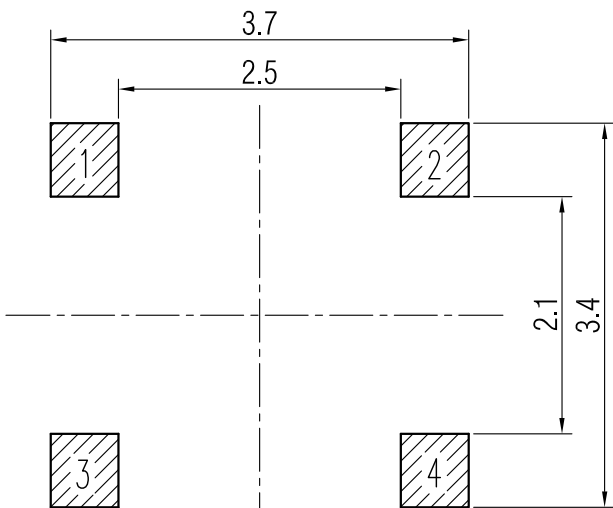
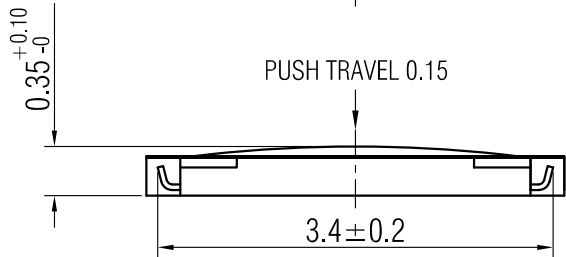
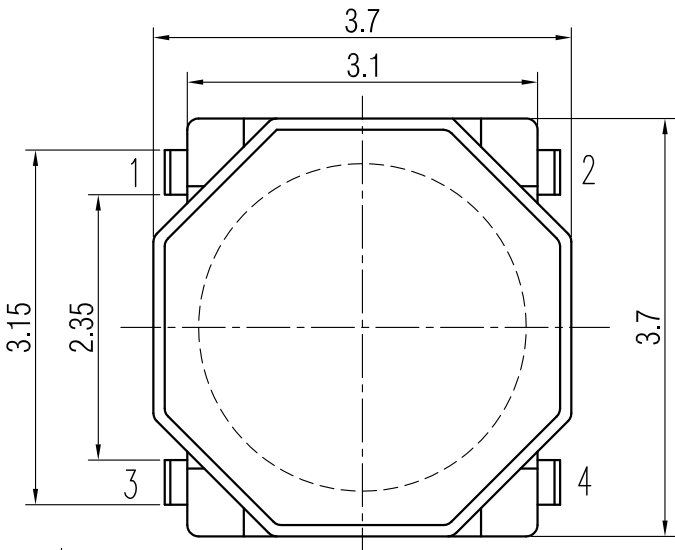
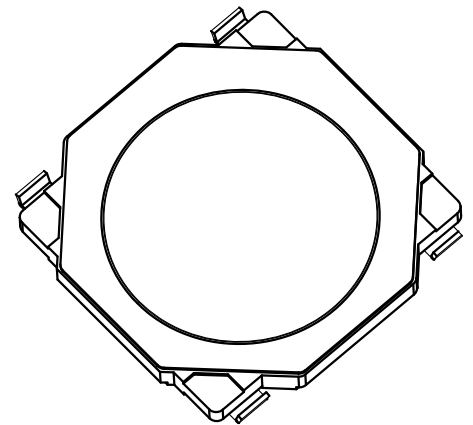


SYMB	REVISION	DATE	APVD.	SYMB	REVISION	DATE	APVD.	VERSION: 3	F2A-21-1/1
								MODE	Tactile Feedback
								TIMING	
								LINE(S)	CIRCUIT
								1	1P1T
									STROKE
									0.15

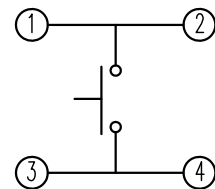
Without any banned substance! Compliance with RoHS!



