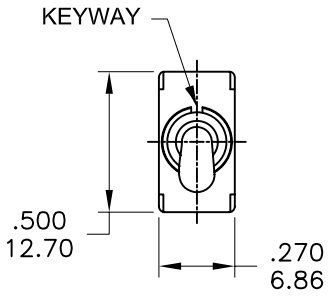
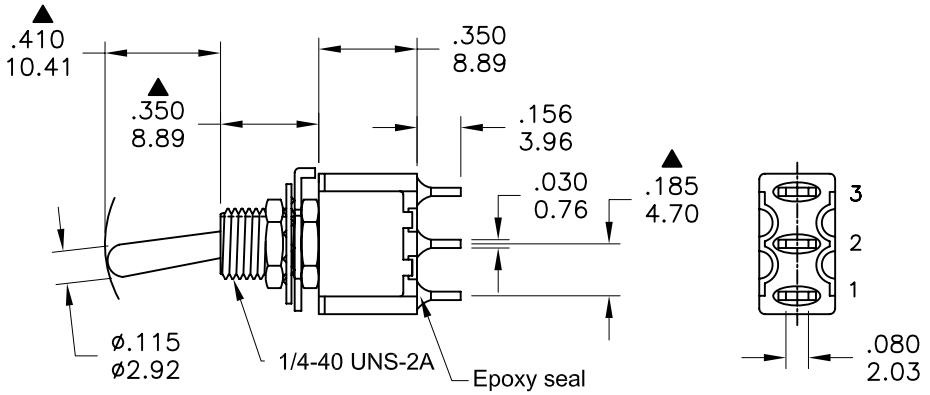
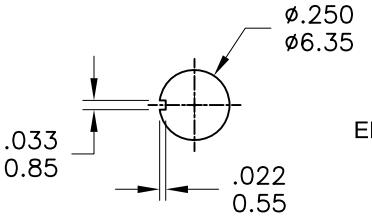


