

PRODUCT SPECIFICATION

【1. SCOPE】

This specification covers the DRAWER CONNECTOR series.

【2. PRODUCT NAME AND PART NUMBER】

Product Name	Part Number
Female Terminal (AWG #18-24)	5556PBT, PBTL
Male Terminal (AWG #18-24)	5558PBT, PBTL
Receptacle Housing (BLACK)	51010-**11
Plug Housing (BLACK)	52025-**11

** : Refer to the drawing.

【3. RATINGS AND APPLICABLE WIRES】

Item	Standard	
Rated Voltage (MAX.)	250 V	[AC (rms) / DC]
Rated Current (MAX.) and Applicable wires	AWG #18 5A	Insulation O.D.: ϕ 1.3~3.1 mm
	AWG #20 4A	
	AWG #22 3A	
	AWG #24 2A	
Ambient Temperature Range	-40°C ~ +105°C*	

* : Including terminal temperature rise.

[4. PERFORMANCE]

4-1. Electrical Performance:

Item		Test Condition	Requirement
4-1-1	Contact Resistance	Mate connectors, measure by dry circuit, 20mV MAX., 10mA. (Based upon JIS C5402 5.4)	20mΩ MAX.
4-1-2	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.
4-1-3	Dielectric Strength	Mate connectors, apply 1500V AC for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-STD-202 Method 301)	No Breakdown
4-1-4	Contact Resistance on Crimped Portion	Crimp the applicable wire on to the terminal, measure by dry circuit, 20mV MAX., 10mA.	5mΩ MAX.

4-2. Mechanical Performance:

Item		Test Condition	Requirement	
4-2-1	Insertion and Withdrawal Force	Insert and withdraw connectors at the speed rate of 25±3mm/minute.	Refer to paragraph 6	
4-2-2	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 #18	9.0 Kgf MIN.
			AWG #20	6.0 Kgf MIN.
			AWG #22	4.0 Kgf MIN.
			AWG #24	3.0 Kgf MIN.
4-2-3	Terminal Insertion Force	Insert the crimped terminal into the housing.	1.5 Kgf MAX.	
4-2-4	Terminal/Housing Retention Force	Apply axial pull out force at the speed rate of 25±3mm/minute on the terminal assembled in the housing.	3.0 Kgf MIN.	

4-3. Environmental Performance and Others:

Item		Test Condition	Requirement	
4-3-1	Repeated Insertion/Withdrawal	When mated up to 100 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	40mΩ MAX.
4-3-2	Temperature Rise	Carrying rated current load. (Based upon UL 498)		30°C MAX.
4-3-3	Vibration	Amplitude: 1.5mm 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	40mΩ MAX.
			Discontinuity	1μ sec. MAX.
4-3-4	Shock	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	40mΩ MAX.
			Discontinuity	1μ sec. MAX.
4-3-5	Heat Resistance	105±2°C, 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond.A)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-6	Cold Resistance	-40±3°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-7	Humidity	Temperature: 60±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	40mΩ MAX.
			Dielectric Strength	Must meet 4-1-3
			Insulation Resistance	100MΩ MIN.
4-3-8	Temperature Cycling	5 cycles of : a) - 55°C 30 MIN. b) +105°C 30 MIN. (Based upon JIS C0025)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.

Item		Test Condition	Requirement	
4-3-9	Salt Spray	48±4 hours exposure to a salt spray from the 5±1% solution at 35±°C. (Based upon JIS C5028/MIL-STD-202 Method 101D Cond.B)	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-10	SO ₂ Gas	24 hours exposure to 50±5 ppm. SO ₂ gas at 40±2°C.	Appearance	No Damage
			Contact Resistance	40mΩ MAX.
4-3-11	NH ₃ Gas	40 minutes exposure to NH ₃ gas evaporating from 28% Ammonia solution.	Appearance	No Damage
			Contact Resistance	40mΩ MAX.

(NOTE) Item 4-3 applies after 100 cycles of insertion/withdrawal.

【5. PRODUCT SHAPE, DIMENSIONS AND MATERIALS】

Refer to the drawing.

【6. INSERTION/WITHDRAWAL FORCE】

(Unit:kgf)

CKT SIZE	Insertion (MAX.)			Withdrawal (MIN.)		
	Initial	30th	100th	Initial	30th	100th
4	2.8	2.6	3.0	0.20	0.16	0.22
8	5.6	5.2	6.0	0.40	0.32	0.44

【7. OTHER SPECIFICATIONS】

7-1) The mating gap between the plug housing and receptacle housing must be 1mm MAX.

7-2) The distance between each terminal and the wire end must be 3mm MIN.