TITLE	PRODUCT SPECIFICATIONS	
MODEL No.	**PUSH SWITCH (MP2216)**	PAGE 1/3

1. GENERAL MATTERS

1.1 Application: This specification is applied to low current circuit push switch for electronic equipment

1.2 Operating temperature range : -20~80℃

1.3 Test conditions :

The standard test conditions shall be 5~35℃ in temperature, 45~85% RH and 860~1060mbar in atmospheric pressure.

Should any doubt arise in judgement, tests shall be conducted at 20±2℃, 65±5% RH and 860~1060 mbar.

2. RATED VOLTAGE AND CURRENT.

30V DC, 0.1A (with resistance and inductance)

3. ELECTRICAL PERFORMANCE

	PROPERTY	TEST CONDITION	PERFORMANCE
3.1	Contact resistance	Measured at 1KHz ± 200Hz (max 20mV, max 50mA) or at 1A 5V DC	70mΩ max
3.2	Insulation resistance	DC 500V is applied between terminals and between terminals and earth for 1minute ±5seconds.	100MΩ min
3.3	Withstand voltage	AC 500V (50-60Hz) is applied between terminals and between terminals and earth for 1 minute.	No insulation defect shall be observed.

4. MECHANICAL PERFORMANCE

	PROPERTY	TEST CONDITION	PERFORMANCE
4.1	Operating force	A static load shall be applied to the tip of actuator in operating direction.	As per individual manufactured drawing.
4.2	Terminal strength	A static force of 500gf is applied in one direction to the tip of the terminal for 1 minute. (once per terminal)	* Shall be free falling off or breakage of terminal and breakage of substrate as well. * Bent terminal may be acceptable. * The electrical performance requirement specified in Item 3 shall be met.
4.3	Stopper strength	A static force of 1Kgf shall be applied to the direction of operation for 15sec. A static force of 0.5Kgf shall be applied in the direction of pulling for 15sec.	* Shall be free from pronounced wobble, bending and other mechanical abnormalities.

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	PROPERTY	TEST CONDITION	PERFORMANCE
4.4	Solderability	The test is conducted under the following condition. Soldering temperature : 260±5℃ Dipping time : 3±0.5초	* Over 90% of the immersed part shall be covered with solder.
4.5	Permissible soldering times	Less than two times The second soldering would be conducted after the temperature goes down to a normal temperature.	
4.6	Preheat temperature	Less than two times The second soldering would be conducted after the temperature goes down to a normal temperature.	
4.7	Preheat time	Less than 60seconds	
4.8	Soldering heat resistance	The test is conducted under the following condition. Temperature and dipping time	* Shall be free from a remarkable change in appearance. * The electrical performance requirement specified in Item 3 shall be met.

	Temperature (℃)	Time(sec)
Dip soldering	260 ± 5	5 ± 1
Manual soldering	350 ± 10	3

5. DURABILITY

	PROPERTY	TEST CONDITION	PERFORMANCE
5.1	Mechanical operation	10,000cycles operation at the rate of 15-20 cycles/minute without load shall be done.	* Contact resistance : 1Ω max * Insulation resistance : 10MΩ min
5.2	Mechanical operation with electrical load	10,000 cycles operation at the rate of 15-20 cycle/minute with load 0.1A, 30V DC	* Dielectric strength : no dielectric breakdown shall take place when 500V AC is applied for 1 minute. * Operating force: within +10% of the initial value. * No abnormality shall be recognized in appearance and structure.

6. WEATHER PROOF

	PROPERTY	TEST CONDITION	PERFORMANCE
6.1	Cold heat proof	After testing at -20±2℃ for 96hrs,the sample is allowed to stand under normal temperature and humidity conditions for 1 hour and measurement is performed within 1 hour after that. Water drops should be wiped off.	* Contact resistance : 200mΩ max * Insulation resistance :100MΩ min * Dielectric strength : no dielectric breakdown shall take place when 500V AC is applied for 1 minute. * Operating force : within +10% of the initial value. * No abnormality shall be recognized in appearance and structure.
6.2	Dry heat proof	After testing at 85±2℃ for 96hrs, the the sample is allowed to stand under normal temperature for 1hour and measurement is performed within 1 hour after that.	
6.3	Damp heat proof	After testing at 40±2℃ and 90 95% in relative humidity for 96hrs, the sample is allowed to stand under normal temperature and humidity conditions for 1 hour, and measurement is performed within 1 hour after that. Water drops should be wiped off.	

3. SOLDERING

3.1 Auto soldering conditions

Items	Conditions
Preheat temperature	110℃ max (Environmental temperature of soldering surface of P.W.B)
Preheat time	60 sec max
Area of flux	1/2 max of P.W.B thickness
Temperature of solder	260℃ max
Time of immersion	Within 5 sec
Soldering number	Within 2 times (But should bring down heat of the first soldering)
Printed wiring board	Single sided copper-clad laminates

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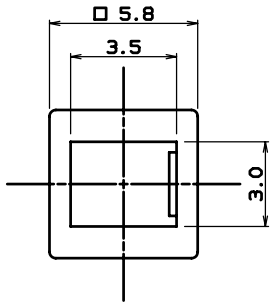
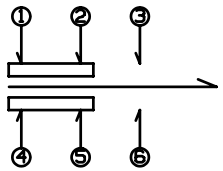
Caution