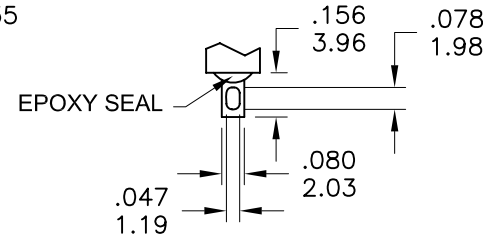


Model No.	POS.1	POS.2	POS.3
			
1MS1	ON	NONE	ON
Term. Comm.	2-3	OPEN	2-1
SCHEMATIC			

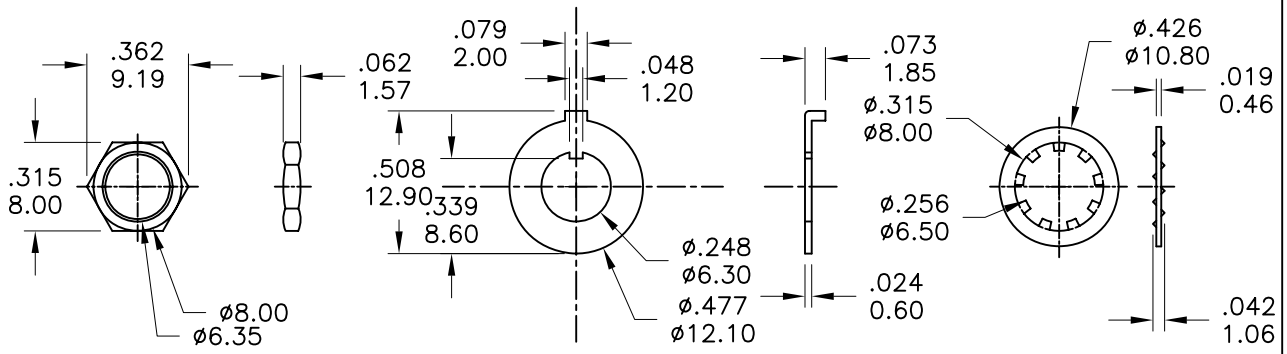
SWITCH FUNCTION



PANEL MOUNTING



SOLDER LUG



SPECIFICATIONS
MECHANICAL LIFE: 40,000 make-and-break cycles.
CONTACT RESISTANCE: 10mΩmax. initial @ 2-4VDC
100mA for both silver and gold plated contacts.
INSULATION RESISTANCE: 1,000MΩmin.
DIELETRIC STRENGTH: 1,000 V RMS@sea level.
OPERATING TEMPERATURE: -30°C to 85°C.

MATERIALS
CASE: Dially phthalate (DAP) (UL94v-0).
ACTUATOR: Brass,chrome plated.
BUSHING: Brass,nickel plated.
HOUSING: Stainless Steel.
TERMINAL/CONTACT: Silver or gold plated.

RS Article # 394459

RATING :
R : 0.4 Volt-Amps(VA) max. @20V max.(AC or DC)
Q : 2Amps @250VAC
5Amps @120 VAC or 28 VDC

德利威電子股份有限公司
DAILYWELL ELECTRONICS CO.,LTD.

	符號	原尺寸	修改後尺寸	變更日期
1	Ⓐ			
2	Ⓑ			
3	Ⓒ			
4	Ⓓ			
5	Ⓔ			

SCALE (比例) : 3 : 2

TOLERANCE (公差) :
0.00 mm ± 0.25mm
0.0 mm ± 0.40mm
ANGULAR : ± 5°
FILE NAME : 1MSP0709

TITLE 圖 名	Miniature Toggle Switches			SIZE 圖紙	A4
DWG NO. 圖 號	1MS1T1B1M1QES-1			UNIT 單位	inch mm
REV. 版本	A	DATE 日 期	FEB - 10 - 2006	SHEET 張 數	1 of 1
CHECKED BY 審 核	RICHARD		DRAWN BY 製 圖	BLUE	

1. Style

This specification describes “Miniature Toggle Switches”, mainly used as signal switch of electric devices, with the general requirements of mechanical and electrical characteristic.

Operating Temperature Range : -30 ℃~+85℃.

2. Contact Rating：

2.1 Silver Plating Standard：

Plating		Rating
Q=Silver	Fixed Terminal：Silver plated over copper alloy. Movable contact : Silver plated over copper alloy.	5Amps @120VAC or 28VDC. 2Amps @250VAC.
C=Gold over silver	Fixed Terminal：Copper alloy with silver plated over gold plate. Movable contact：Copper alloy with silver plated over gold plate.	
S=Silver, tin-lead	Fixed Terminal：Copper alloy with silver plated , tin-lead. Movable contact：Silver plated over copper alloy.	
K=Gold over silver tin-lead	Fixed Terminal：Copper alloy with silver plated over gold plate, tin-lead. Movable contact：Copper alloy with silver plated over gold plate.	

2.2 Gold Plating Standard：

Plating		Rating
R=Gold	Fixed Terminal：Copper alloy with gold plate over nickel plate. Movable contact：Copper alloy with gold plate over nickel plate.	0.4 VA Max. @20VAC or DC Max.
G=Gold, tin-lead	Fixed Terminal：Copper alloy with gold plated over nickel plate, tin-lead. Movable contact：Copper alloy with gold plated over nickel plate.	

