



ZF Group · Graf-Zeppelin-Straße 1 · 91275 Auerbach

Electrified Powertrain Technology
Electronics
















Department Portfolio Switches and Sensing Solution
From
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E-mail Switches-sensors@zf.com
Date 11.11.2022 / 20.02.2023 Amendment

Product Change Notification (PCN) - Amendment - – product upgrade Sub-Miniature Switch Series DG

1. Product Type Sub-Miniature Switch Series DG		
2. Affected Part Numbers – current versions beginning with DG1, DG2, DG4		
3. Description of Change/ Upgrade		
Item	Current version	Upgrade version
Structure and Parameters	Similar parameters and tolerance range	
Max. electrical rating	DG1: 3A, 125 VAC	DGE: 3(0.5) A, 125/250 VAC
Max. electrical rating	DG2: 0.05 A, 30 VDC	DGG: 0.1(0.1) A, 125/250 VAC
Max. electrical rating	DG4: 1 A, 125 VAC	alternate DGE: 3(0.5) A, 125/250 VAC
Temperature Index	T85	T120
Plastic material	PPS, PBTP UL 94V-0	PBT UL 94V-0
Color button	Black	Orange
Color housing	Black	Blue cover & White base for DGE Blue cover & Black base for DGG
Certificates	UL	UL/ENEC/CQC

Chairman of the Supervisory Board: Dr. Heinrich Hiesinger
Board of Management: Dr. Holger Klein (CEO),
Dr. Martin Fischer, Michael Frick, Sabine Jaskula, Dr. Peter Laier,
Stephan von Schuckmann
Headquarters: Friedrichshafen ·
Trade register of the municipal court of Ulm HRB 630206

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<p>4. Effect on the product - upgrade versions beginning with part number</p> <p>DGE upgrade for DG1 and DG4</p> <p>DGG upgrade for DG2</p>				
<p>5. Quality Assurance Measures</p> <p>ZF Friedrichshafen AG is certified according to ISO 9001:2015</p>				
<p>6. Scheduled date of introduction</p> <p>Q1/ 2023</p>				
<p>7. Customer information</p> <p>See conversion list for new part numbers</p> <p>Please check product specification TS-DG-00001_04 and drawings for further technical information.</p> <p>In case there are any deviations the drawing details have priority.</p> <p>For any technical question please contact your sales partner.</p> <p>New orders shall be placed for the upgrade version only.</p>				
<p>8. Sample pictures</p> <table border="0"><tr><td style="text-align: center;"><p>Current version</p><p>DG</p></td><td style="text-align: center;"><p>Upgrade version</p><table border="0"><tr><td style="text-align: center;"><p>DGE</p></td><td style="text-align: center;"><p>DGG</p></td></tr></table></td></tr></table>	<p>Current version</p> <p>DG</p> 	<p>Upgrade version</p> <table border="0"><tr><td style="text-align: center;"><p>DGE</p></td><td style="text-align: center;"><p>DGG</p></td></tr></table>	<p>DGE</p> 	<p>DGG</p> 
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<p>DGE</p> 	<p>DGG</p> 			
<p>9. Appendix</p> <ul style="list-style-type: none">- Conversion list new part numbers- Product specification TS-DG-00001_04- Drawings				

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Conversion list DG Upgrade

Current part number	New part number
DG13-B1AA	DGE3-E7AA
DG13-B1LA	DGE3-E7LC
DG13-B1LE	DGE3-E7LX
DG13-B1LU	DGE3-E7LG
DG13-B1RA	DGE3-E7RD
DG13-B2LA	DGE3-E5LC
DG13-B2LE	DGE3-E5LX
DG13-B2RA	DGE3-E5RD
DG13-B3AA	DGE3-E4AA
DG13-B3LA	DGE3-E4LC
DG13-B3RA	DGE3-E4RD
DG13-BJ36	DGE3-E7LY
DG23-B1AA	DGG3-E7AA
DG23-B1LA	DGG3-E7LC
DG23-B1LE	DGG3-E7LX
DG23-B1RA	DGG3-E7RD
DG23-B2LA	DGG3-E5LC
DG23-B2RA	DGG3-E5RD
DG23-B3LA	DGG3-E4LC
DG23-B3RA	DGG3-E4RD
DG23-BJ32	DGG3-E7LK
DG23-BJ33	DGG3-E5LH
DG23-BJ36	DGG3-E4LA
DG23-C1AA	DGG3-E7AA
DG23-C1LA	DGG3-E7LC
DG23-C1RA	DGG3-E7RD
DG23-C2LA	DGG3-E5LC
DG23-C3LA	DGG3-E4LC
DG23-CJ39	DGG3-E7LA
DG43-C1LA	DGE3-E7LC

Note: Alternate standard force only

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Technical Specification

TS-DG-00001



04	2023, Jan 6	H. Qin	J. Wang
03	2022, Jul 27	H. Qin	J. Wang
02	2020, Nov 16	H. Qin	J. Wang
01	2017, May 5	H. Qin	J. Wang
00	2017, Feb 9	H. Qin	J. Wang
INDEX	DATE	NAME	SIGNATURE EMS



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1. General Characteristics

1.1 Application: This specification is applied to the micro switch for general applications.

1.2 Operating Temperature Range: -25°C to +125°C

1.3 Operating Relative Humidity: ≤85% at +5°C to +40°C

1.4 Storage Temperature Range: -25°C to +40°C

1.5 Test Conditions - Unless otherwise specified, the atmospheric conditions for making measurements and tests are as following:

Ambient Temperature: 5-35°C

Air Pressure: 86-106Kpa (860-1060mbar)

Relative Humidity: 25-85%RH

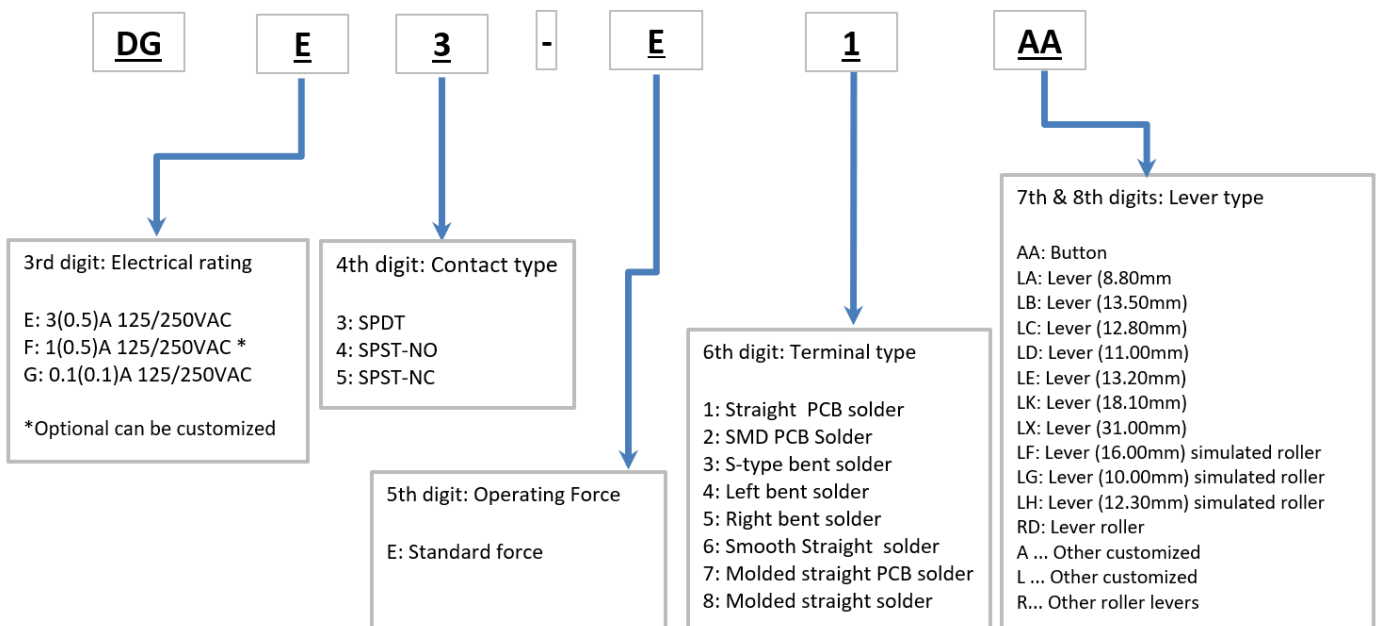
2. Appearance, Structure & Dimensions:

2.1 Appearance: The switch shall have good appearance, no rust, crack or plating defects.

2.2 Structure & Dimensions: Refer to the product drawing.

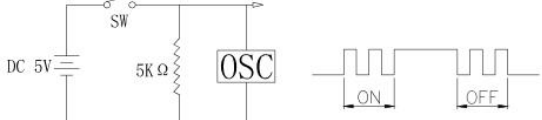
2.3 Markings: Refer to the product drawing.

3. Type Reference Matrix:



4. Initial Electrical Characteristics:

Item	Criteria	Test Method
4.1 Contact Resistance	50mΩ Max.	Shall be measured at 10VDC 0.1A for silver contact and 3VDC 0.01A for gold contact by voltage drop method.
4.2 Insulation Resistance	100MΩ Min.	500V DC voltage is applied between each pair of terminals, and between the terminal and exposed non-current carrying metal parts for 60±5 sec.

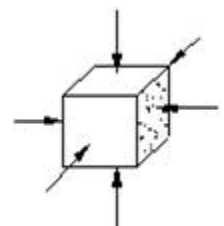
4.3	Dielectric Voltage	No dielectric breakdown shall occur.	Between terminals: 1000V AC shall be applied for 1 minute, Between terminals and grounded parts: 1500V AC shall be applied for 1 minute.
4.4	Bounce time	ON: 4 ms Max OFF: 4 ms Max	 <p>Remark: Min testing voltage 3V.</p>

5. Initial Mechanical Characteristics

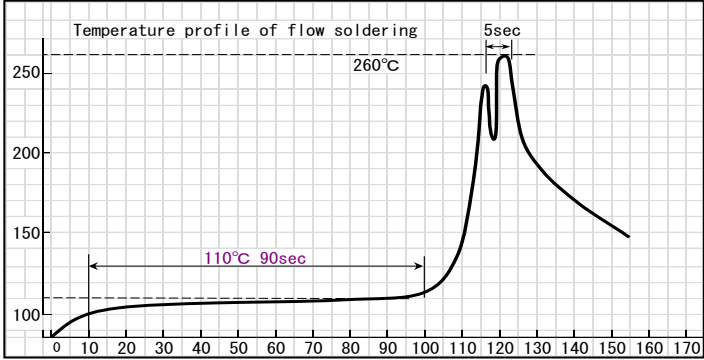
Item	Criteria	Test Method
5.1 Operating Force	Refer to the product drawings.	A static load shall be applied to the tip of actuator in operating direction to change the component to operating position
5.2 Releasing Force		A static load shall be reduced to the tip of actuator in operating direction to change component from operating position to release position.
5.3 Free/Rest Position		When the switch is free, the distance between the operation element end and the surface of PCB.
5.4 Operation position		When the switch switched on, the distance between the operation element end and the surface of PCB

6. Mechanical Characteristics

Item	Criteria	Test Method
6.1 Actuator and Terminal Strength	After test: - Electrically and mechanically performances shall be satisfied.	A static load shall be gradually applied to objects to be tested for 5 sec. Each object can be tested once. Actuator: 4.9N min. Axial direction of terminals: 9.8N min. Other directions of terminals: 4.9N min.
6.2 Vibration Test	After test: - Electrically and mechanically performances shall be satisfied.	Switch shall be fixed to the testing machine under required mounting method, and be tested under following conditions: (1) Vibration frequency range = 10-55 Hz (2) Amplitude = 1.5mm (3) Sweep ratio: 10-55-10Hz Approx. 1 min. (4) Method of changing the sweep vibration frequency: Logarithmic or linear (5) Direction of vibration: Three perpendicular directions including actuating direction. (6) Duration: 2 hours per direction (6 hours in total)
6.3 Shock Test	After test: - Electrically and mechanically performances shall be satisfied.	Switch shall be tested under following conditions: (1) Mounting Method: Normal (2) Acceleration: <u>490m/s²</u> (50G) (3) Duration: <u>11ms</u> (4) Test Direction: 6 directions (5) Number of shocks: 3 times per direction (18 times in total)





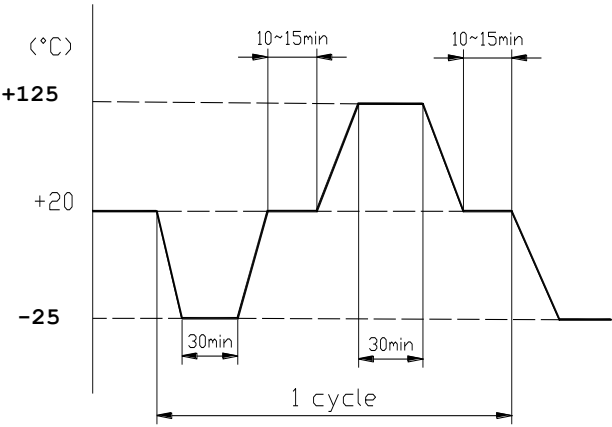
6.4	Solderability	More than 75% of immersed part shall be covered with solder. (Except for cutting Profile)	Switch shall be tested under following conditions: (1) Solder: Sn-3Ag-0.5Cu (2) Flux: Rosin Flux JIS K 5902 (3) Soldering Temperature: 260 ± 5°C (4) Immersing Time: 3 ± 0.5 sec.
6.5	Solder Heat Resistance	After test: - Electrically and mechanically performances shall be satisfied.	Switch shall be tested under the following conditions: (1) Soldering Temperature & Immersing Time(tin/lead-free): Wave soldering: 260± 5°C Max 5 sec. Manual soldering: 350±10°C Max 5 sec. (2) Solder: Sn-3.0 Ag-0.5 Cu tin/lead-free. (3) Flux: 25% Rosin, 75% methyl alcohol colorless transparent solution. (4) Immersing speed: 25(±6) mm/sec. (5) Immersion Depth: be 1~1.5mm apart from the assembly reference surface. (6) The product should go through wave soldering for 1 time under following condition. 

7. Durability Characteristics

Item	Criteria	Test Method
7.1	Mechanical Lifetime without Load	Operation shall be performed continuously at a rate of 200 cycles per minute without load for 1,000,000 cycles.
7.2	Electronics Life Time	UL/ENEC/CQC: Under the condition of nominal load, operations shall be performed continuously at a rate of 6 to 10 cycles per minute for 25,000 cycles. No UL/ENEC/CQC (for DGG) certified: Continuously operating at 50mA/30VDC for 200,000 cycles, 100% over-travel, 20 cycles/minute, under room temperature.



8. Weather Resistance Characteristics

Item	Criteria	Test Method
8.1 Low temperature	After test: - Electrical and mechanical performances shall be satisfied.	After storing at $-25\pm 2^{\circ}\text{C}$ for 96 hours in chamber, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and the measurement shall be made within 1 hour after that. Water drops shall be eliminated.
8.2 High temperature	After test: - Electrical and mechanical performances shall be satisfied.	After storing at $125\pm 2^{\circ}\text{C}$ for 96 hours in chamber, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and the measurement shall be made within 1 hour after that.
8.3 Heat and Humidity Resistance	After test: - Electrical and mechanical performances shall be satisfied.	After storing at $40\pm 2^{\circ}\text{C}$, 90-95% RH for 96 hours in chamber, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and the measurement shall be made within 1 hour after that. Water drops shall be eliminated.
8.4 Temperature Cycling	After test: - Electrical and mechanical performances shall be satisfied.	After 5 cycles of following conditions, the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement shall be made within 1 hour after that. Water drops shall be eliminated. 

9. Remarks

Unless otherwise specified, the meaning of Electrically and mechanically performances shall be satisfied the following conditions in test standard:	
Contact Resistance	1 Ω Max.
Insultation Resistance	10M Ω Min.
Dielectric Voltage	1000 V AC for between terminals and 1500V for between terminals and grounded parts, 1 minute.
Operating Force	The elastic force attenuation should be less than 30%
Other	The switch shall be no obvious abnormalities in appearance.



10. Precautions for use

10.1 General:

The product is used mainly in electronic devices such as automatic devices, visual devices, home electrical appliances, information devices and communication settings. If the products is intended to be used for other endurance equipment requiring higher safety and reliability such as life support system, space and aviation devices, disaster and safety system, it's necessary to make verification of conformity or contact ZF for the details before using. This technical specification (TS) has validity only in connection with the current drawing. Different details on the drawing have priority over the TS. Unless other information is given, all details described here have been defined under room conditions, which means normal conditions (normal pressure, ambient temperature, acc. to ISO 554) and the switches being tested in their rest position (not actuated). Details to the test conditions are described in the test specification.

