

REM 1.5mm Receptacle Contact

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REM 1.5mm Receptacle Contact

1. Scope**1.1 Content**

This specification covers the performances, test and quality requirements for the REM 1.5mm Receptacle Contact (2050862-1, 2050862-2 and 2050862-3). This contact may test with 90P EFI connector (1813261-1).

1.2 Qualification

When tests are performed, the following specified specifications and standards shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

2. Requirements**2.1 Product Requirement and Description**

Wire Range: According to Drawing 2050862

Crimp Qualification: Same as TE 'JPT' Contact: 114-18050

2.2 Rating

Environment: -40~+85°C

Test: +100°C

Vibration: Class 1 (Detail Profile see)

Rated Current: 19A

Note: Rated current is current carrying capacity at 23°C with 2.0mm² wire.

2.3 Performance and Test Requirements

The products are designed to meet the mechanical, electrical and environmental performances specified in Table.1. All testes must be performed at the test condition of the TE test specification 109-1 unless otherwise specified.

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Table 1 - Test Requirements and Procedures Summary

Test Item	Requirements	
Mechanical Test		
Tensile Strength	Wire Range	Axial Force
	0.35mm ²	≥60N
	0.5mm ²	≥70N
	0.75mm ²	≥100N
	1mm ²	≥120N
	1.5mm ²	≥200N
	2mm ²	≥220N
Cavity Polarization		≥40N
Contact Mating Force to tab		≤6.5N
Contact Retention Force into Cavity	Without double lock	≥60N
	With double lock	≥80N
Contact Insertion Force into Cavity	Without double lock, without family seal	≤5N
	Without double lock, with family seal	≤10N
	With double lock, with family seal	≤50N
Electrical Aging		
Contact Resistance	Initial (at 20mV, 50mA)	≤4mΩ
Current Cycling	500 cycles:	
	45min On	
	15min Off	
	Test temperature: 85°C	
Contact Resistance	20mV, 50mA	ΔRc≤5mΩ
Accelerated Aging		
Mechanical Operation	10 mating and unmating cycles	
Contact Resistance	Initial (at 20mV, 50mA)	≤4mΩ
High Temperature	Dry heat, 48 hours on mated connector, at 100°C	
Contact Resistance	20mV, 50mA	ΔRc≤5mΩ
Vibration	Wires are bundled at 10cm from connector housing. Combined vibration and temperature test is applied. No signal discontinuity during test.	
	Temperature:	
	4 hours:	-40°C
	transient:	2°C/min
	10 hours:	100°C
	Sine Wave: 3 cycles of 48 hours per axis	
	10-25Hz:	1.2mm (Constant Displacement)
25-200Hz:	3g	
200-2000Hz:	1g	

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	Random: 3 cycles of 16 hours per axis 10-1000Hz: 0.1→0.0005g ² /Hz 1000-2000Hz: 0.0005g ² /Hz	
Contact Resistance	20mV, 50mA	$\Delta R_c \leq 5m\Omega$
Temperature and Humidity	ISO 8092-2: 5 cycles of 24 hours 10 hours: 55°C, 99% HR 2 hours: -40°C 2 hours: 100°C	
Contact Resistance	20mV, 50mA	$\Delta R_c \leq 5m\Omega$
Mechanical Operation	10 mating and unmating cycles	
Contact Resistance	20mV, 50mA	$\Delta R_c \leq 5m\Omega$
Temperature/Humidity Aging		
Contact Resistance	Initial (at 20mV, 50mA)	$\leq 4m\Omega$
Mechanical Operation	10 mating and unmating cycles	
Contact Resistance	20mV, 50mA	$\Delta R_c \leq 5m\Omega$
Thermal Shock	100 cycles of 1 hour Transient $\leq 15s$ From -40°C to 100°C	
Contact Resistance	20mV, 50mA	$\Delta R_c \leq 5m\Omega$
Temperature and Humidity	4 adjacent contacts are wired in series and powered with 5A current during the On period of the following two tests: Current Cycling: 360 cycles 45 min On 15 min Off Humidity ISO 8092-2: 3 cycles of 24 hours at 100°C	
Contact Resistance	20mV, 50mA	$\Delta R_c \leq 5m\Omega$
Composite Test 1 (GMW3191-4)		
Mechanical Operation	10 mating and unmating cycles	
Insulation Resistance	DC500V, 15s	$\geq 1000M\Omega$
Gas Tight	No bubble after pump 48.5kPa pressure into connector housing	
Temperature and Humidity	According to GMW3191-4-23, 240 hours	
Gas Tight	No bubble after pump 48.5kPa pressure into connector housing	
Water Proof	Immerse the mated connector into 23°C, 5% NaCl solution Current Leakage: $\leq 5^2\mu A$	
High Press Water	According to DIN40050 IPX9K, pressure 98kPa, no water in the housing	
Insulation Resistance	DC500V, 15s	$\geq 1000M\Omega$
Dielectric Strength	AC1000V, 60s	
Visual Inspection	No abnormal or defect	

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Composite Test 2 (GMW3191-4)	
Mechanical Operation	10 mating and unmating cycles
Insulation Resistance	DC500V, 15s ≥100MΩ
Gas Tight	No bubble after pump 48.5kPa pressure into connector housing
Thermal Shock	According to GMW3191-4-22, 300 hours
Gas Tight	No bubble after pump 48.5kPa pressure into connector housing
Water Proof	Immerge the mated connector into 23°C, 5% NaCl solution Current Leakage: ≤5μA
High Press Water	According to DIN40050 IPX9K, pressure 98kPa, no water in the housing
Insulation Resistance	DC500V, 15s ≥100MΩ
Dielectric Strength	AC1000V, 60s
Visual Inspection	No abnormal or defect
Composite Test 3 (GMW3191-4)	
Mechanical Operation	10 mating and unmating cycles
Insulation Resistance	DC500V, 15s ≥100MΩ
Gas Tight	No bubble after pump 48.5kPa pressure into connector housing
Chemical Resistance	Immerge the mated connector into the following subject: Gasoline Motor Oil Commercial cold-cleaning agent Transmission oil After 1 hour, expose the connector in room temperature and air for 1 week
Gas Tight	No bubble after pump 48.5kPa pressure into connector housing
Dielectric Strength	AC1000V, 60s
Contact Retention Force into Cavity	Without double lock ≥60N With double lock ≥80N
Visual Inspection	No abnormal or defect
Composite Test 4 (GMW3191-4)	
Mechanical Operation	10 mating and unmating cycles
Insulation Resistance	DC500V, 15s ≥100MΩ
Gas Tight	No bubble after pump 48.5kPa pressure into connector housing
High Temperature	According to GMW3191-4-21, 125°C , 1008 hours
Gas Tight	No bubble after pump 48.5kPa pressure into connector housing
Insulation Resistance	DC500V, 15s ≥100MΩ
Dielectric Strength	AC1000V, 60s
Visual Inspection	No abnormal or defect

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Free In Air

Receptacle: REM 1.5
 Material: CuSn4 / Sn
 Wire Size: 2.0mm²
 Mating Part: ECU Header
 Material: CuFe / Sn
 Measurement Setup: Free In Air