3. Type of Actuation: Miniature Toggle Switches.

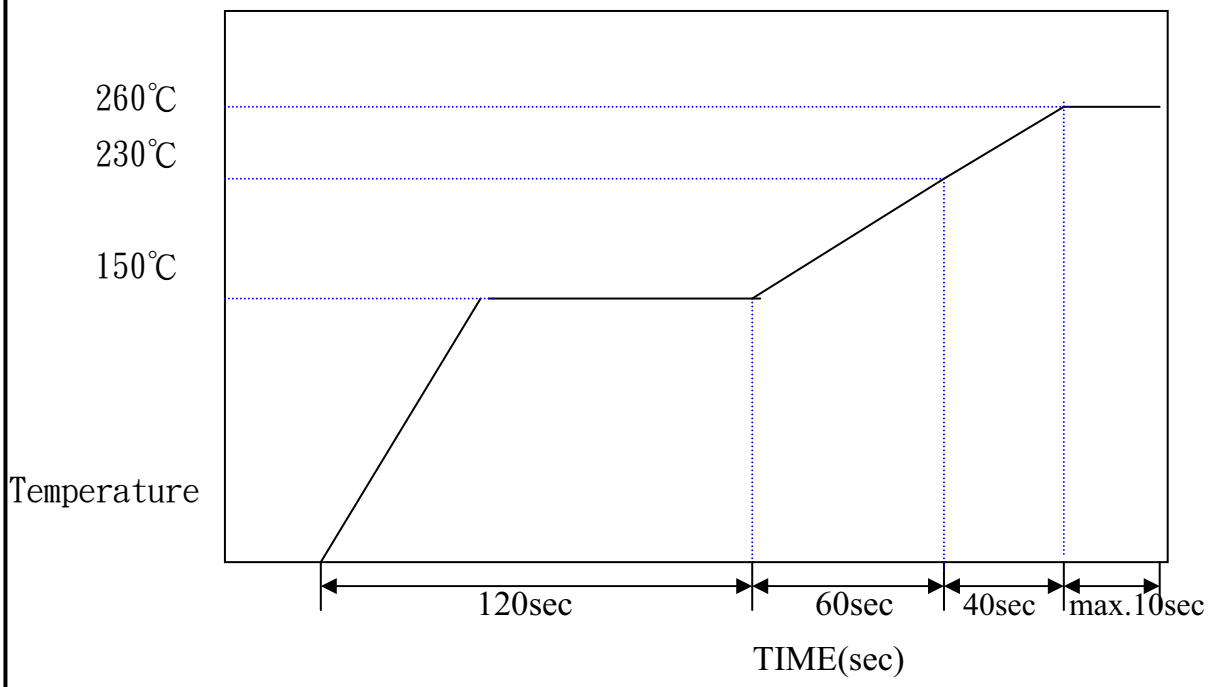
4. Test Sequence:

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
ELECTRIC PERFORMANCE	1	Visual Examination	By Visual Examination check without and out pressure & testing.	There shall be no defects that affect the serviceability of the product.
	2	Contact Resistance	@2-4VDC 100mA. For both silver and gold plated contacts.	10mΩ Max
	3	Insulation Resistance	Measurements shall be made following application of 1000 V/ DC 100mA potential across terminals and cover.	1000MΩ min/1000V
	4	Dielectric Withstanding Voltage	1000 VAC(50Hz or 60Hz) shall be applied across terminals and cover for 1 minute.	There shall be no breakdown or flashover.

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
MECHANICAL PERFPRMANCE	5	Solder Heat Resistance	Through Hole Type ■WAVE SOLDERING： ①Soldering Temperature:260±5℃. ②Duration of Solder Immersion: 5 ±1 seconds ③Frequency of Soldering Process 2 times max.(PCB is 1.6mm in thickness) ■ IR-reflow soldering can be applied. PS：Good is through IR-reflow Last NO, of must be “S”.	①Shall be free from pronounced backlash and falling-off or breakage terminals ②As shown in item 2~4.
	6	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F ①Frequency: 10-55-10Hz in 1-min/cycle. ②Direction: 3 vertical directions including the directions of operation ③Test time:2 hours each direction.	As shown in item 2~4
	7	Shock	Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F ①Acceleration; 5kg ②Action time: 11±1m seconds. ③Testing Direction: 6 sides. ④Test Cycle: 3 times in each direction.	As shown in item 2~4
	8	Actuation Force	MODEL-1305N MECHANICAL TEST 500gram 、1000gram、 2000gram.	At for test the force. Force: 250grams±100 grams.
OPERATING LIFE	9	Operating Life	Measurements shall be made following the test forth below: ①5A,120VAC resistive load－silver plated. 2A,250VAC resistive load－silver plated. 0.4A, 20VAC resistive load－gold plated. ② Rate of Operation: 6-8operation cycles per minute. ③ Electronics Life Test: 6,000 cycles. Mechanical Life Test: 40,000 cycles.	① Contact Resistance: 10mΩ Max. ② Insulation Resistance: 1000MΩ min.