ZF has the sole and final right of explanation for all the contents included in this technical specification as well as the other issues related to but not included in this technical specification.

10.2 Soldering and assembly:

- (1) If there is force applied on the terminal during soldering, the terminal may deform and the electrical characteristics may not be satisfied.
- (2) The soldering conditions should be confirmed according to the actual production environment.
- (3) Don't try to clean the switch with solvent or similar substance after the soldering process.
- (4) Don't operate the switch if it is still hot after soldering.
- (5) The switch might be damaged if using the water soluble flux, so make sure not to use such kind of flux.

10.3 Assembly structure and Mechanical design:

- (1) The dimensions for the holes and the pattern on PCB should refer to the recommended dimensions on the engineering drawing.
- (2) Operating Conditions:
The allowable inclination of keying section is $90\pm 3^\circ$.
- (3) The switch might be broken if there is stress stronger than the specified is given on it. Take special care not to stress the switch beyond its specification.
- (4) If the switch is being used together other products, please confirm the compatibility of the specification, laws and regulations. Please also confirm the compatibility of switch to be installed in the systems, machines and devices used by customer. If you want to change the operating conditions of the switch, please consult with ZF in advance.

10.4 Minimum using load:

Switch is not recommended using in DC load under 12 V 1 mA, otherwise it may cause poor contact.

10.5 Operating Environment

- (1) If the product is always used near sulfurate atmosphere or where exhaust gas from automobiles exists, it's necessary to pay more attention because the switch performance may be affected.
- (2) If the below parts or materials are used in the module where the switch is installed, directions below should be followed:
 - A. For parts, rubber materials, adhesive agents, packing material and grease used for the mechanical part of the device, don't use any material that may generate gas of sulfurization or oxidation.
 - B. If silicon rubber, grease, adhesive agents and oil are used, choose the material that will not generate low molecular siloxane gas, because the low molecular siloxane gas may form silicon dioxide coat on the switch contact part, resulting of failing contact. Please contact ZF if you have to use above mentioned substance.
- (3) Don't use the switch in the environment with high humidity or other bedewing possibility, as it may cause current leakage among the terminals.
- (4) The effect caused by external dust intrusion: Because the switch was designed without dust-proof structure, it may have failed contact due to the dust intrusion from the outer environment. When using the switch, it's necessary to take dust-proof actions. Examples of dust intrusion, which should be prevented during the operation:
 - A. The chips and dust come from the notch or hole of PCB in process, or other wastes come from the protective material for PCB, such as newspaper, foam, polystyrene materials, may intrude into the switch.
 - B. The flux or solder powder being generated when stacking the PCB may intrude into the switch.

10.6 Storage Conditions:

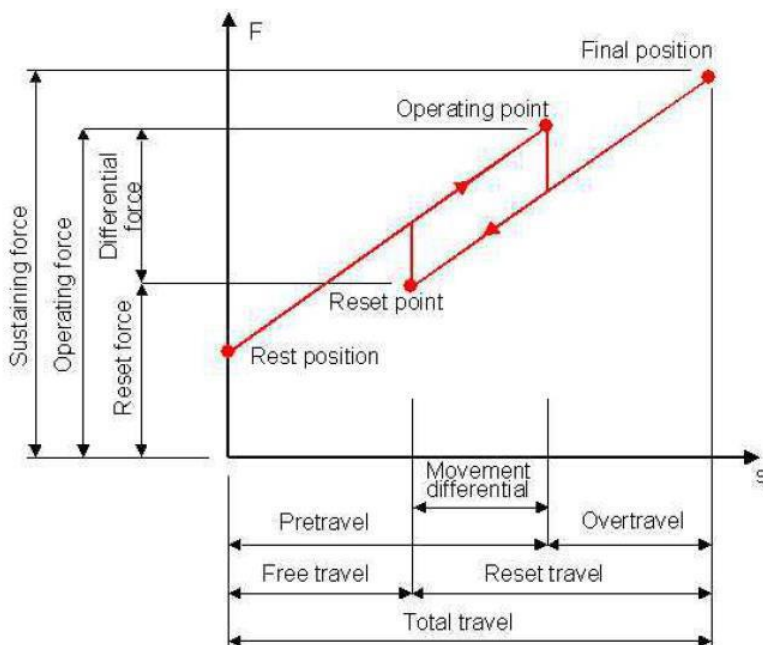
- (1) In order to maintain the switch performance and the solderability, the switches must be stored under the following conditions:
 - ① Temperature of -10°C to $+40^{\circ}\text{C}$, with humidity lower than 75%RH.
 - ② Avoid to store in the environment containing corrosive air.
 - ③ Avoid to keep in the location with direct sunlight.
- (2) Store using the standard packing without exerting force, self-lock switch should be kept in released position.
- (3) The standard storage period is 3 months, maximum up to 6 months, preferably to be used as soon as possible. After opening the package, you should put the remaining switches in a sealed plastic bag to isolate from damp and corrosive air, moisture proof measures are recommended.

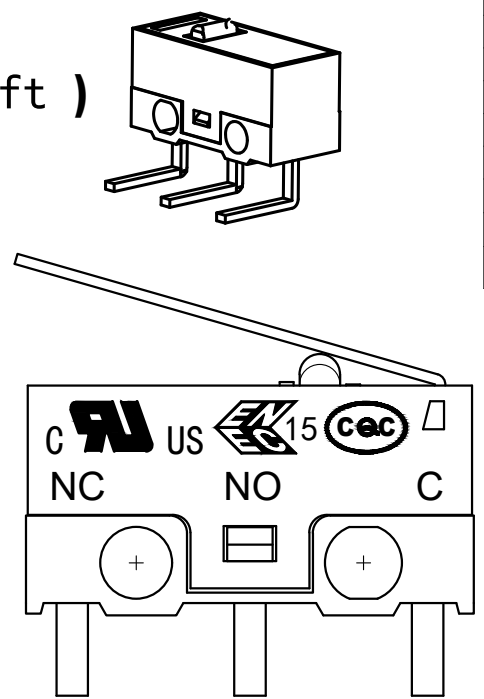
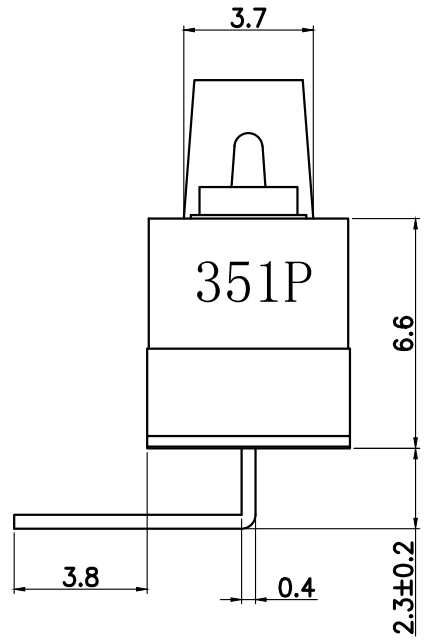
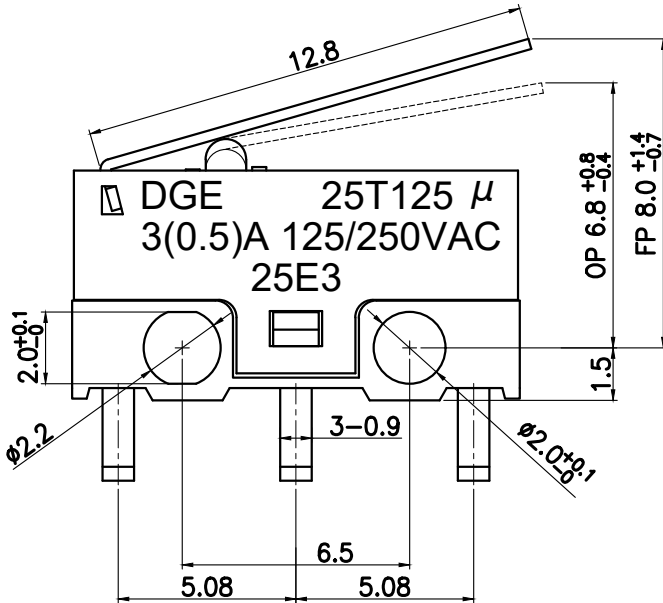
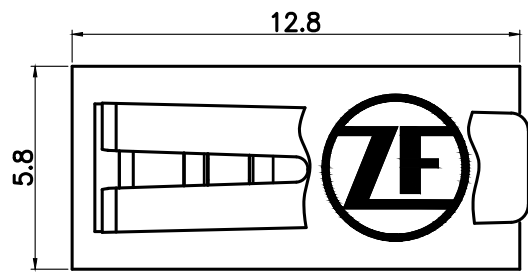
10.7 Others

Please comply with the following guidelines:

- (1) The prohibited items which may cause fire and fume:
 - ① It might cause fire if the rating exceeds the specifications. Never use the switch beyond the rating. If the rating may exceed due to some abuse or abnormal usage, please take protective measures such as protective circuit to shut down the circuit when overload.
- (2) Precautions for the safety using of products:
 - ① Although we are confident in switch quality, we cannot deny that there's still little possibility of performance deterioration, short or open circuit, etc. Therefore, please make careful plan when application designing, to evaluate the effect when failure of individual part occurs, to ensure the product safety.
 - ② Prepare the system with protective circuit and protective devices for safety purposes.
 - ③ Prepare safety standby circuit to prevent the whole system shutdown caused by individual failure to ensure safety.

11 Appendix: Sketch of operating parameters

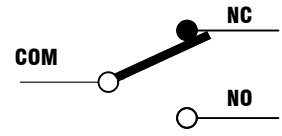
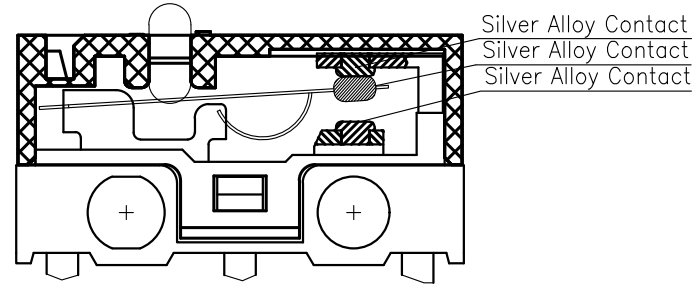




(Left)

GENERAL CHARACTERISTICS

Operating Force	Max. 45gf
Release Force	Min. 10gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C



Circuit Diagram

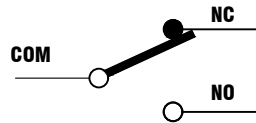
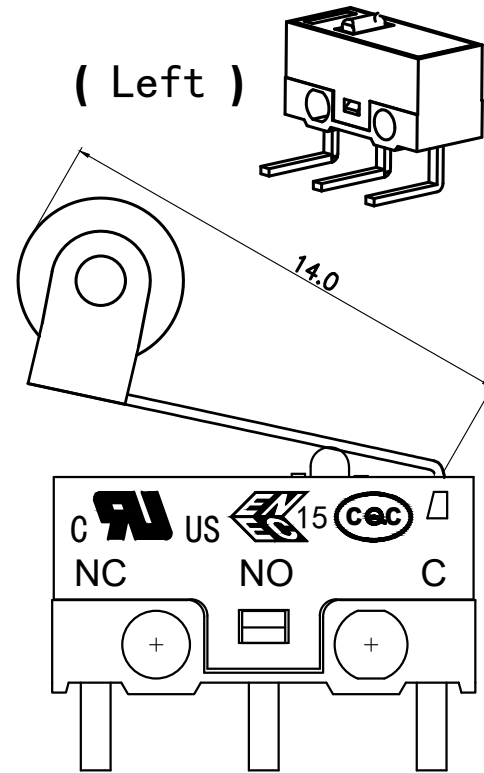
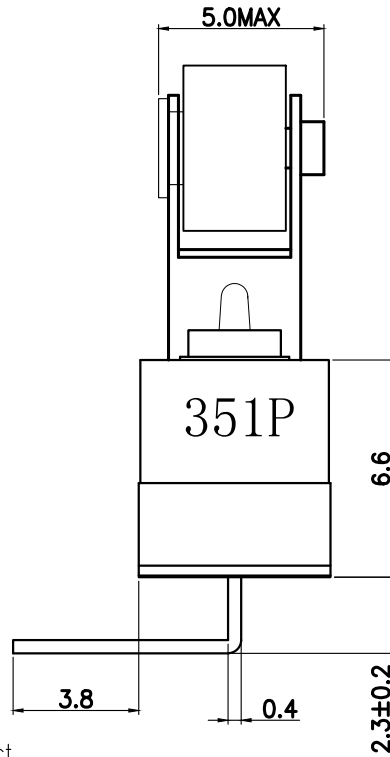
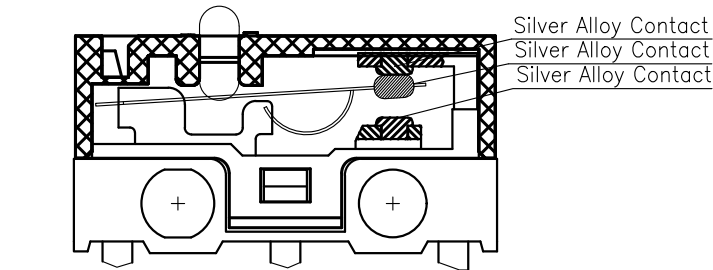
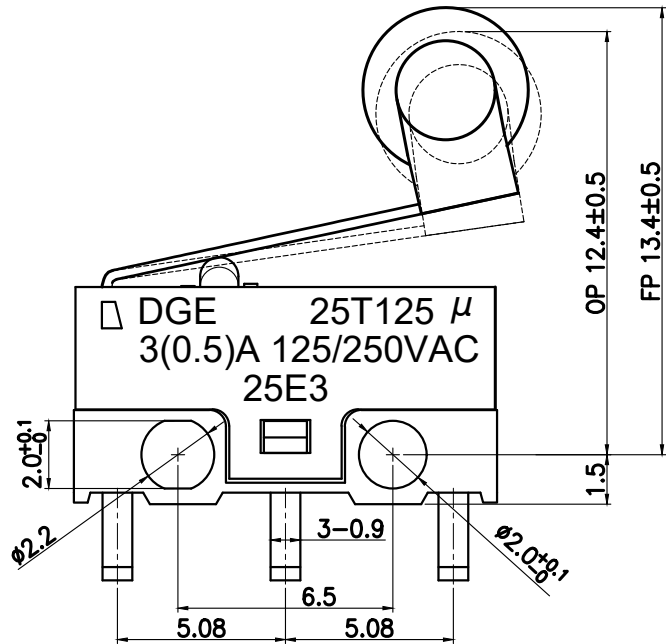
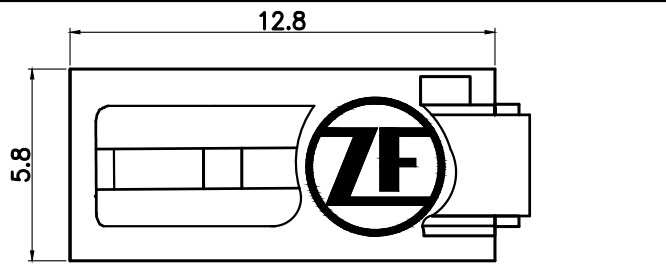
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Zhuhai/China
2021 Year
35 Week
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NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

ZF 采埃孚电子(珠海)有限公司
ZF Electronics (Zhuhai) Company Limited

③					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH						
②					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			料号: TITLE	DGE3-E4LC					
①					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL			图号: DWG NO.	DGE3-E4LC					
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm	比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 ENG. DWG	版本: REV.	A0



351P
Zhuhai/China
2021 Year
35 Week

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GENERAL CHARACTERISTICS

Operating Force	Max. 60gf
Release Force	Min. 4gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS
10	RIVET	BRASS
11	ROLLER	ZINE ALLOY

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

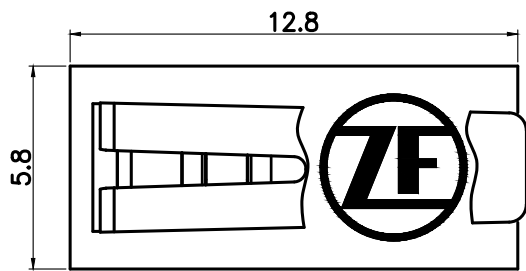
Circuit Diagram



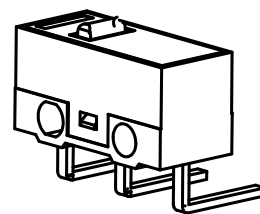
采埃孚电子(珠海)有限公司
ZF Electronics (Zhuhai) Company Limited