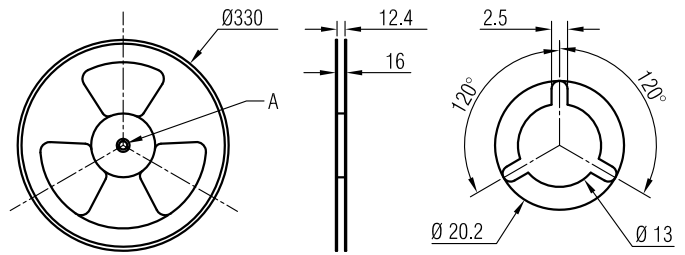
Recommended PAD Layout $\Phi \pm 0.05$
TOP VIEW



STEREOSCOPIC MODEL



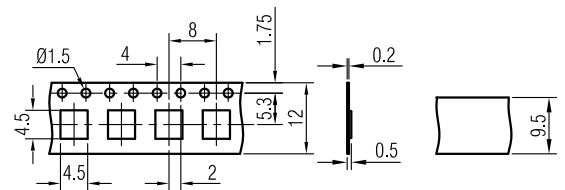
CIRCUIT DIAGRAM



SCALE 1:10.2

REEL

"A" DETAIL



SCALE 1:2:1

CARRIER TAPE

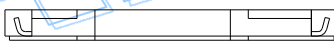
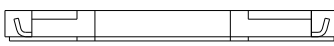
COVER TAPE

PACKING DETAIL

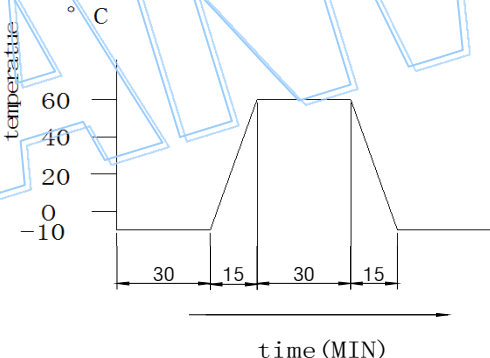
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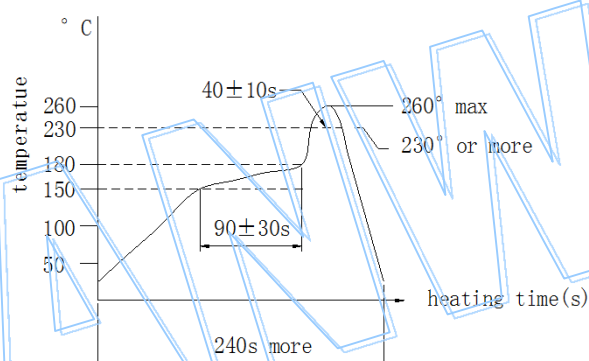
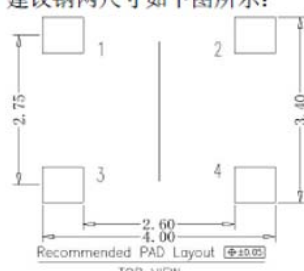
TYPE	TACT SWITCH	UNIT	mm	9				
SERIES	TSKH-373509	SCALE	14:1	8				
PART NO.	TSKH-373509-160-Y	DATE	14/6/12	7				
SPEC. NO.	SETD01634	PAGE	1/6	6				
DRAWN	CHECKED	APVD.	TOLERANCE	5				
李	任	梁	ANGLE	4	TERMINAL 1,2/3,4	PBS	4	Ag PLATED
晓斌	明华	成元	UP TO 1	3	POLYIMIDE FILM	PET	1	YELLOW
			ABOVE 1 ~ 5	2	CONTACT	SUS	1	Ag CLAD
			ABOVE 5 ~ 50	1	CASE	LCP	1	BLACK
SANWIN ELECTRONIC TECHNOLOGY CO. LTD.				NO.	NAME	MATERIAL	QTY.	FINISHING