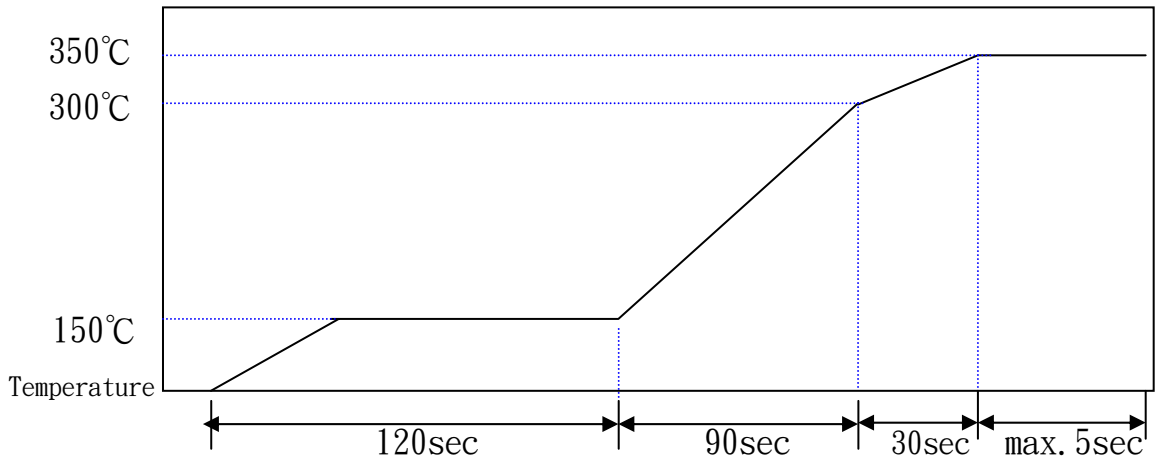
	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
HUMIDITY RESISTANCE	10	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made: ①Temperature:-40±3℃ ②Time:96 hours.	As shown in item 2~4.
	11	Resistance High Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: ①Temperature:85±2℃ ②Time:96 hours.	① As shown in item 3~4. ② Insulation Resistance: 1000MΩ .
	12	Resistance Humidity	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: ①Temperature:40±2℃ ②Relative Humidity:90~95% ③Time:96 hours.	①Contact Resistance: 10 mΩ Max. ②Insulation Resistance: 1000MΩ min.
	13	The Salt Testing	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made: ①Temperature:35±2℃ ②The ratio of salt-water：5% ③The spray amout of salt- water：1~2 ml/h. ④ Time:48 hours.	The testing standard based on bubble, crack, And magnifying glass with gauge.

5. SOLDERING CONDITIONS:



■ Manual Soldering

Soldering Temperature	Max. 350℃
Continuous Soldering Time	Max. 5 seconds



■ Precautions in Handling

Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.