制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED											
设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm											
审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL	料号: TITLE										
批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	比例: SCALE										
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	日期 DATE	单位: UNIT	比例: SCALE	角法 PROJ.	张数: SHEET	第1页,共1页	工程图 ENG. DWG	版本: REV.	AO
3														
2														
1														

系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH	
料号: TITLE	DGE3-E4RD	图号: DWG NO.
比例: SCALE	1:1	DGE3-E4RD
角法 PROJ.	张数: SHEET	第1页,共1页
工程图 ENG. DWG	版本: REV.	AO

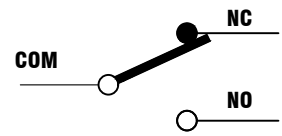
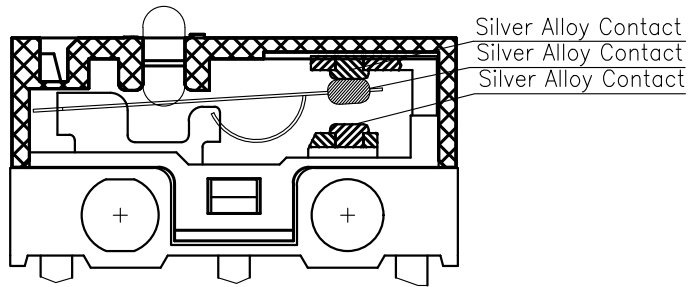
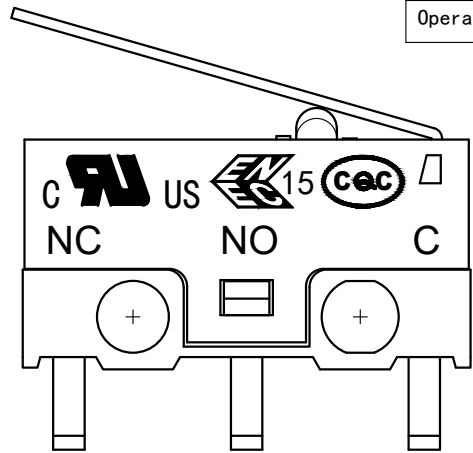
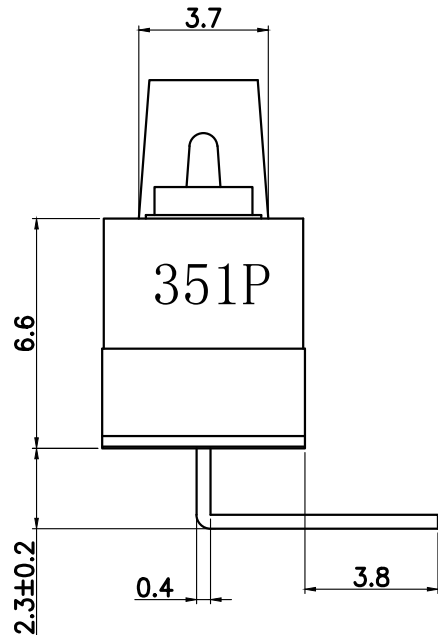
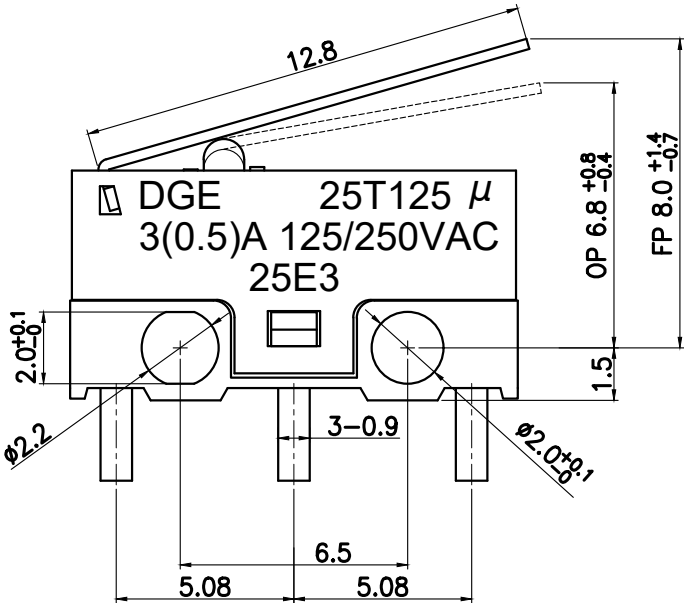


(Right)



GENERAL CHARACTERISTICS

Operating Force	Max. 45gf
Release Force	Min. 10gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C



Circuit Diagram

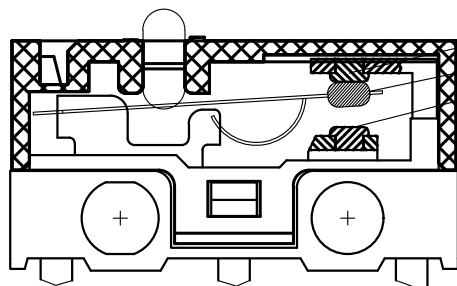
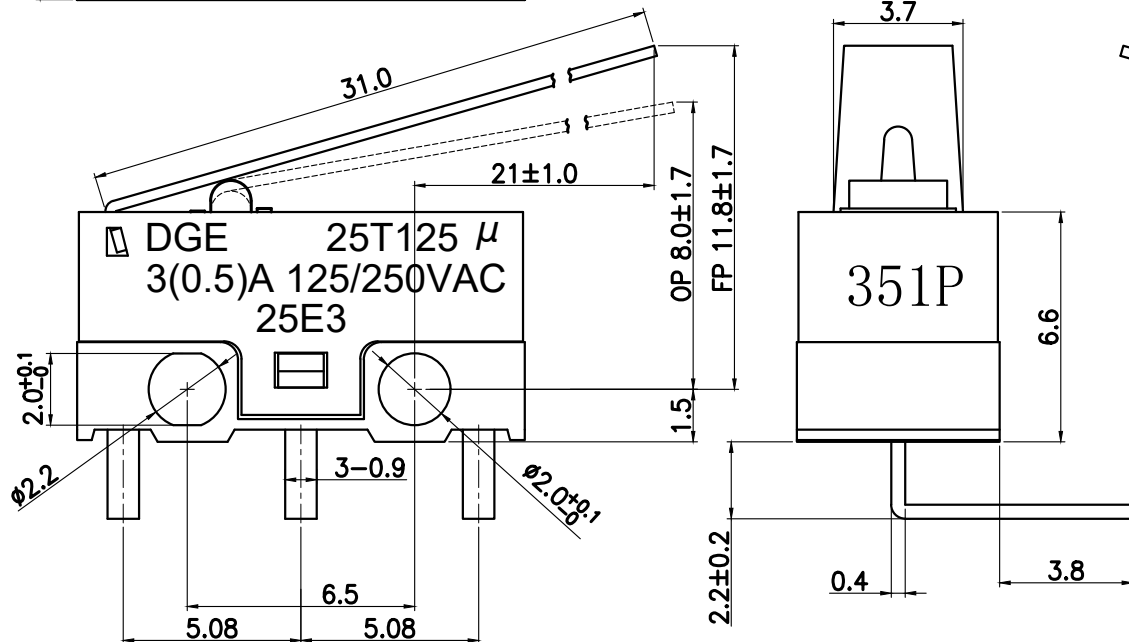
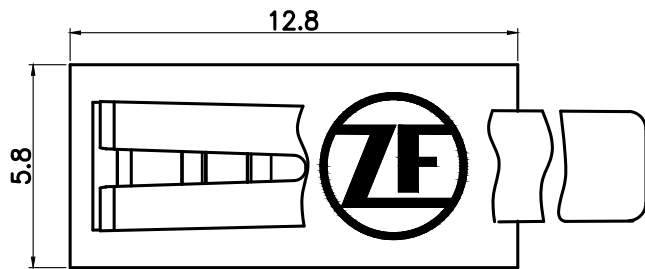
35 1 P
 Zhuhai/China
 2021 Year
 35 Week
 The date code could be printed on each lateral side randomly

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

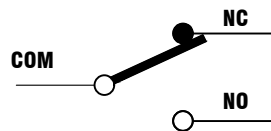
Further details please refer to technical specification TS-DG-00001.
 In case there are any deviations the drawing details have priority.

ZF 采埃孚电子(珠海)有限公司
 ZF Electronics (Zhuhai) Company Limited

③					制图: H.QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列: DG 3A微动开关/SUBMINIATURE SWITCH	图号: DGE3-E5LC		张数: 第1页, 共1页	工程图 版本: A0	
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①				审核: J.WANG	2020.12.16	材质: MATERIAL	比例: 1:1	角法: PROJ.		SHEET				
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: J.WANG	2020.12.16	单位: UNIT	mm	比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 版本: A0



Silver Alloy Contact
Silver Alloy Contact
Silver Alloy Contact



Circuit Diagram

35 1 P
Zhuhai/China
2021 Year
35 Week

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GENERAL CHARACTERISTICS

Operating Force	Max. 18gf
Release Force	Min. 2gf
Contact Resistance	Max. 100mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C

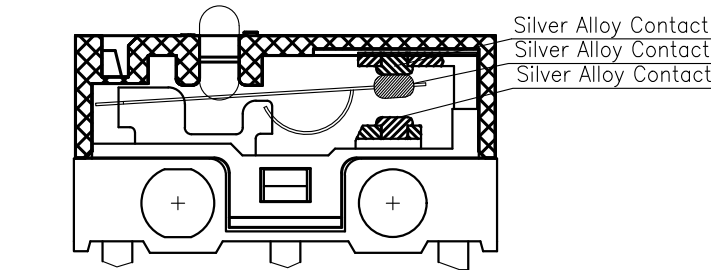
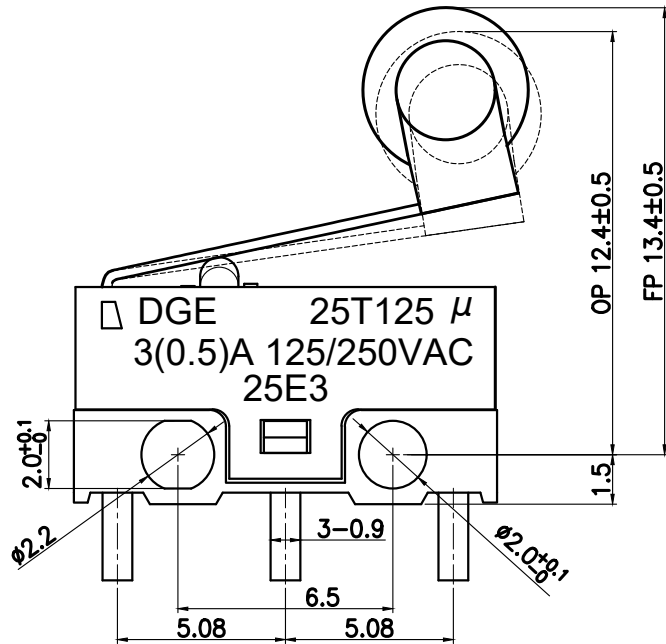
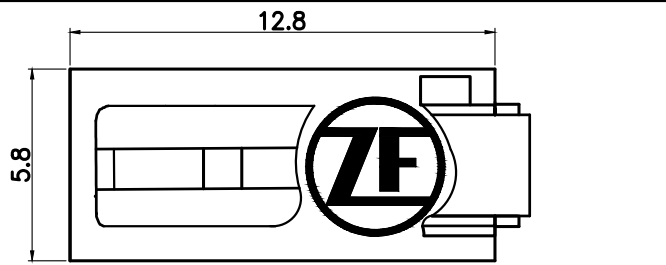
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

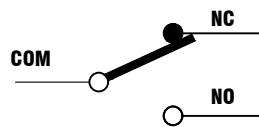
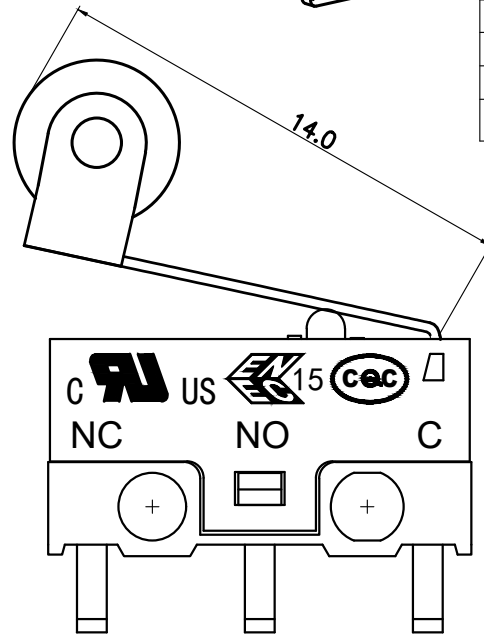
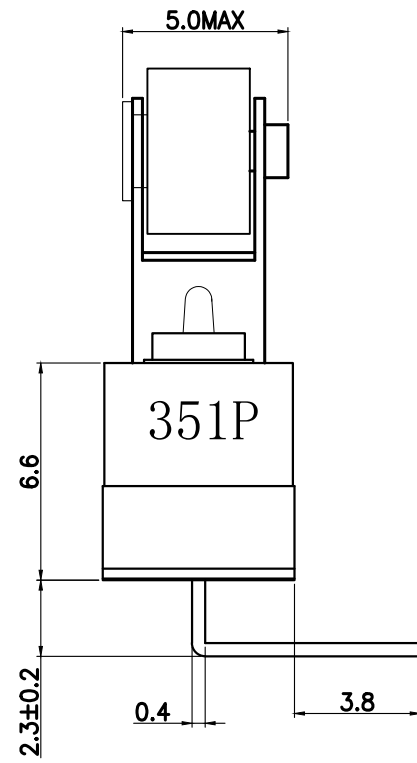
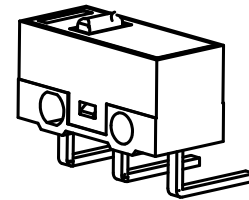


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③					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH						
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记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm	比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 ENG. DWG	版本: REV.	A0



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Zhuhai/China
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35 Week

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GENERAL CHARACTERISTICS

Operating Force	Max. 60gf
Release Force	Min. 4gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS
10	RIVET	BRASS
11	ROLLER	ZINE ALLOY

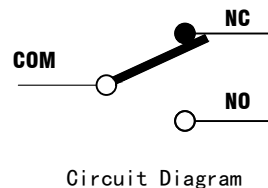
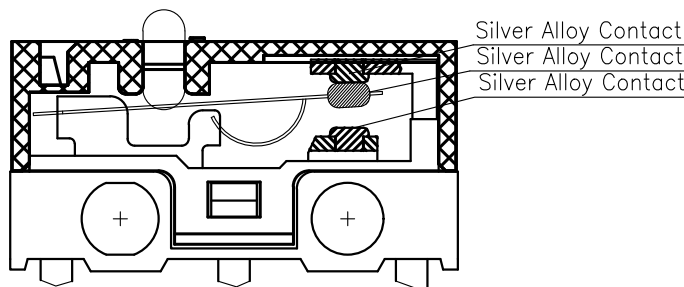
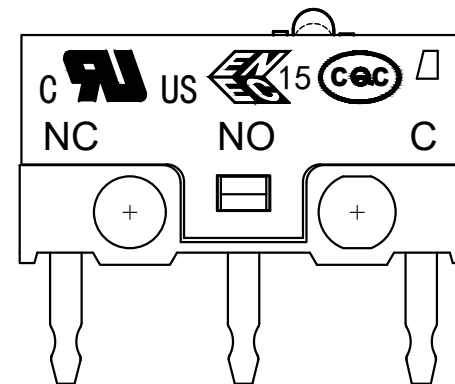
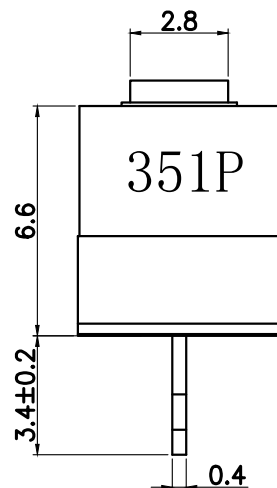
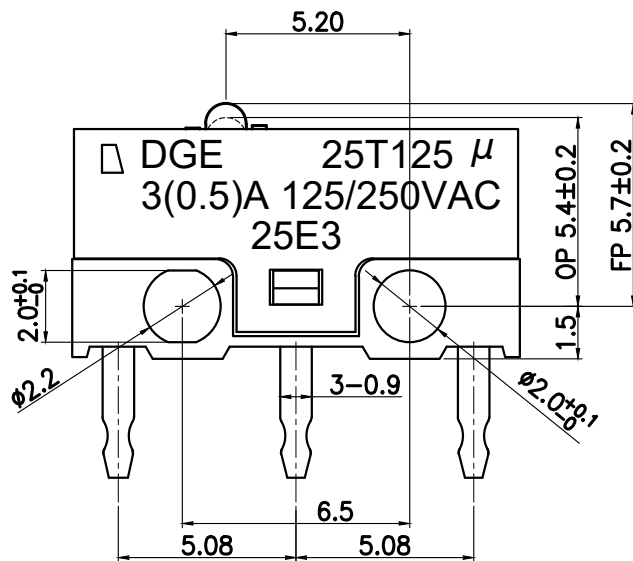
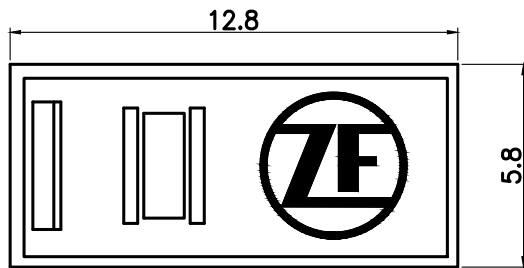
Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

