

## SPECIFICATION AND PERFORMANCE

<b>Series</b>	303D	<b>File</b>	303D-D080X02_SPEC_1	<b>Date</b>	2022/04/07
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### Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of below

Part Name	Description
303D-D080F02	Pogo Pin Magnet Type, Machine Pin, 2P, 8.0D, DIP, 10u", 200g, 5A, black
303D-D080M02	Pogo Pin Magnet Type, 2P, 8.0D, DIP, 10u", 200g, 2A, black

### Performance and Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specification. Unless otherwise specified, all tests are performed at ambient environmental conditions.

### RoHS:

All material in according with the RoHS environment related substances list controlled.

## MATERIALS

NO.	PART NAME	DESCRIPTION
1	HOUSING	HTN FR52G30NH, UL94V-0, Black
2	POGO PIN	
2.1	PISTON	Lead free brass C2680 or equivalent, gold plating over nickel
2.2	BARREL	Lead free brass C2680 or equivalent, gold plating over nickel
2.3	SPRING	Stainless steel 304 or equivalent
3	MACHINE PIN	Lead free brass C2680 or equivalent, gold plating over nickel
4	SLEEVE	Lead free brass C2680 or equivalent, gold plating over nickel
5	MAGNET	Neodymium magnet N52, nickel plating
6	GLUE	LSR-67

RATING	
Rated Current	2A
Rated Voltage	12V DC
Operating Temperature	-30°C TO +60°C
Storage Temperature	-30°C TO +60°C
Durability	20,000

ELECTRICAL		
Item	Requirement	Test Condition
Contact Resistance	50mΩ Max. at working stroke (at standing still)	Voltage drop system four-wire system with below 300mA
Dielectric Strength	No dielectric breaks down.	500VAC 1 minute
Insulation Resistance	100M MIN.	500VDC 1 minute

MECHANICAL		
Item	Requirement	Test Condition
Pin Force	80g±0.2g	1.1mm compression, test speed 25.0mm/min.
Pin Strength	No appearance damage	9.8N force on pin from any direction for 1 minute
Pin Pulling Off Force	No appearance damage	4.9N force on a pin from axis direction for 1 minute

ENVIRONMENTAL		
Item	Requirement	Test Condition
Operation durability	No appearance damage Contact Resistance: 100mΩ Max. Pin Force: 80g±0.2g No appearance damage	1.1mm pin compression for the nominal stroke at a frequency of 10 to 20 times per minute for 20,000 cycles.
Low Temperature Durability	Contact Resistance: 100mΩ Max. No appearance damage	Store in temp: -30°C±3°C for 96hrs, then leave in the ambient temperature for 1 hour.
High Temperature Durability		Store in temp: +60°C±2°C for 96hrs, then leave in the ambient temperature for 1 hour.

Humidity Durability	Meet electrical spec.	Store in temp: 60°C±2°C with humidity of 90% ~ 95% for 96hrs, then leave in the ambient temperature for 1 hour.
Temperature Cycle Test	No appearance damage	Cycle 5 times (Table 1 Shows test condition for 1 circle). Leave in the ambient temp for 1 hour.
Salt Spray	No excessive surface corrosion	The electrical performance shall be measured after continuous spray of salt water with 5±1% density and 35°C±2°C temperature for 48 hours, cleaning with lukewarm water and dry, and leaving in ambient temperature for 1 hour.
Vibration	Contact Resistance: 100mΩ Max.	Connect each connector pin in series, conducting current of 0.1A. After that, the vibration described below is added. <ul style="list-style-type: none"> <li>● Amplitude: 1.5mm</li> <li>● Sweeping cycle: 10~55~10 Hz/minute</li> <li>● Duration of test: 2 hours for each of X, Y, Z axis</li> </ul>
Shock	No appearance damage Intermittency below 1μ sec	Connect each connector pin in series, conducting current of 0.1A. After that, the shock described below is added. <ul style="list-style-type: none"> <li>● Accelerating rate: 490m/s<sup>2</sup></li> <li>● Operating time of the test: 11ms</li> <li>● The number of operating times: 3 shocks at X, Y, Z axis both in negative and positive direction.</li> </ul>

Table 1 –Temperature Cycle

Step	Temperature (°C)	Time (minutes)
1	-30±3	30~35
2	5~35	10~15
3	60±2	30~35
4	5~35	10~15