F-SWITCH ELECTRONICS CO.,LTD.

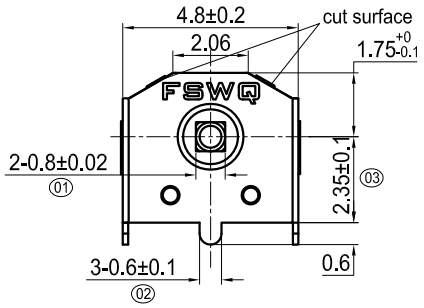
名称 TITLE	ENCODER	料号 PART NO.	E5A5-2.35S10-12B15-F200	图号 DRAWING NO.	FSE5-WI-DR-010
规格 SPEC	SMT立式贴片型，5×4mm带开关編碼器，安裝高度2.35mm，四方孔徑0.8mm，扭力10gf，按力200gf，12脉冲12定位，標準齒感，壽命10萬次				

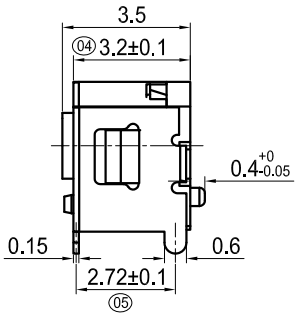
No.	Items		Standard
1(1.2)	Operating Temperature Range		-40℃to +85℃
2(1.3)	Operating Relative Humidity		≤85% RH
3(3)	Ratings		DC 5V 0.5mA
4(4.1)	Contact Resistance		200mΩ Max(Initial status).
5(4.2)	Insulation Resistance		10MΩ Min.
6(4.3)	Dielectric Voltage		AC50V，60s
7(4.4)	Output signal format	C.W.	12pulse/360°,A(A～C),B(B～C)
(5.2)		C.C.W.	12pulse/360°,B(B～C),A(A～C)
8(4.4)	Phase-different		T1,T2,T3,T4 ≥ 4mS
9(4.5)	Chattering		t1,t3 ≤ 3mS
10(4.5)	Bounce		t2 ≤ 2mS
11(5.1)	Detent points		12detent points,each angle:30°±3°
12(5.3)	Rotational force		10±5gf.cm (Initial status)
12(5.4)	Push switch force		200±50gf.cm (Initial status)
12(5.5)	Push switch travel		0.15±0.05mm
13(5.6)	Tooth Intensity Value		/
14(5.6)	Tooth sense consistency		/
15(5.7)	Axial Swing Strength		1N, 60S
16(5.8)	Terminal Strength		1N, 10S.
17(6.2)	Solder Heat Resistance	SMT Soldering	245℃ Max 3S Max，230℃ Min 30S Max
		Manual Soldering	350℃ Max， 3S Max

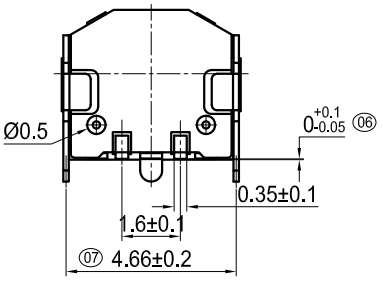
No.	Items	Standard
18(6.1)	Solder Ability	245℃ Max， 3S Max
19(7.1)	Mechanical Life	100,000 cyclyes(30 t/min, Torque attenuation <30%)
20(7.2)	Electronics Life	100,000 cyclyes(30 t/min, Torque attenuation <30%)
21(8.1)	Cold Proof	-40±2℃ 96h
22(8.2)	Hot Proof	85±2℃ 96h
23(8.3)	Moisture Resistance	40±2℃，90-95%RH 96h
24(8.4)	Temperature Cycling	-40~85℃， change 5 cyclyes
25(8.5)	Salt Mist	5% Nacl 24h(Cut surface exemption)
26(8.6)	Vulcanization test	3% Na2s 3 minutes(Cut surface exemption)

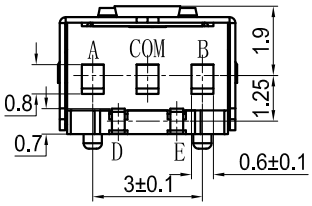
Dimensions:

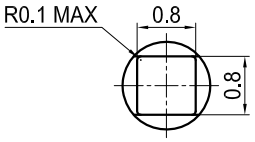
1	2-0.8±0.02		
2	3-0.6±0.1		
3	2.35±0.1		
4	3.2±0.2		
5	2.72±0.1		
6	$0^{+0.1}_{-0.05}$		
7	4.66±0.2		
8	0.15±0.05		









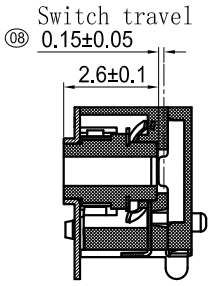


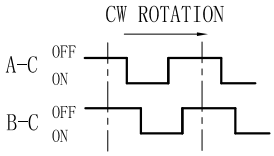
Hole 2:1

(Tolerance: ±0.1)
(P.C.B thickness t=0.3~0.5)

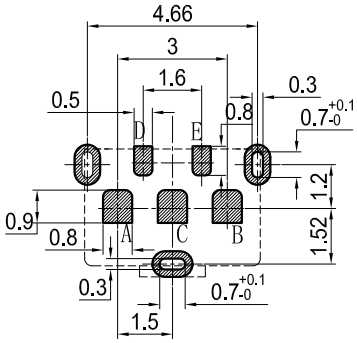
Push Switch

Switch travel





12 pulse 12 click



1.材质清单 Material list

项目ITEM	名称 Name	材质 MATERIAL
1	盖片 Cover	铜合金 Copper alloy
2	定位片 Anchor Plate	不锈钢 Stainless Steel Strips
3	齿轮 Wheel gear	工程塑料(PA46)
4	底座 Base	工程塑料(PA46)黑色
5	接触片ContactSpring	铜合金 Copper alloy
6	端子 Terminal	铜合金 Copper alloy
7	开关端子 Terminal	铜合金 Copper alloy
8	开关底座 Terminal	工程塑料(LCP)黑色
9	弹片 Spring	不锈钢
10	离温膜	尼龙

VER.	内容 S.U.B.	修改 MODIFY	日期 DATE	公差 TOLERANCE		单位 UNIT	张数 SHEET	图幅 SIZE	图类 TYPE
0				L<5	±0.2	mm	1/1	A4	成品图
1				L<10	±0.3	版本 REV.	设计 DSGD.	审核 CHKD.	核准 APPD.
2				L<30	±0.5	A1			
3				.X° ±2°	X.° ±5°	比例 SCALE			
4				角法 PROJ.		12:1			