Circuit Diagram



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③					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH						
②					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			料号: TITLE	DGE3-E5RD					
①					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL		图号: DWG NO.	DGE3-E5RD						
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm	比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页,共1页	工程图 ENG. DWG	版本: REV.	A0



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 Zhuhai/China
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 35 Week
 The date code could be printed on each lateral side randomly

GENERAL CHARACTERISTICS

Operating Force	Max. 140gf
Release Force	Min. 20gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C

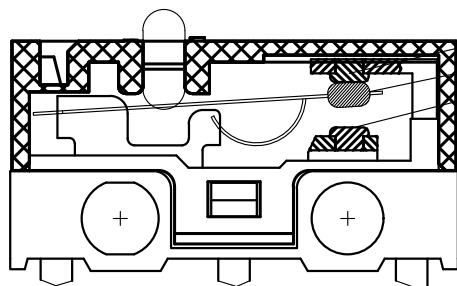
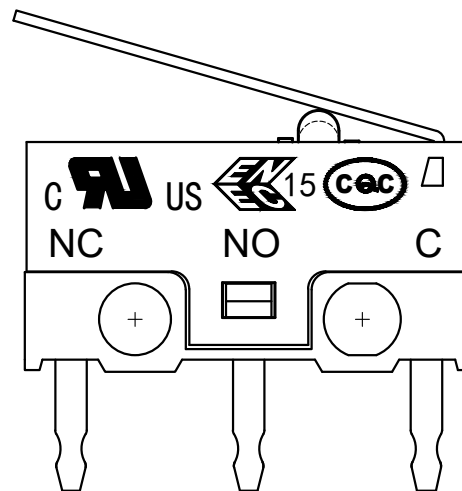
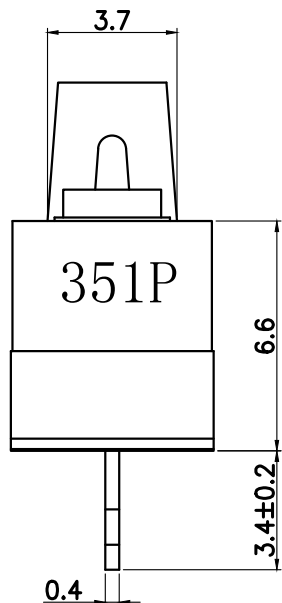
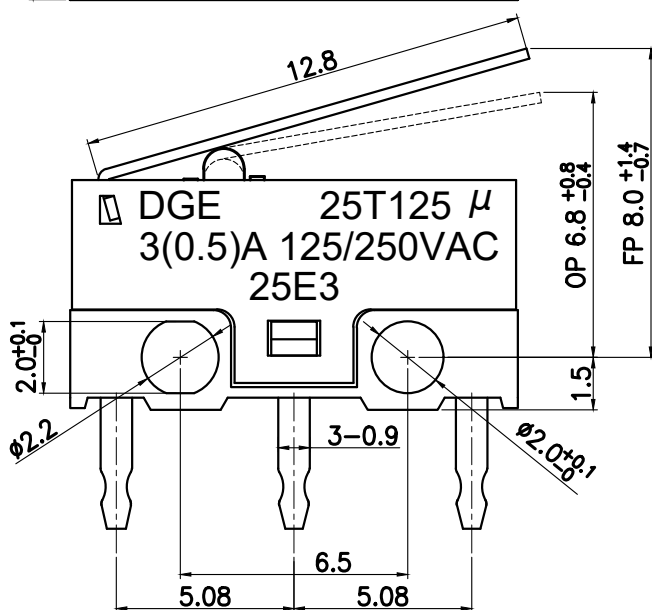
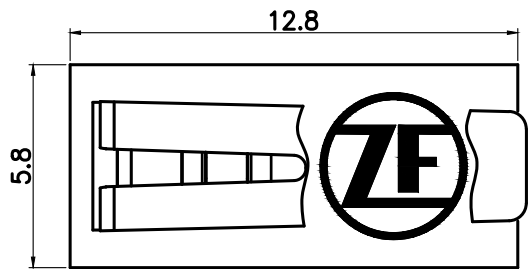
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS

Further details please refer to technical specification TS-DG-00001.
 In case there are any deviations the drawing details have priority.

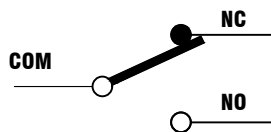


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△3					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH						
△2					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			料号: TITLE	DGE3-E7AA					
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Silver Alloy Contact
Silver Alloy Contact
Silver Alloy Contact



Circuit Diagram

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Zhuhai/China
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35 Week

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GENERAL CHARACTERISTICS

Operating Force	Max. 45gf
Release Force	Min. 10gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

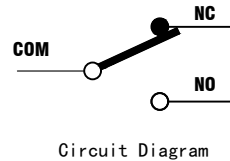
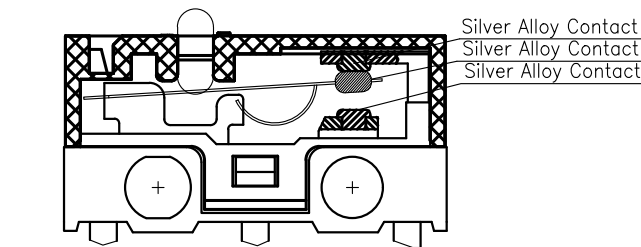
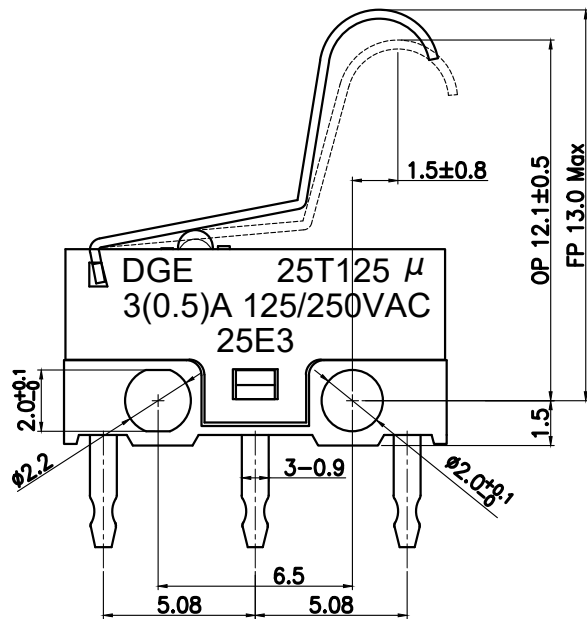
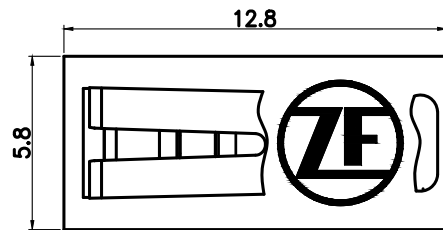
Further details please refer to technical specification TS-DG-00001.
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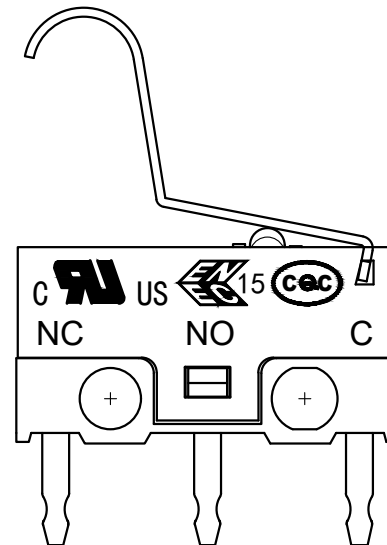
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审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL	
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记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE

系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH			
料号: TITLE	DGE3-E7LC		图号: DWG NO.	DGE3-E7LC
比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页
工程图 ENG. DWG		版本: REV.	A0	



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 Zhuhai/China
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 35 Week

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GENERAL CHARACTERISTICS

Operating Force	Max. 60gf
Release Force	Min. 4gf
Contact Resistance	Max. 100mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C

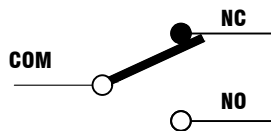
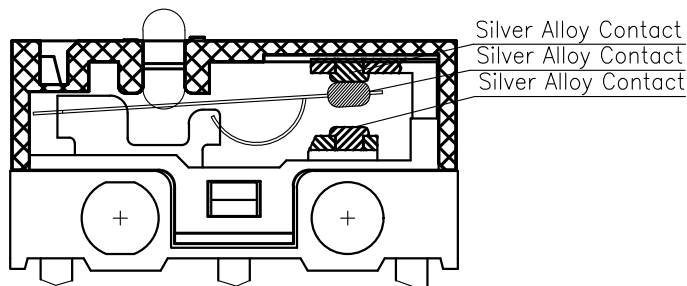
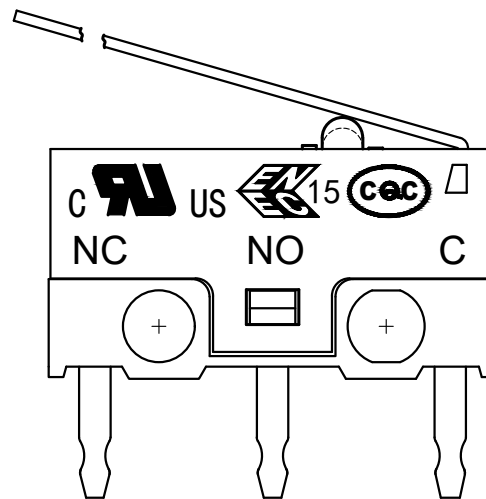
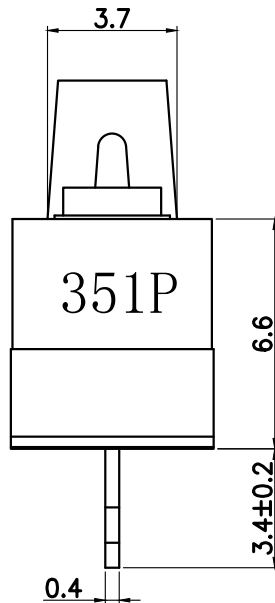
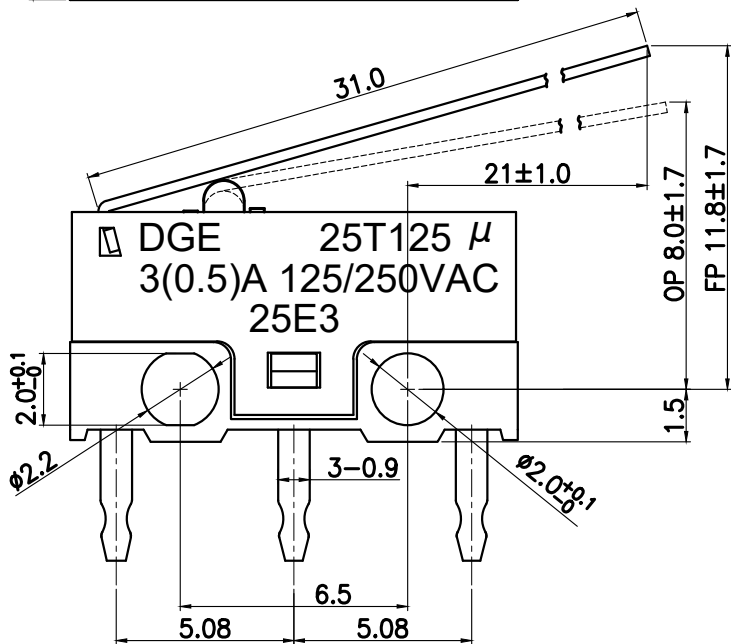
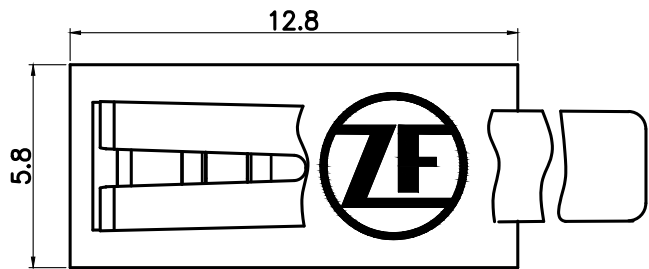
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
 In case there are any deviations the drawing details have priority.



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③					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH						
②					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			料号: TITLE	DGE3-E7LG					
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Circuit Diagram

35 1 P
Zhuhai/China
2021 Year
35 Week

The date code could be printed on each lateral side randomly

GENERAL CHARACTERISTICS

Operating Force	Max. 18gf
Release Force	Min. 2gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C

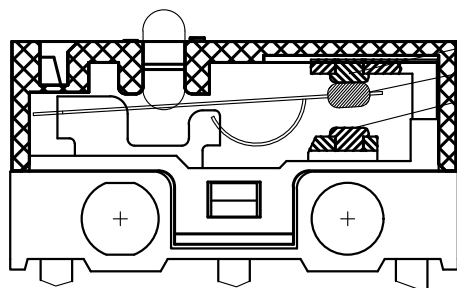
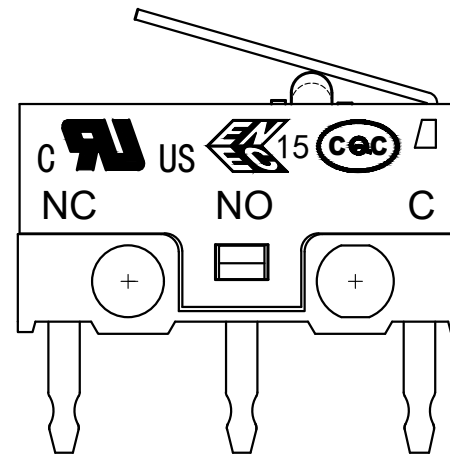
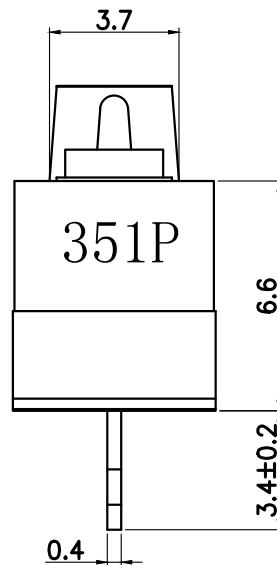
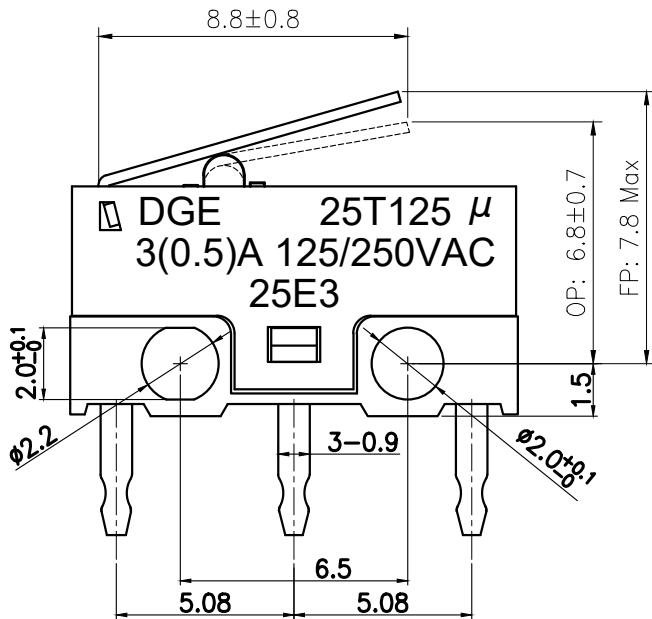
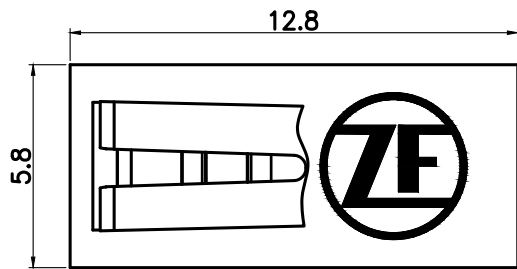
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

