3.0A AC DC (2-circuit)</td></tr>
<tr><td>AWG #24</td><td>3.0A AC DC (2-circuit)</td></tr>
<tr><td>AWG #26</td><td>1.8A AC DC (2-circuit)</td></tr>
<tr><td>AWG #28</td><td>1.2A AC DC (2-circuit)</td></tr>
<tr><td>Ambient Temperature Range</td><td colspan="3">-40℃~105℃*</td></tr>
</table>

*: Including terminal temperature rise

PRODUCT SPECIFICATION

PRODUCT SERIES NAME：B2512 SERIES

5. CONDITIONS：

Number	Item	Requirement
①	Bend up	4°max.
	Bend down	4°max.
	Twisting	3°max.
	Rolling	8°max.
②	Bell mouth (flare)	0.2-0.5 mm
③	Cut-off tab length	0.2 mm max.
④	Extruded wire length	0-0.5 mm
⑤	Seam	Seam shall not be opened and no wire
⑥	Wire strip length	1.2-1.7 mm ref.
⑦	Lance height	0.3 mm ref.

After crimping，the crimped areas [⑤、⑥] should be as follows.

Wire Size (AWG)	Terminal Part Number	Conductor(mm)		Insulation(mm)		Crimp Strength (Kg)
		Crimp Width	Crimp Height	Crimp Width	Crimp Height	
#22	B2512-T	1.40±0.15	0.80~0.90	1.80 (max)	1.95(max)	4.00(min)
#24			0.70~0.80		1.85(max)	3.00(min)
#26			0.60~0.70		1.70(max)	1.80(min)
#28			0.50~0.60		1.60(max)	1.00(min)

Note：no distorted after terminal crimped.

6. PERFORMANCE

6.1 ELECTRICAL PERFORMANCE

Test Description		Procedure	Requirement
6-1-1	Contact Resistance	Mate connectors, measure by dry circuit, 20mV max. 10mA. (Based upon JIS C5402 5.4)	10mΩ max.
6-1-2	Insulation Resistance	Mate connectors, apply 500V DC between adjacent terminal or ground. (Based upon JIS C5402 5.2/MIL-STD-202 Method 302 Cond. B)	1000MΩ min.
6-1-3	Dielectric Withstanding Voltage	Mate connectors, apply 1000V AC (rms) for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-STD-202 Method 301)	No Breakdown

PRODUCT SPECIFICATION

PRODUCT SERIES NAME：B2512 SERIES

6.2 MECHANICAL PERFORMANCE

Test Description		Procedure		Requirement
6-2-1	Crimping Pull Out Force	Fix the crimped terminal, apply axial pull out force on the wire at the speed rate of 25 ± 3mm/minute. (Based upon JIS C5402 6.8)	AWG #22	39.2N/4.0kgf min.
			AWG #24	29.4N/3.0kgf min.
			AWG #26	19.6N/2.0kgf min.
			AWG #28	9.8N/1.0kgf min.
6-2-2	Terminal Insertion Force	Insert the crimped terminal into the housing at a constant speed of 25±3mm per minute.		0.5kgf max.
6-2-3	Terminal/Housing Retention Force	Apply axial pull out force at the speed rate of 25 ± 3mm/minute on the terminal assembled in the housing.		1.50kgf min.
6-2-4	Durability	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	20mΩ max.
6-2-5	Vibration	Amplitude: 1.52mm P-P Sweep time: 10-55-10 Hz in 1 minute Duration: 2 hours in each X.Y.Z. axes (Based upon MIL-STD-202 Method 201A)	Appearance	No Damage
			Contact Resistance	20mΩ max.
			Discontinuity	1μsec. max.
6-2-6	Physical Shock	490m/s² {50G}, 3 strokes in each X.Y.Z. axes. (Based upon JIS C0041/MIL-STD-202 Method 213B Cond. A)	Appearance	No Damage
			Contact Resistance	20mΩ max.
			Discontinuity	1μsec. max.

PRODUCT SPECIFICATION

PRODUCT SERIES NAME：B2512 SERIES

6.3 ENVIRONMENTAL PERFORMANCE AND OTHERS

Test Description		Procedure		Requirement
6-3-1	Temperature Rise	Carrying rated current load. (Based upon UL 498)	Temperature Rise	30°C max.
6-3-2	Heat Resistance	105 ± 2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond. A)	Appearance	No Damage
			Contact Resistance	20mΩ max.
6-3-3	Cold Resistance	-40 ± 3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	20mΩ max.
6-3-4	Humidity	Temperature: 40 ± 2°C Relative Humidity: 90 ~ 95% Duration: 96 hours (Based upon JIS C0022/MIL-STD-202 Method 103B Cond. B)	Appearance	No Damage
			Contact Resistance	20mΩ max.
			Insulation Resistance	500MΩ min.
			Dielectric Withstandin	Must meet 6-1-3
6-3-5	Temperature Cycling	5 cycles of: a) - 40°C 30 minutes b) +105°C 30 minutes (Based upon JIS C0025)	Appearance	No Damage
			Contact Resistance	20mΩ max.
6-3-6	Salt Spray	24 hours exposure to a salt spray from the 5 % solution at 35 ± 2°C. (Based upon JIS C0023/MIL-STD-202 Method 101D Cond. B)	Appearance	No Damage
			Contact Resistance	20mΩ max.
6-3-7	Solderability	Soldering Time: 3~5 sec. Solder Temperature: 240 ± 5°C	Solder Wetting	95% of immersed area must show no voids, pin holes
6-3-8	Resistance to Soldering Heat	Wave Soldering: Soldering Time: 3~5 sec. Solder Temperature: 260 ± 5°C	Appearance	No Damage