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Switches, Special Use - Component

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Switches, Special Use - Component

See General Information for Switches, Special Use - Component

DAILYWELL ELECTRONICS CO LTD E187490
4TH FL
88 CHIAU HO RD
CHUNG-HO, TAIPEI HSIEN 235 TAIWAN

Cat. No.	Amps	V	Frequency	HP
Q11 f/b 1, 2, 3 or 4,	2 RES	250	60	—
f/b 1, 2, 3, 4, 5 or 6,	5 RES	120		
may be f/b M1, M2, M3,				
M5, M6, M7, VS2, VS3,				
VS4, VS5				
Q13 f/b 1, 2, 3 or 4,	2 RES	250	60	—
f/b 1, 2, 3, 4, 5 or 6,	5 RES	120		
may be f/b M1, M2, M3,				
M5, M6, M7, VS2, VS3,				
VS4, VS5				
Q22 f/b 1 or 2, f/b 1, 2, 3, 4,	1 RES	250	60	—
5 or 6, may be f/b M1, M2,	3 RES	120		
M6, M7, VS2 or VS3				
Q24 f/b 1 or 2, f/b 1, 2, 3, 4,	1 RES	250	60	—
5 or 6, may be f/b M1, M2,	3 RES	120		
M6, M7, VS2 or VS3				
Q25 f/b 1 or 2, f/b 1, 2 or 3,	1 RES	250	—	
f/b M2, M6 or M6N	3 RES	120	—	
Q27 f/b 1 or 2, f/b 7,	1 RES	250	60	—
may be f/b AP1, AP2, M1,	3 RES	120	60	—
M2, M5, M6, M7, VS2,				
VS3, VS4, VS5, VS6,				
VS7, VS8 or VS9				
Q28, f/b 1 or 2, f/b 8 or 9	1 RES	250	60	—
f/b M1, M2, M6, M6N,	3 RES	120	60	—
M7, M7N, VS2 or V2N				
Q151 f/b 1, 2 or 3,	2 RES	250	60	—

f/b M1, M2, M6, M7, VS2 or V2N	5 RES	120		
Q152 f/b 1, 2 or 3,	2 RES	250	60	—
f/b M1, M2, M6, M7, VS2 or V2N	5 RES	120	60	—
Q11A, Q13A f/b 1, 2, or 3;	2 RES	250	60	—
f/b 1, 2, 3, 4, 5 or 6;	5 RES	120	60	—
may be f/b M1, M2 M3, M5,				
M6, M6N, M7, M7N,				
VS2, VS3, V2N				
Q22, Q24	1.5 RES	250	60	—
f/b A or B, f/b 1 or 2,	3 RES	120		
f/b 1, 2, 3, 4, 5 or 6,				
may be f/b M1, M2, M6,				
M6N, M7, M7N, VS2,				
V2N, MT or MZ				
Q28, f/b A, B or C; f/b 1; f/b 8 or 9;	3/1	120/250	60	—
f/b M1, M2, M5, M6, M6N, M7, M7N, MT, MZ, VS2 or V2N				
Q28, f/b A, B or C; f/b 2;				
f/b 9; f/b M1, M2, M5, M6, M6N, M7, M7N, MT, MZ, VS2 or V2N				

Marking: Company name or trademarks  or  and either electrical rating or catalog number (or both) marked on switch. When electrical rating or catalog number (one or the other) is not marked on switch, it is indicated on the smallest shipping container.

UL Recognized Component Mark  is on the switch or smallest shipping container. When the Mark is not on the switch, the company name and catalog number appear with Mark on the container.

WOYR8.E187490
Switches, Special Use Certified for Canada - Component

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Switches, Special Use Certified for Canada - Component

See General Information for Switches, Special Use Certified for Canada - Component