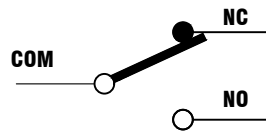


采埃孚电子(珠海)有限公司
ZF Electronics (Zhuhai) Company Limited

△3					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH						
△2					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			料号: TITLE	DGE3-E7LX					
△1					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL		图号: DWG NO.	DGE3-E7LX						
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm	比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 ENG. DWG	版本: REV.	A0



Silver Alloy Contact(Gold Flash)
 Silver Alloy Contact(Gold Flash)
 Silver Alloy Contact(Gold Flash)



Circuit Diagram

35 1 P
 Zhuhai/China
 2021 Year
 35 Week

The date code could be printed on each lateral side randomly

GENERAL CHARACTERISTICS

Operating Force	Max. 85gf
Release Force	Min. 12gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C

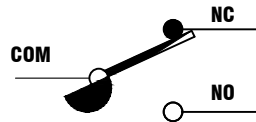
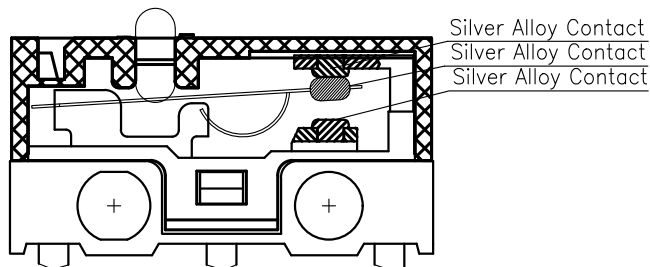
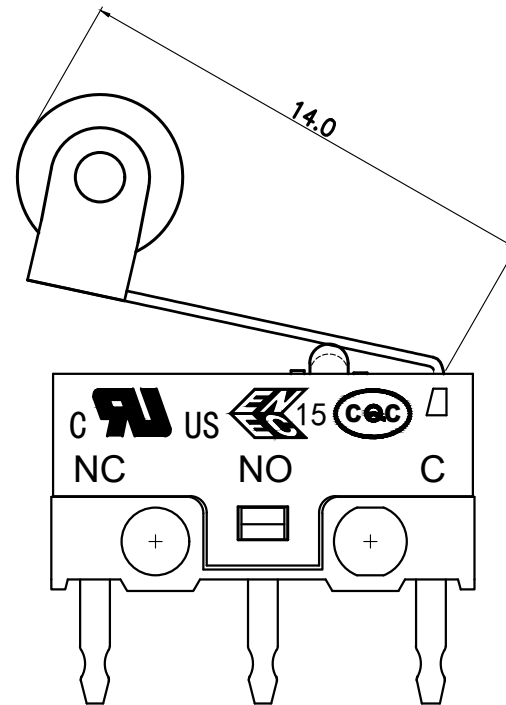
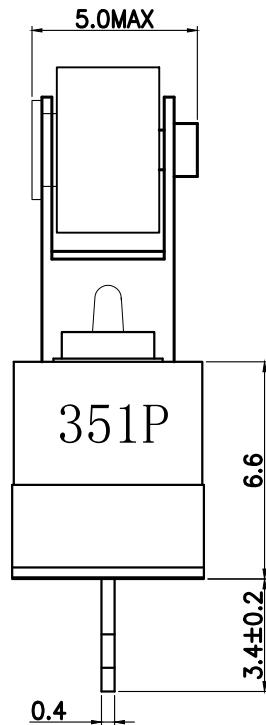
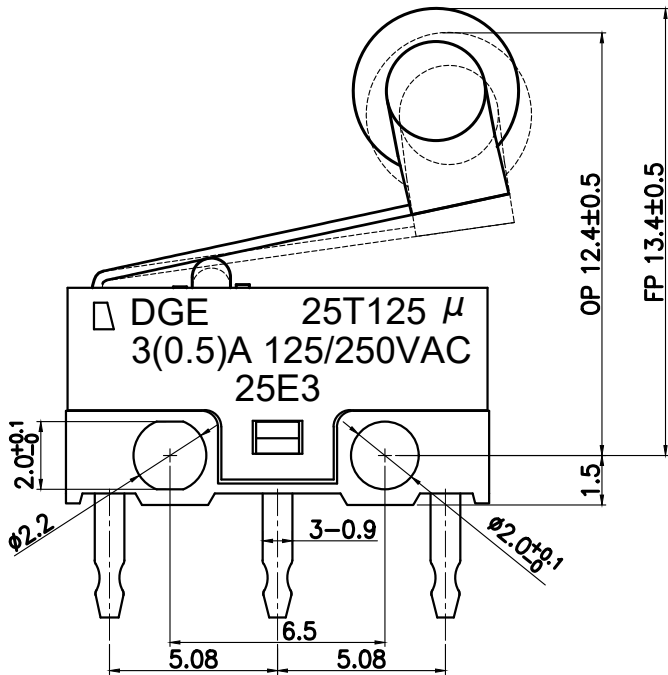
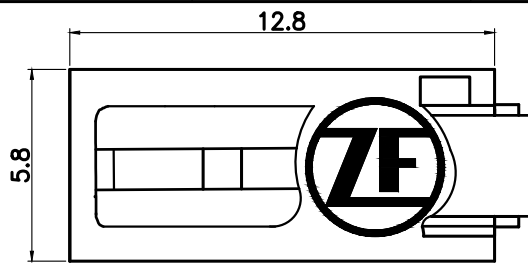
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY (Gold Flash)
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
 In case there are any deviations the drawing details have priority.



采埃孚电子(珠海)有限公司
 ZF Electronics (Zhuhai) Company Limited

△3					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH						
△2					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			料号: TITLE	DGE3-E7LY		图号: DWG NO.	DGE3-E7LY		
△1					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL			比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 ENG. DWG	版本: REV.
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm								



35 1 P
Zhuhai/China
2021 Year
35 Week

The date code could be printed on each lateral side randomly

GENERAL CHARACTERISTICS

Operating Force	Max. 60gf
Release Force	Min. 4gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	3(0.5)A 125/250VAC
Operating Temperature	-25 to 125°C

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Ag ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS
10	RIVET	BRASS
11	ROLLER	ZINE ALLOY

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

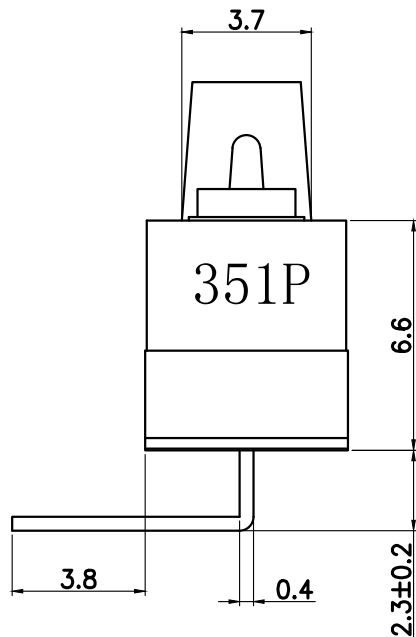
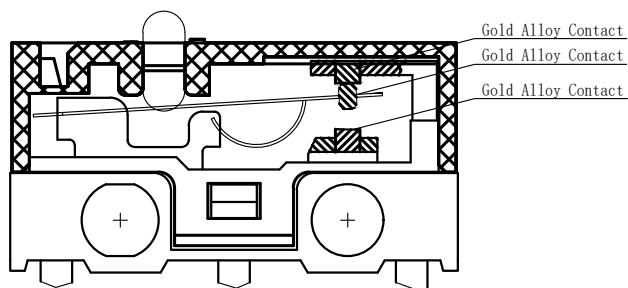
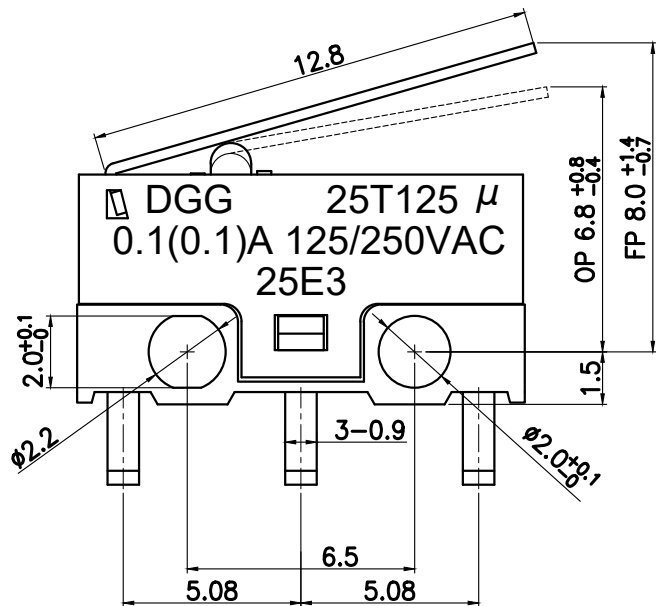
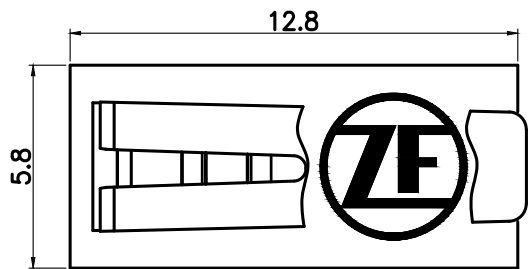
Circuit Diagram



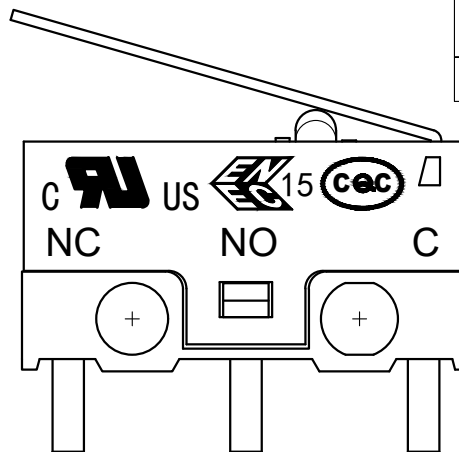
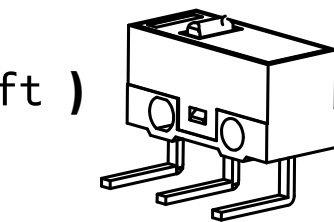
采埃孚电子(珠海)有限公司
ZF Electronics (Zhuhai) Company Limited

制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED															
设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm : ±0.1mm OVER 1.5mm : ±0.2mm															
审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL															
批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm														
③																		
②																		
①																		
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	系列 SERIES	料号: TITLE	图号: DWG NO.	张数: SHEET	工程图 ENG. DWG	版本: REV.	比例: SCALE	角法: PROJ.	张数: SHEET	第1页,共1页	工程图 ENG. DWG	版本: REV.	AO

系列 SERIES	DG 3A微动开关/SUBMINIATURE SWITCH	
料号: TITLE	DGE3-E7RD	图号: DWG NO.
比例: SCALE	1:1	图号: DWG NO.
角法: PROJ.	张数: SHEET	第1页,共1页
张数: SHEET	第1页,共1页	工程图 ENG. DWG
版本: REV.		版本: REV.
AO		AO

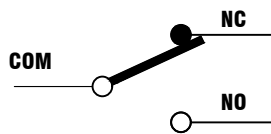


(Left)



GENERAL CHARACTERISTICS

Operating Force	Max. 45gf
Release Force	Min. 10gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Rating (UL/ENEC Certified)	0.1(0.1)A, 125/250VAC 25,000 Cycles
Rating (Not UL/ENEC Certified)	50mA, 30VDC 200,000 Cycles
Operating Temperature	-25 to 125°C



Circuit Diagram

35 1 P
Zhuhai/China
2021 Year
35 Week

The date code could be printed on each lateral side randomly

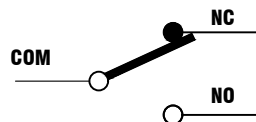
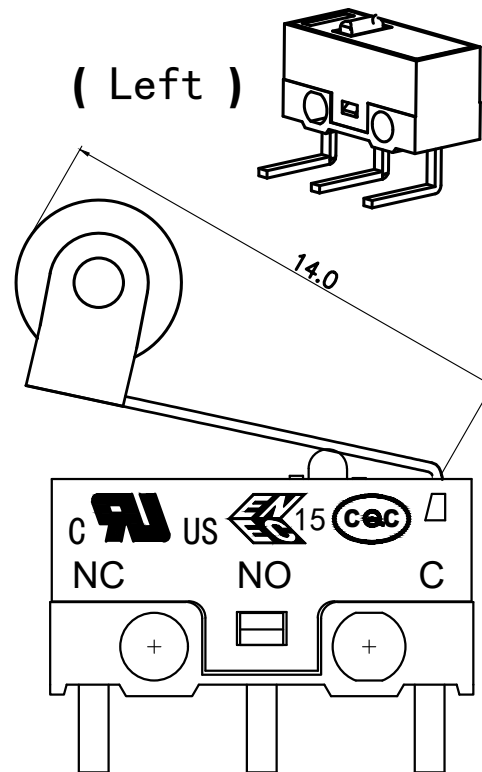
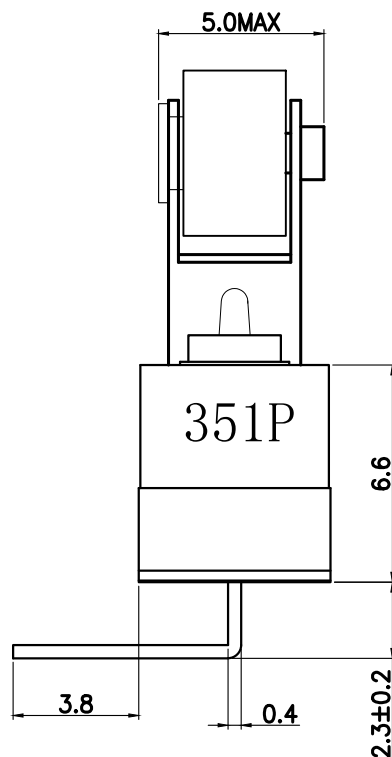
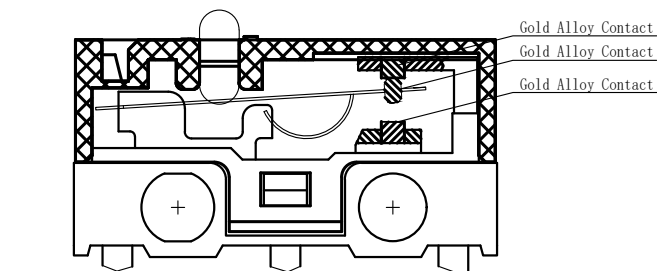
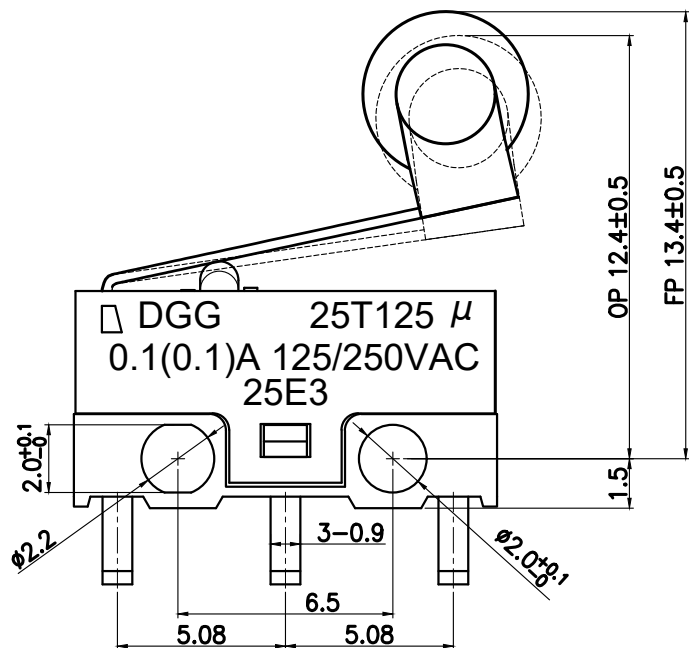
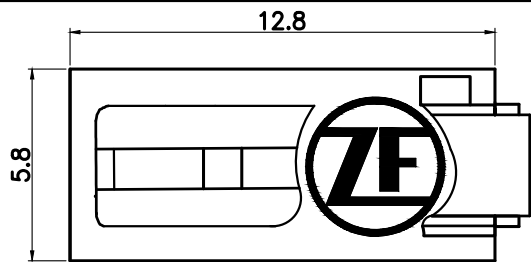
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.