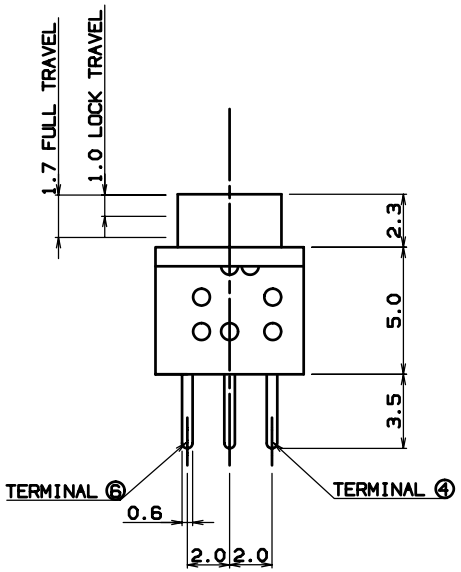
1. Appling load to terminals during soldering under certain conditions may cause deformation and electrical property degradation.
2. Avoid use of water-soluble soldering flux, since it may corrode the switches.
3. Check and conform to soldering requirements under actual mass production conditions.
4. When soldering twice, wait until the first soldered portion cools to normal temperature. Continuous heating will deform the external portions, loosen or dislodge terminals, or may deteriorate their electrical characteristics.
5. Flux from around and above the PC board should not adhere to the switches.
6. After mounting the switches, if you intend to put the board into an oven in other to harden adhesive for other parts, please consult with us.
7. Before soldering switches with locking mechanism, release the locks. If they are soldered without releasing the locks the soldering heat may deform the locking mechanism.
8. If you use a through-hole PC board or a PC board thinner or ticker than the recommendation, hear may be greater heat stress. Verify the soldering conditions thoroughly before use..
9. Solder the switches with detent at the detent position. Soldering switches fixed at the center of the detent may deform the detent machanisms.
10. No cleaning.
11. Protect small and thin switches from external forces in the set mounting process.
12. Tighten the mounting screws by applying the specified torque. Tightening with larger torque than the specified one will result in malfunction or breakage of screws.
13. The products are designed and manufactured for direct current resistance. Contact us for use of other resistances such as inductive (L) or capacitive (C) .
14. The switch will be break if you apply a greater stress than that specified. Take great care not to let the switch be subject to greater stress than specified.
15. Be sure to release the locks before removing the knobs. Otherwise, the locking mechanism may be deformed.
16. Be sure to use the forced travel close to the position of the whole travel as much as possible.
17. Insert these switches to the specified mounting surface and mount them horizontally. If not mounted horizontally, these switches will malfunction.
18. Use of the switches in a dusty environment may lead the dusts entering through the openings and cause imperfect contact or malfunction. Take this into account for set design.
19. Corrosive gas if generated by peripheral parts of a set, malfunction such as imperfect contact may occur. Thorough investigation shall be required beforehand.
20. Storage
    ① Storage the products as delivered, at a normal temperature and humidity, without direct sunshine and corrosive gas ambient. Use them at an earliest possible timing, not later than six months upon receipt.
    ② After breaking the seal, keep the products in a plastic bag to prevent out ambient air, store them in the same environment as above, and use all as soon as possible.
    ③ Do not stack too many switches.
21. All specification can be changed to improve performance without any notice.

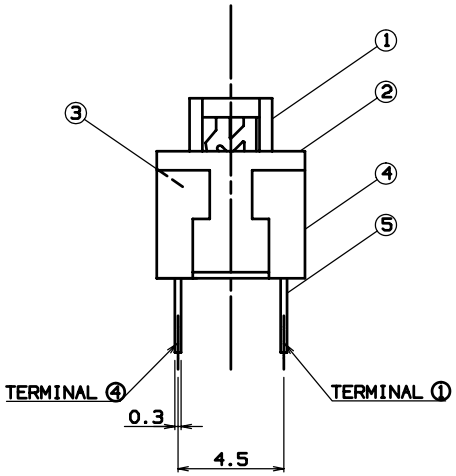


CIRCUIT DIAGRAM



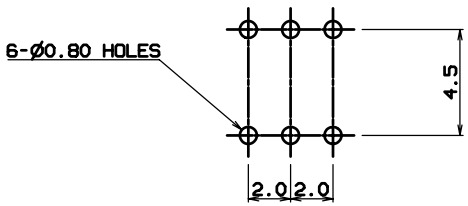
NO	PARTS NAME	Q.TY	MATERIAL	REMARK
1	PUSH PLATE	1	ACETAL	WHITE
2	COVER	1	ACETAL	GRAY
3	CLIP	2	C5210	Ag clad 0.5μ
4	HOUSING	1	NYLON 66	BLACK
5	TERMINAL	6	C2680	Ag PLATE





NOTE

1. OPERATING FORCE : 150±80 gf
2. TIMING : NON SHORTING
3. CIRCUIT : 2C-2P
4. GENERAL TOLERANCE : ±0.3



P.C.B DIMENSION

No.	PART NAME	Q'TY	MATERIAL	SIZE	TREAT.	REMARKS
5						
4						
3						
2						
1						

			3RD ANGLE PROJECTION	UNIT m/m	SCALE 1/1	MODEL MP 2216F
			APPROVED Y.B.LEE	CHECKED Y.G.KIM	DESIGNED S.B.LIM	DWG.NAME ASS'Y DIAGRAM
						DWG.NO.
NO.	DATE	NOTE	SIGN	. .	. .	. .

MYUNG DO SYSTEM.