DAILYWELL ELECTRONICS CO LTD E187490

4TH FL

88 CHIAU HO RD

CHUNG-HO, TAIPEI HSIEN 235 TAIWAN

Cat. No.	Amps	V	Frequency	HP
Q11 f/b 1, 2, 3 or 4,	2□□R	250	60	—
f/b 1, 2, 3, 4, 5 or 6,	5 RES	120		
may be f/b M1, M2, M3,				
M5, M6, M7, VS2, VS3,				
VS4, VS5				
Q13 f/b 1, 2, 3 or 4,	2 RES	250	60	—
f/b 1, 2, 3, 4, 5 or 6,	5 RES	120		
may be f/b M1, M2, M3,				
M5, M6, M7, VS2, VS3,				
VS4, VS5				
Q22 f/b 1 or 2, f/b 1, 2, 3, 4,	1 RES	250	60	—
5 or 6, may be f/b M1, M2,	3 RES	120		
M6, M7, VS2 or VS3				
Q24 f/b 1 or 2, f/b 1, 2, 3, 4,	1 RES	250	60	—
5 or 6, may be f/b M1, M2,	3 RES	120		
M6, M7, VS2 or VS3				
Q25 f/b 1 or 2, f/b 1, 2 or 3,	1 RES	250	—	
f/b M2, M6 or M6N	3 RES	120	—	
Q27 f/b 1 or 2, f/b 7,	1 RES	250	60	—
may be f/b AP1, AP2, M1,	3 RES	120	60	—
M2, M5, M6, M7, VS2,				
VS3, VS4, VS5, VS6,				
VS7, VS8 or VS9				
Q28, f/b 1 or 2, f/b 8 or 9,	1 RES	250	60	—
f/b M1, M2, M6, M6N,	3 RES	120	60	—
M7, M7N, VS2 or V2N				
Q151 f/b 1, 2 or 3,	2 RES	250	60	—

f/b M1, M2, M6,	5 RES	120	60	
M7, VS2 or V2N				
Q152 f/b 1, 2 or 3,	2 RES	250	60	—
f/b M1, M2, M6,	5 RES	120	60	—
M7, VS2 or V2N				
Q11A, Q13A f/b 1, 2, or 3;	2 RES	250	60	—
f/b 1, 2, 3, 4, 5 or 6;	5 RES	120	60	—
may be f/b M1, M2 M3, M5,				
M6, M6N, M7, M7N,				
VS2, VS3, V2N				
Q22, Q24	1.5 RES	250	60	—
f/b A or B, f/b 1 or 2,	3 RES	120		
f/b 1, 2, 3, 4, 5 or 6,				
may be f/b M1, M2, M6,				
M6N, M7, M7N, VS2,				
V2N, MT or MZ				
Q28, f/b A, B or C; f/b 1; f/b 8 or 9;	3/1	120/250	60	—
f/b M1, M2, M5, M6, M6N, M7, M7N, MT, MZ, VS2 or V2N				
Q28, f/b A, B or C;				
f/b 2; f/b 9; f/b M1, M2, M5, M6, M6N, M7, M7N, MT, MZ, VS2 or V2N				

Marking: Company name or trademarks or and electrical rating is on the switch. The catalog number may be indicated on the smallest shipping container.

Recognized Component Mark for Canada is on the switch or smallest shipping container. When the Mark is not on the switch, the company name and catalog number appear with Mark on the container.

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD
Management Service

CERTIFICATE

The Certification Body
of TÜV Asia Pacific Ltd. TÜV Süddeutschland Group

certifies that

Dailywell
德利威電子股份有限公司
Dailywell Electronics Co.,Ltd.

Dailywell Electronics Co., Ltd.

4F., No. 88, Chiau Ho Road,
Chung Ho City, Taipei Hsien 235, Taiwan, R.O.C.

has established and applied
an Quality Management System for

Development, Production and Distribution of Switch Series

An audit was performed, Report No. **2004 0639**

Proof has been furnished that the requirements according to

ISO 9001: 2000

are fulfilled. The certificate is valid until **2009-08-20**

Certificate Registration No. **TUV100 02 0607**

2006-08-21

TÜV
ISO 9001

Certification Body
of TÜV Asia Pacific Ltd.
TÜV Süddeutschland Group

JAS-ANZ

Accreditation by the Joint Accreditation System of Australia and New Zealand, Acc No. S2650403KS