采埃孚电子(珠海)有限公司
ZF Electronics (Zhuhai) Company Limited

3					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 0.1A微动开关/SUBMINIATURE SWITCH						
2					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			料号: TITLE	DGG3-E4LC		图号: DWG NO.	DGG3-E4LC		
1					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL		比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 ENG. DWG	版本: REV.	A0
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm								



35 1 P
Zhuhai/China
2021 Year
35 Week

The date code could be printed on each lateral side randomly

GENERAL CHARACTERISTICS

Operating Force	Max. 60gf
Release Force	Min. 4gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Rating (UL/ENEC Certified)	0.1(0.1)A, 125/250VAC 25,000 Cycles
Rating (Not UL/ENEC Certified)	50mA, 30VDC 200,000 Cycles
Operating Temperature	-25 to 125°C

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS
10	RIVET	BRASS
11	ROLLER	ZINE ALLOY

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

Circuit Diagram



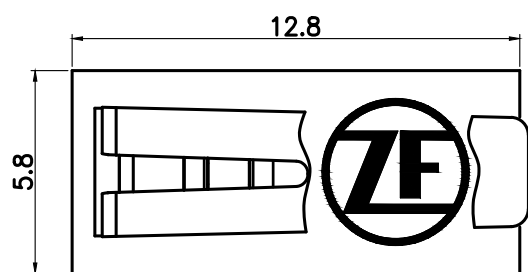
采埃孚电子(珠海)有限公司
ZF Electronics (Zhuhai) Company Limited

图号	比例	日期	设计	审核	批准	日期	修改	核准	日期	变更内容
3		2020.12.11	H,QIN	J.WANG	J.WANG	2020.12.16				
2		2020.12.11	H,QIN	J.WANG	J.WANG	2020.12.16				
1		2020.12.11	H,QIN	J.WANG	J.WANG	2020.12.16				

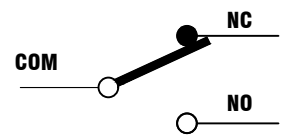
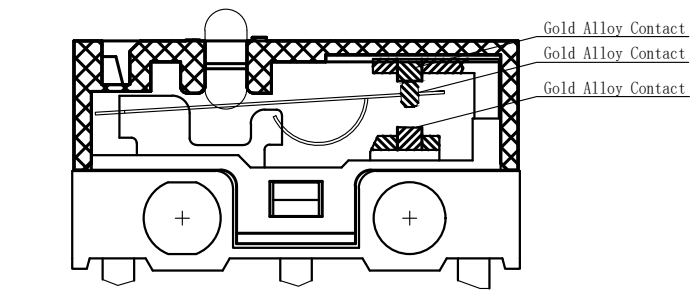
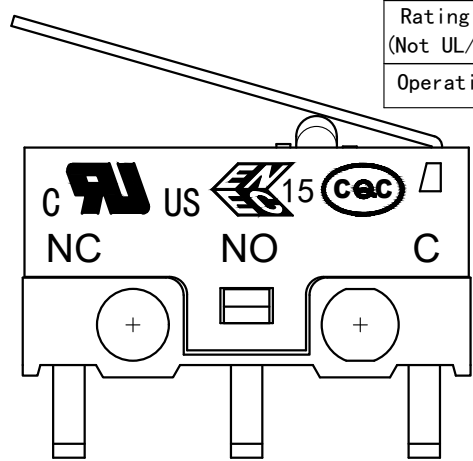
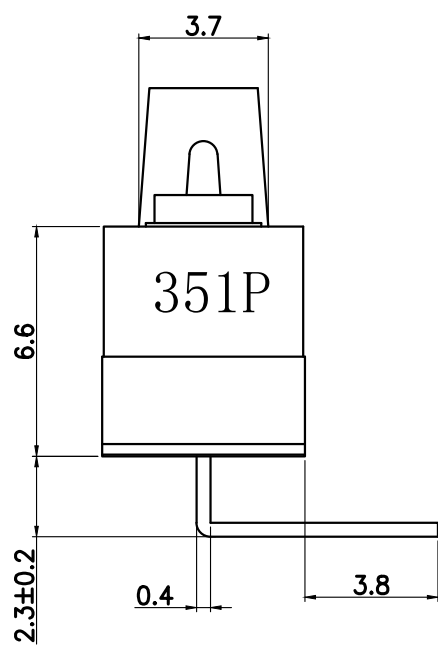
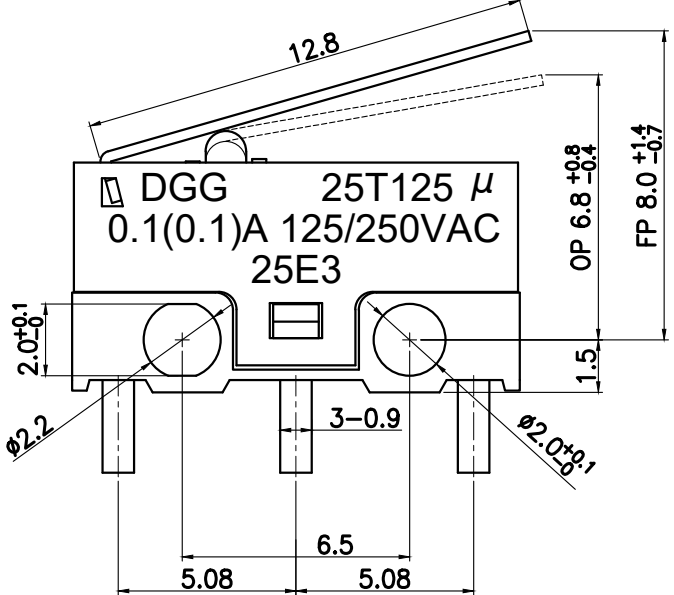
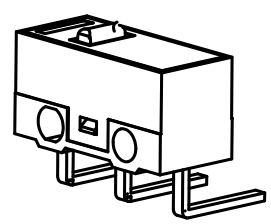
TOLERANCE UNLESS SPECIFIED		系列 SERIES	DGG 0.1A微动开关/SUBMINIATURE SWITCH	
WITHIN 1.5mm : ±0.1mm	OVER 1.5mm : ±0.2mm			
料号 TITLE	DGG3-E4RD		图号 DWG NO.	DGG3-E4RD
比例 SCALE	1:1	角法 PROJ.	张数 SHEET	第1页,共1页
单位 UNIT	mm	工程图 ENG. DWG	版本 REV.	A0

GENERAL CHARACTERISTICS

Operating Force	Max. 45gf
Release Force	Min. 10gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Rating (UL/ENEC Certified)	0.1(0.1)A, 125/250VAC 25,000 Cycles
Rating (Not UL/ENEC Certified)	50mA, 30VDC 200,000 Cycles
Operating Temperature	-25 to 125°C



(Right)



Circuit Diagram

35 1 P
Zhuhai/China
2021 Year
35 Week
The date code could be printed on each lateral side randomly

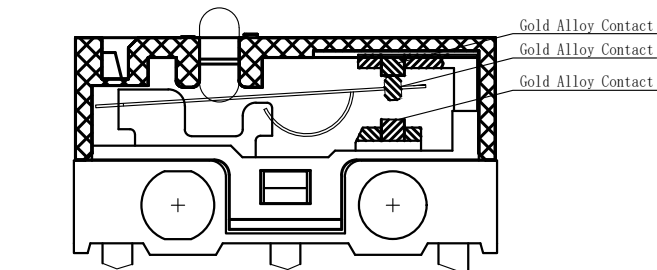
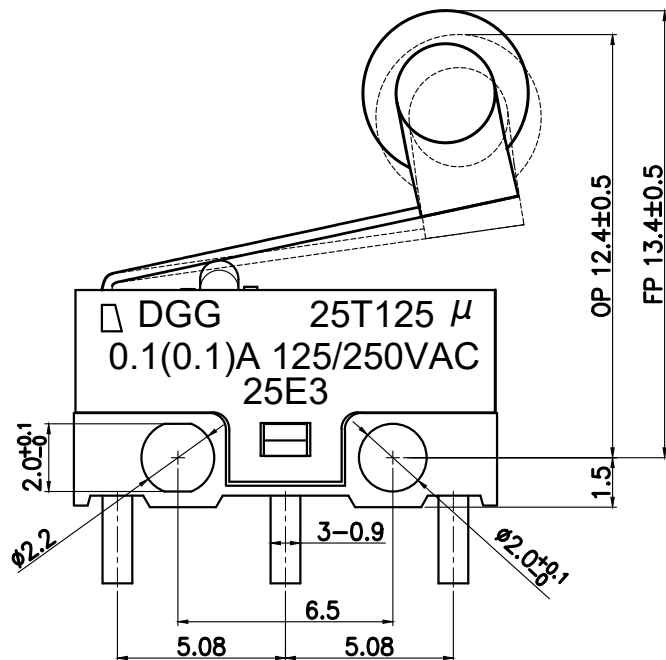
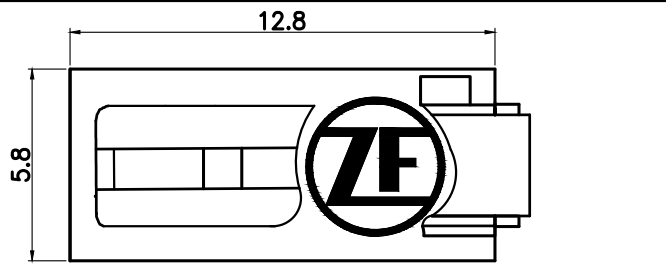
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

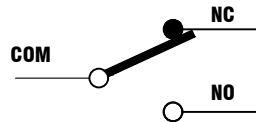
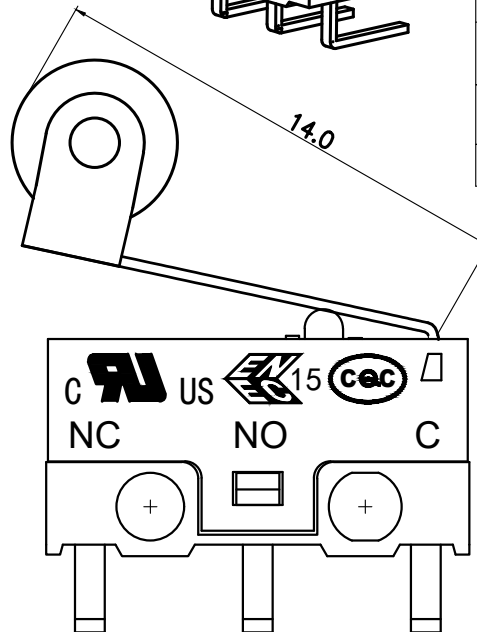
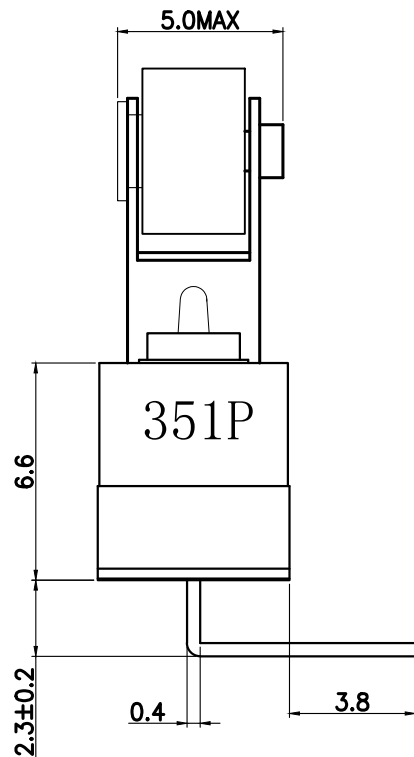
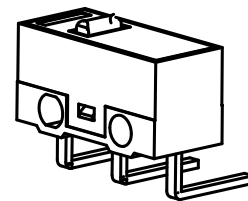


采埃孚电子(珠海)有限公司
ZF Electronics (Zhuhai) Company Limited

3					制图: H.QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列: DGG3-E5LC	DG 0.1A微动开关/SUBMINIATURE SWITCH				
2					设计: H.QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm	OVER 1.5mm: ±0.2mm		料号: DGG3-E5LC	图号: DGG3-E5LC			
1					审核: J.WANG	2020.12.16	材质: MATERIAL		比例: 1:1	角法: PROJ.	张数: 第1页, 共1页	工程图: ENG. DWG	版本: REV.	A0
MARK.	变更内容: DEFINITION	修改: REVISE	核准: APPROVE	日期: DATE	批准: J.WANG	2020.12.16	单位: mm							



(Right)



35 1 P
Zhuhai/China
2021 Year
35 Week

The date code could be printed on each lateral side randomly

GENERAL CHARACTERISTICS

Operating Force	Max. 60gf
Release Force	Min. 4gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Rating (UL/ENEC Certified)	0.1(0.1)A, 125/250VAC 25,000 Cycles
Rating (Not UL/ENEC Certified)	50mA, 30VDC 200,000 Cycles
Operating Temperature	-25 to 125°C

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS
10	RIVET	BRASS
11	ROLLER	ZINE ALLOY

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

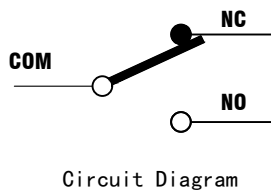
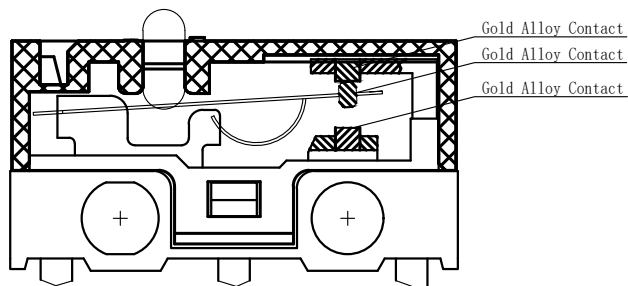
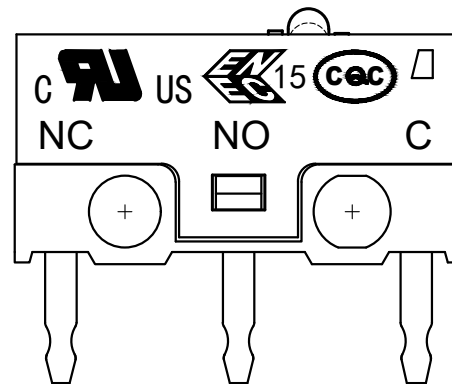
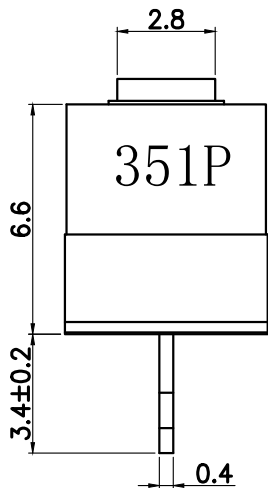
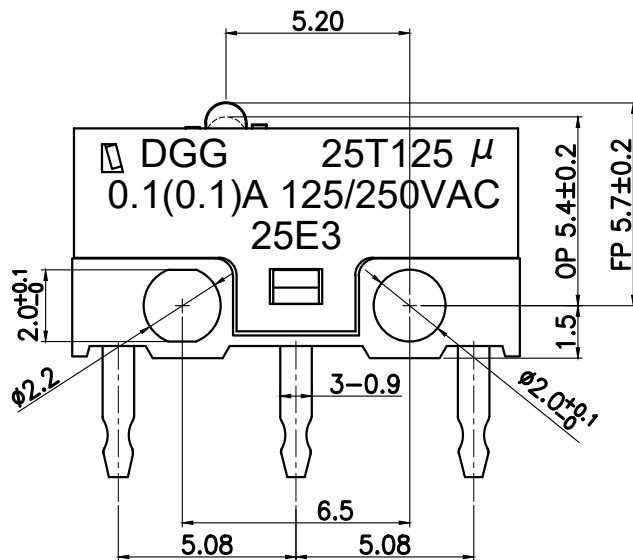
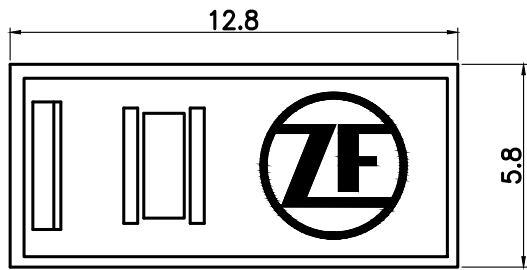
Circuit Diagram



采埃孚电子(珠海)有限公司
ZF Electronics (Zhuhai) Company Limited

MARK.	DEFINITION	REVISION	APPROVE	DATE	APPROVE	DATE	MATERIAL	UNIT	SCALE	PROJ.	SHEET	REV.
3					制图: DRAW	H,QIN	2020.12.11		TOLERANCE UNLESS SPECIFIED			
2					设计: DESIGN	H,QIN	2020.12.11		WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			
1					审核: CHECKED	J.WANG	2020.12.16					
					批准: APPROVE	J.WANG	2020.12.16					

系列 SERIES	DG 0.1A微动开关/SUBMINIATURE SWITCH
料号: TITLE	DGG3-E5RD
图号: DWG NO.	DGG3-E5RD
张数: SHEET	第1页, 共1页
工程图 ENG. DWG	版本: REV.
	AO



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The date code could be printed on each lateral side randomly

GENERAL CHARACTERISTICS

Operating Force	Max. 140gf
Release Force	Min. 20gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Rating (UL/ENEC Certified)	0.1 (0.1) A, 125/250VAC 25,000 Cycles
Rating (Not UL/ENEC Certified)	50mA, 30VDC 200,000 Cycles
Operating Temperature	-25 to 125°C

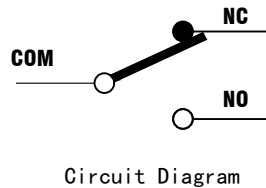
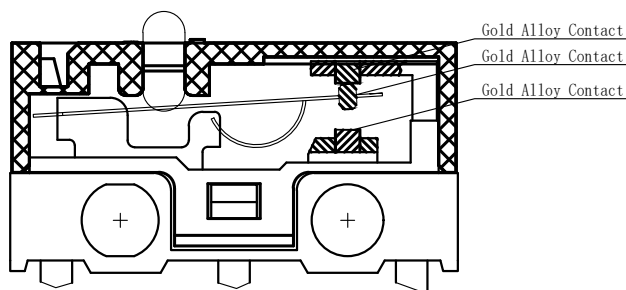
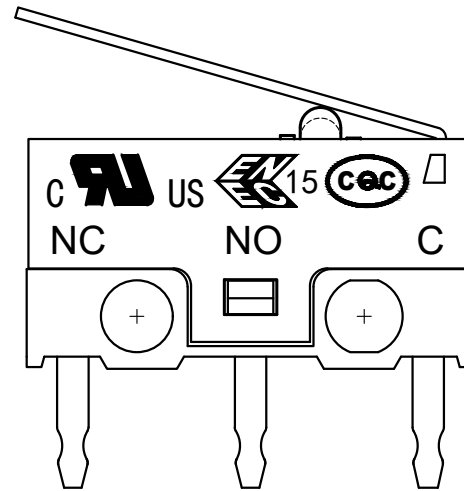
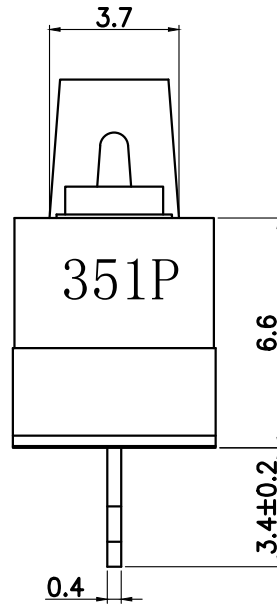
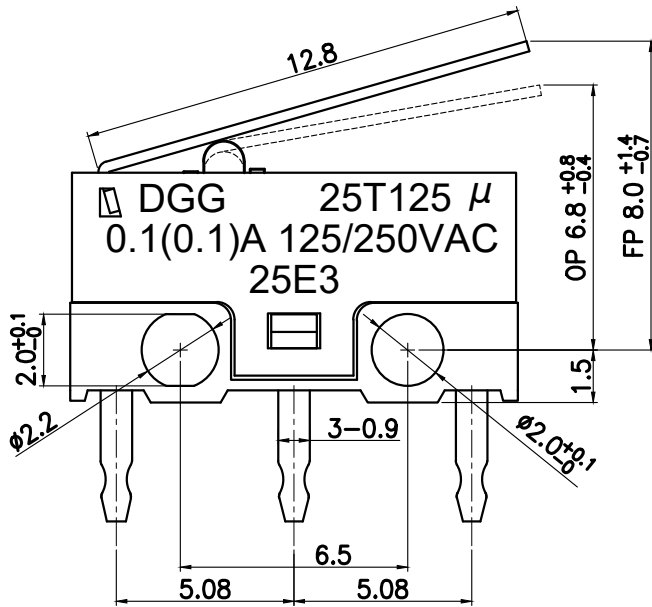
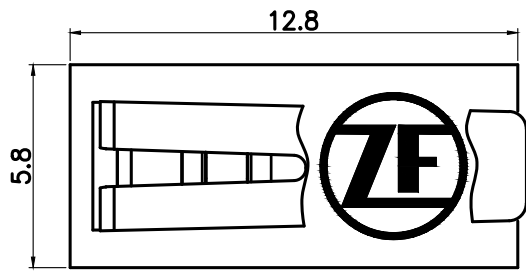
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.



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ZF Electronics (Zhuhai) Company Limited

△3					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 0.1A微动开关/SUBMINIATURE SWITCH						
△2					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			料号: TITLE	DGG3-E7AA					
△1					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL			图号: DWG NO.	DGG3-E7AA					
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm	比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 ENG. DWG	版本: REV.	A0



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 2021 Year
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The date code could be printed on each lateral side randomly

GENERAL CHARACTERISTICS

Operating Force	Max. 45gf
Release Force	Min. 10gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1, 000, 000 Cycles
Rating (UL/ENEC Certified)	0.1 (0.1) A, 125/250VAC 25, 000 Cycles
Rating (Not UL/ENEC Certified)	50mA, 30VDC 200, 000 Cycles
Operating Temperature	-25 to 125°C

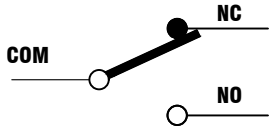
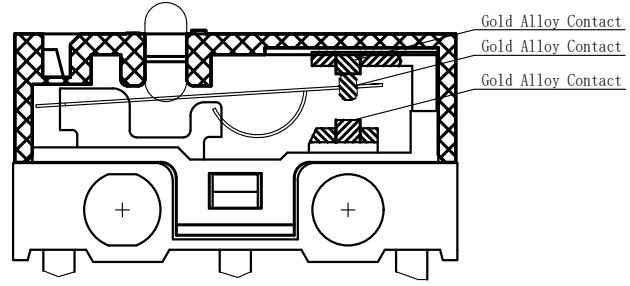
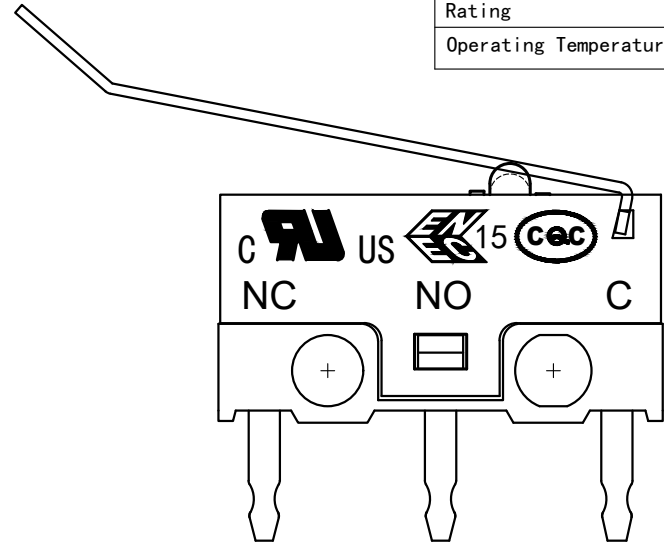
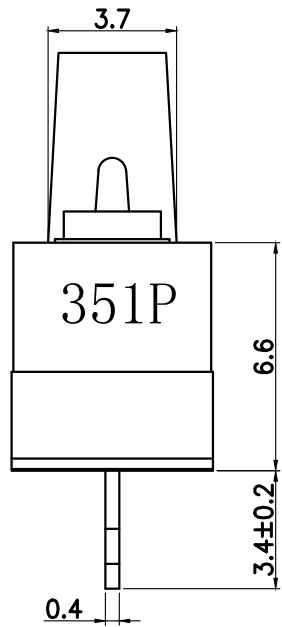
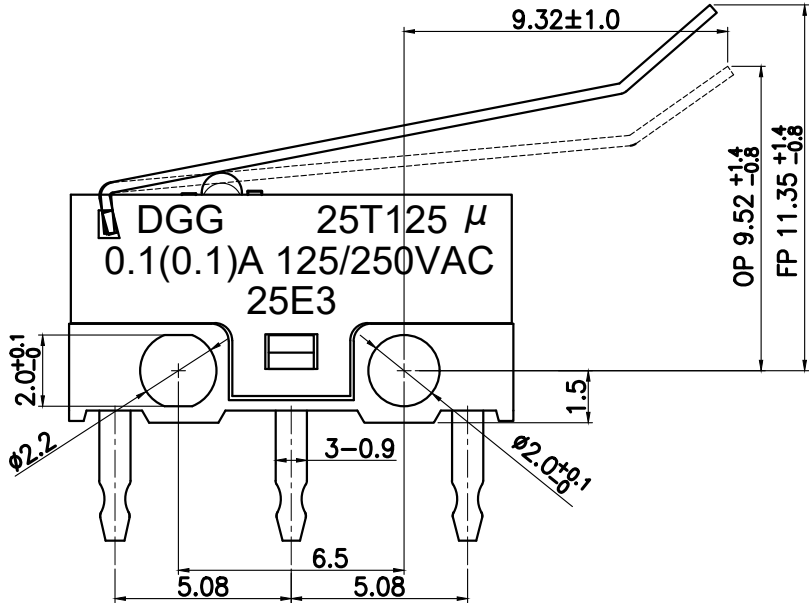
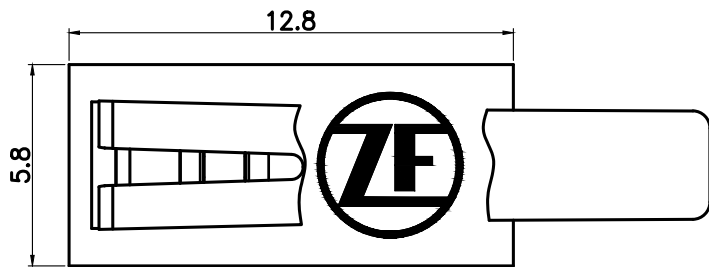
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

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③					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 0.1A微动开关/SUBMINIATURE SWITCH						
②					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm									
①					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL	料号: TITLE						DGG3-E7LC		图号: DWG NO.
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm	比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 ENG. DWG	版本: REV.	A0



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GENERAL CHARACTERISTICS

Operating Force	Max. 45gf
Release Force	Min. 2gf
Contact Resistance	Max. 100mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	0.1(0.1)A 125/250VAC
Operating Temperature	-25 to 125°C

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

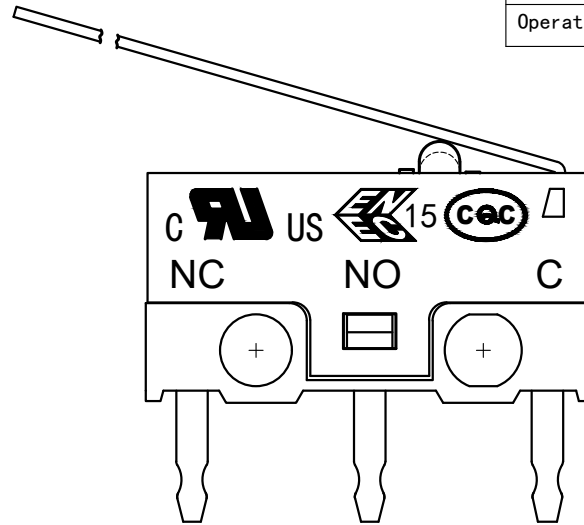
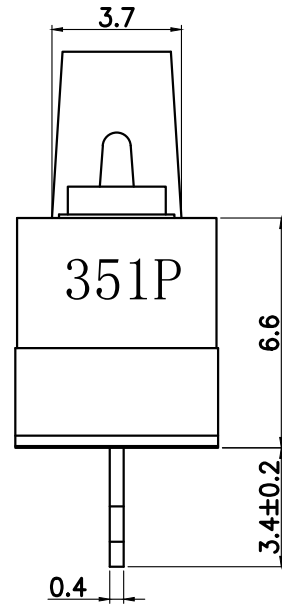
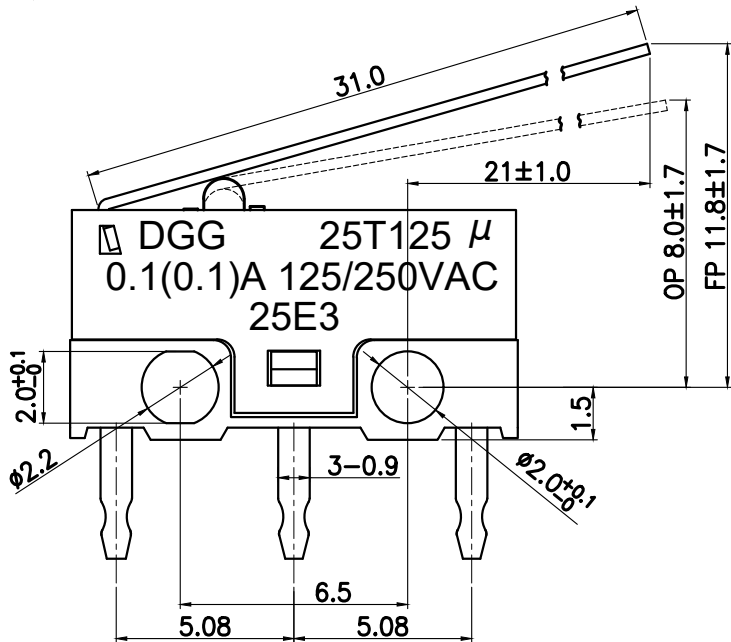
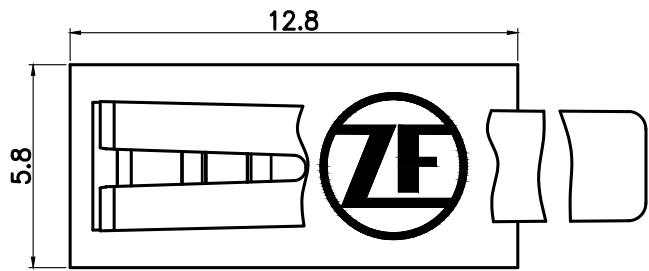
Circuit Diagram



采埃孚电子(珠海)有限公司
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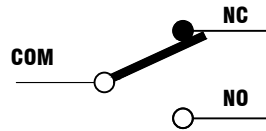
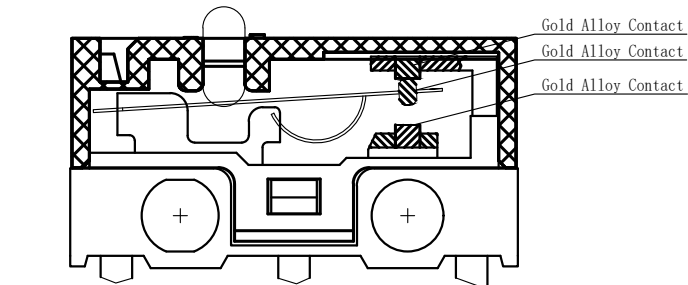
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2					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm
1					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL
					批准: APPROVE	J.WANG	2020.12.16	单位: UNIT

系列 SERIES	DG 0.1A微动开关/SUBMINIATURE SWITCH		料号: TITLE	DGG3-E7LK		图号: DWG NO.	DGG3-E7LK	
比例: SCALE	1:1	角法: PROJ.		张数: SHEET	第1页,共1页	工程图 ENG. DWG	版本: REV.	A0



GENERAL CHARACTERISTICS

Operating Force	Max. 18gf
Release Force	Min. 2gf
Contact Resistance	Max. 100mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	0.1(0.1)A 125/250VAC
Operating Temperature	-25 to 125°C



Circuit Diagram

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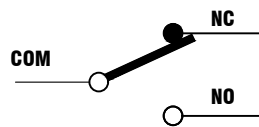
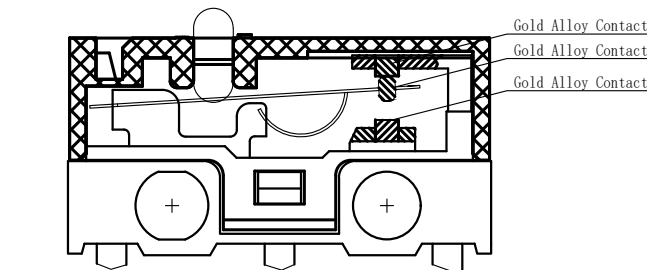
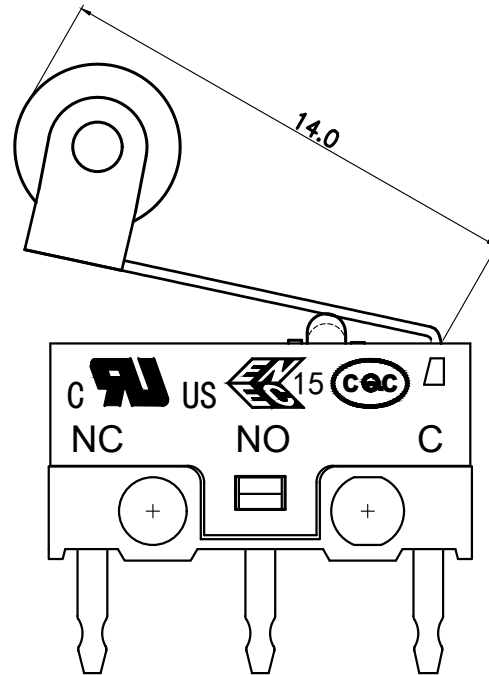
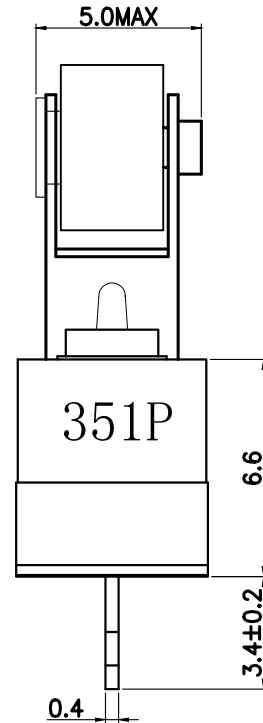
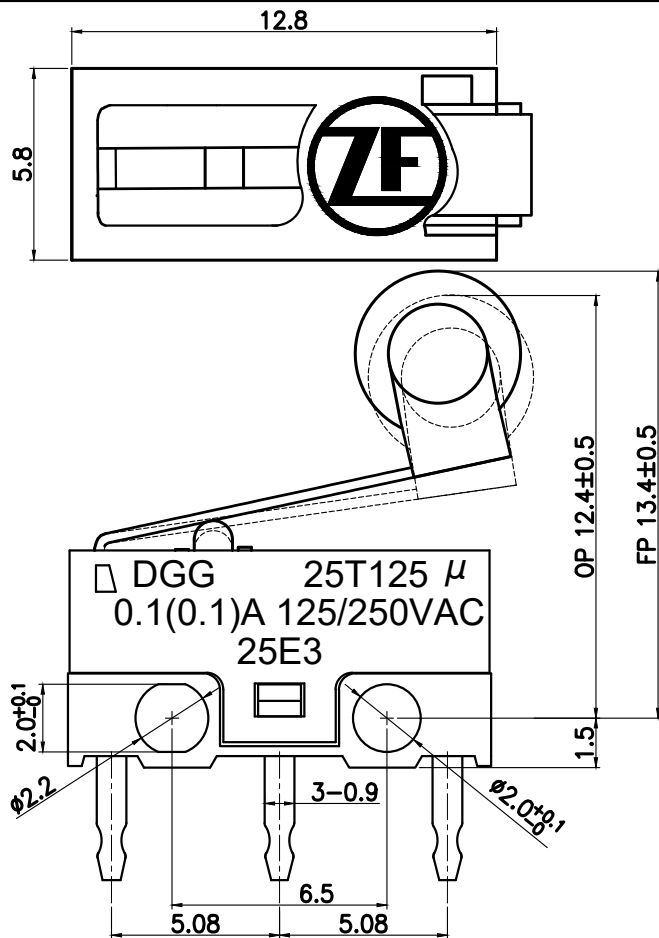
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
 In case there are any deviations the drawing details have priority.



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3					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 0.1A微动开关/SUBMINIATURE SWITCH						
2					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm									
1					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL		料号: TITLE	DGG3-E7LX		图号: DWG NO.	DGG3-E7LX			
记号 MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm	比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 ENG. DWG	版本: REV.	A0



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The date code could be printed on each lateral side randomly

GENERAL CHARACTERISTICS

Operating Force	Max. 60gf
Release Force	Min. 4gf
Contact Resistance	Max. 50mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Rating (UL/ENEC Certified)	0.1(0.1)A, 125/250VAC 25,000 Cycles
Rating (Not UL/ENEC Certified)	50mA, 30VDC 200,000 Cycles
Operating Temperature	-25 to 125°C

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS
10	RIVET	BRASS
11	ROLLER	ZINE ALLOY

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.

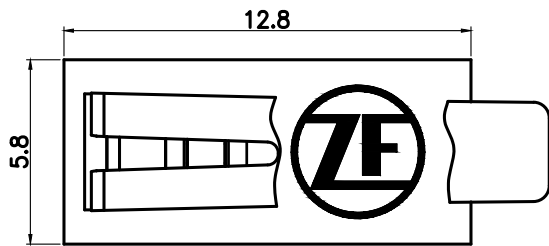
Circuit Diagram



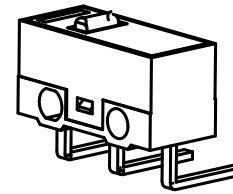
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MARK.	DEFINITION	REVISION	APPROVE	DATE	APPROVE	DATE	UNIT	SCALE	PROJ.	SHEET	REV.
3			制图: DRAW	H,QIN	2020.12.11		TOLERANCE UNLESS SPECIFIED				
2			设计: DESIGN	H,QIN	2020.12.11		WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm				
1			审核: CHECKED	J.WANG	2020.12.16		材质: MATERIAL				
			批准: APPROVE	J.WANG	2020.12.16		单位: UNIT	mm	比例: SCALE	1:1	

系列 SERIES	DG 0.1A微动开关/SUBMINIATURE SWITCH
料号: TITLE	DGG3-E7RD
图号: DWG NO.	DGG3-E7RD
张数: SHEET	第1页, 共1页
工程图 ENG. DWG	版本: REV.
	A0

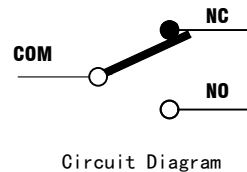
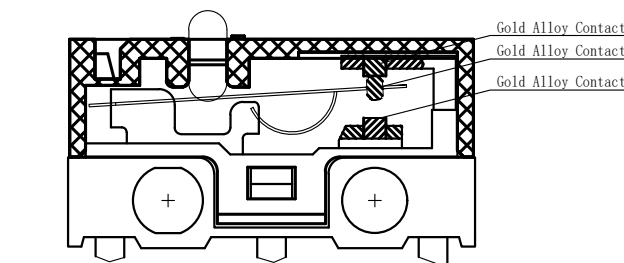
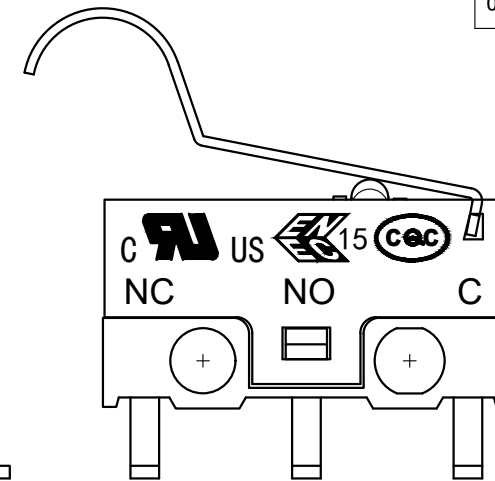
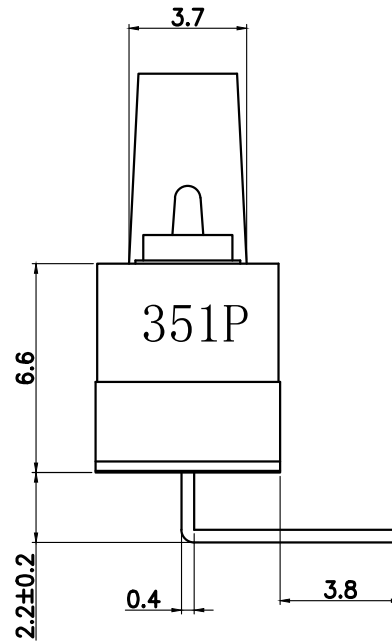
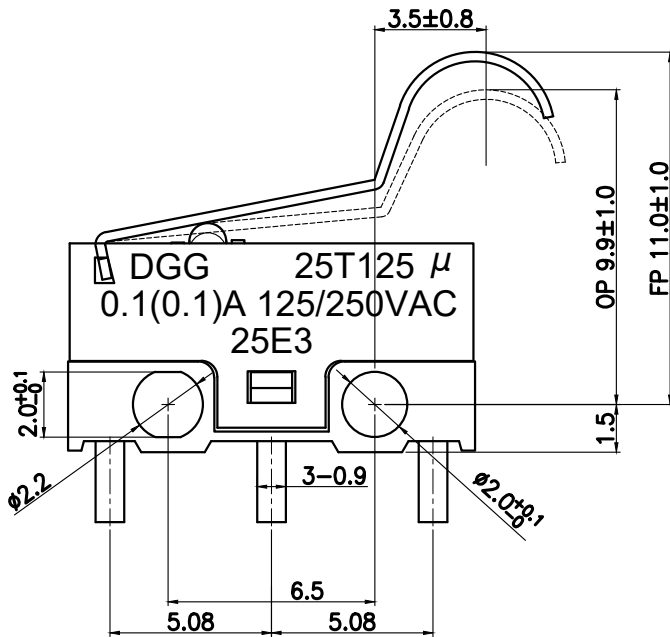


(Right)



GENERAL CHARACTERISTICS

Operating Force	Max. 50gf
Release Force	Min. 4gf
Contact Resistance	Max. 100mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	0.1(0.1)A 125/250VAC
Operating Temperature	-25 to 125°C



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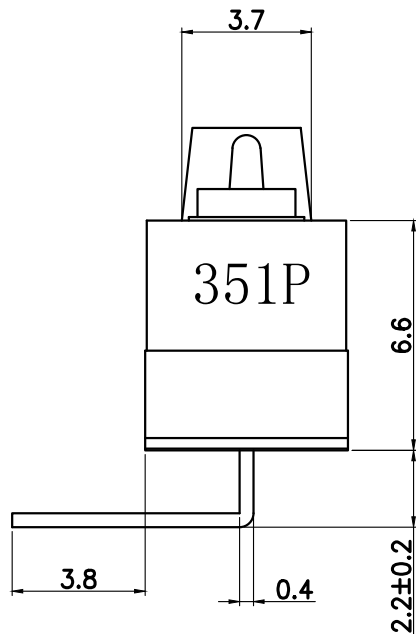
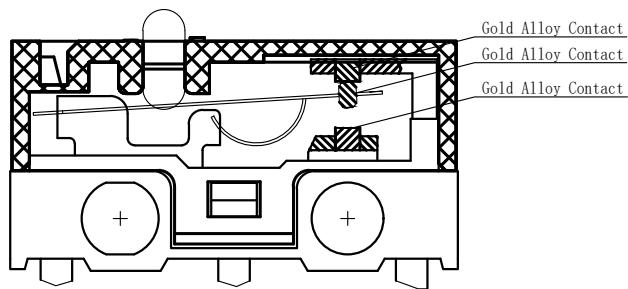
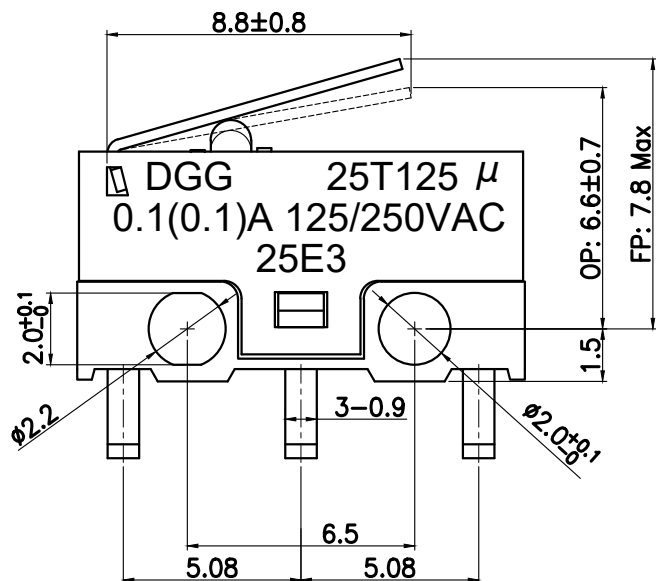
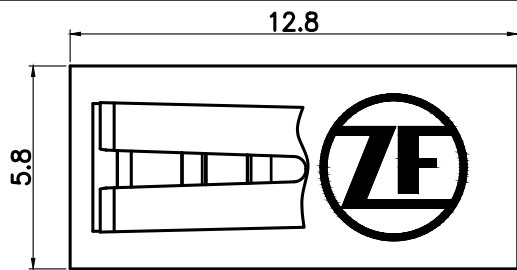
NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
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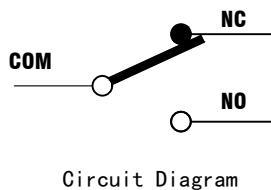
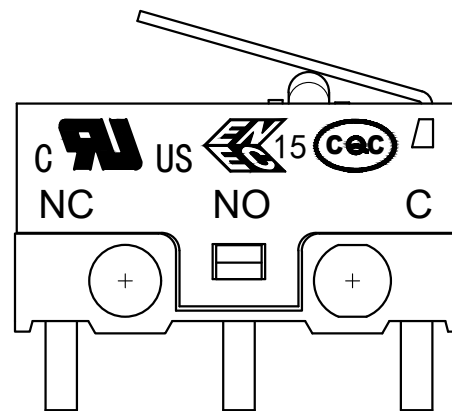
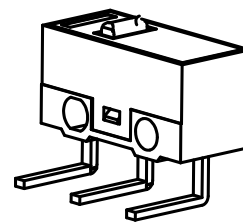


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3					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 0.1A微动开关/SUBMINIATURE SWITCH						
2					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm		料号: TITLE	DGG3-E5LH						
1					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL		图号: DWG NO.	DGG3-E5LH						
MARK.	变更内容 DEFINITION	修改 REVISE	核准 APPROVE	日期 DATE	批准: APPROVE	J.WANG	2020.12.16	单位: UNIT	mm	比例: SCALE	1:1	角法: PROJ.	张数: SHEET	第1页, 共1页	工程图 ENG. DWG	版本: REV.	A0



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GENERAL CHARACTERISTICS

Operating Force	Max. 85gf
Release Force	Min. 12gf
Contact Resistance	Max. 100mΩ
Insulation Resistance	Min. 100MΩ 500VDC
Dielectric Voltage	AC500V 60 Sec.
Mechanical Life	1,000,000 Cycles
Electrical Life	25,000 Cycles
Rating	0.1(0.1)A 125/250VAC
Operating Temperature	-25 to 125°C

NO.	PARTS	MATERIALS
01	COVER	PBT 94V0
02	BASE	PBT 94V0
03	ACTUATOR	PBT 94V0
04	CONTACT	Au ALLOY
05	MOVING BLADE	COPPER BERYLLIUM
06	TERMINAL (COM)	SILVER PLATE BRASS
07	TERMINAL (NO)	SILVER PLATE BRASS
08	TERMINAL (NC)	SILVER PLATE BRASS
09	AUX. ACTUATOR	SUS

Further details please refer to technical specification TS-DG-00001.
In case there are any deviations the drawing details have priority.



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ZF Electronics (Zhuhai) Company Limited

③					制图: DRAW	H,QIN	2020.12.11	TOLERANCE UNLESS SPECIFIED		系列 SERIES	DG 0.1A微动开关/SUBMINIATURE SWITCH						
②					设计: DESIGN	H,QIN	2020.12.11	WITHIN 1.5mm: ±0.1mm OVER 1.5mm: ±0.2mm			料号: TITLE	DGG3-E4LA					
①					审核: CHECKED	J.WANG	2020.12.16	材质: MATERIAL			图号: DWG NO.	DGG3-E4LA					
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