產品規格書				檔編號No. :	頁數Page
SPECIFICATION				SETD01634	P2/6
產品類別Type:	輕觸開關Tact Switch			Prepared	Checked
產品系列Series:	TSKH-373509	版本Version:	1	李	任
產品編號Part No.:	TSKH-373509-160-Y	日期Date:	2014/6/12	晓斌	明华
梁成元					
1. 通則 General Characteristics:					
1.1 應用範圍 Application range: 此產品規格書適用於輕觸開關TSKH-373509。 This product specification is applied to the TSKH-373509 Tact Switch. 1.2 使用環境條件 Acclimatization: 使用溫度範圍 Operating Temperature rang:-20℃ ~ 70℃ 保存溫度範圍 Preservative Temperature:-30 ~ 80℃ 1.3 測試條件Test Conditions: 若沒有特別說明，則試驗條件如下： Unless otherwise specified,the atmospheric for marking measurements and tests are as follows: 溫度 Temperature:20±2℃ 相對濕度 Relative Humidity:45 ~ 85% 氣壓 Air pressure:86 ~ 106Kpa 如對判定產生疑義，則試驗按以下條件進行： However,if the decision based on the measurements suspicion conditions, the following conditions shall be employed: 溫度 Temperature:20±2℃ 相對濕度 Relative Humidity:65±5% 氣壓 Air pressure:86 ~ 106Kpa					
2. 外觀和安裝尺寸 Appearance & Mounting Dimensions:					
2.1 外觀 Appearance: 產品外觀良好，無破損、銹蝕、裂紋和鍍層缺陷。 The switch shall have good finishing,and no rust,crack plating defects. 2.2 安裝尺寸Mounting dimensions: 應符合產品設計要求，詳見成品圖。 Should comply with the design requirements of products, see the finished product drawing.					
3. 驅動方式Operate Mode:					
按鈕式：中間方向（如成品圖所示） Push Button:Center (as assembly drawing shown).					
4. 回路方式 Circuit Mode:					
如成品圖所示 (as assembly drawing).					
5. 額定負荷及壽命 Rating and Ooerating life.					
額定負荷 Rating:DC 12V,50mA Max 機械壽命 Mechanical life:300,000次					
6 電氣性能Electrical Characteristics					
專案Item	測試條件Test Method			標準Criteria	
6.1 接觸電阻 Contact Resistsnce	以10mA 5V DC 或者 1KHz±200Hz(20mV max , 50mA max) 下採用電壓降法測量。 Shall be measure at 1KHZ±200Hz (20mV max,50mA max) or DC 5V 10mA by voltage drop method.			常態 Normal 100mΩ以下 100mΩ max 氣候及壽命試以後 After climate and life test. 200mΩ以上 200mΩ Min	

產品規格書				檔編號No. :	頁數Page
SPECIFICATION				SETD01634	P3/6
產品類別Type:		輕觸開關Tact Switch		Prepared	Checked
產品系列Series:		TSKH-373509	版本Version:	1	李 晓斌
產品編號Part No.:		TSKH-373509-160-Y	日期Date:	2014/6/12	
6.2 絕緣阻抗 Insulation Resistance		在相互絕緣的所有端子之間及各接線端子與外露 的非載流金屬零件之間加載100V DC ,持續時間60±5S. DC 100V voltage is applied between each pair of terminals andbetween the terminal and the metalframefor 60±5S.			常態 Normal 100MΩ以上 100MΩ Min 氣候及壽命試以後 After climate and life test. 10MΩ以上 10MΩmin
6.3 抗電強度 Dielectric Strength		在相互絕緣的所有接線端子之間加載250V (50 ~ 60Hz洩漏電流2mA) 的交流電，各接線端子與外殼或非載流金屬零件之間加載250V(50 ~ 60Hz)電流 洩漏2mA交流電，持續時間60±5S。 AC 250V(50-60Hz)2mA alternate current load is applied between open terminals connected with wires or250V (50-60Hz),2mA Alternate current load for 60±5S.			無擊穿和飛弧現象 The switch without dielectric breakdown and fly arc phenomenon.
7 機械性能 Mechanical Charateristics					
專案Item		測試條件Test Method			標準 Criteria
7.1 操作力 Operating Force		按規定的操作方法給操作柄施加壓力 Push by recommended operating condition. PUSH TRAVEL 0.15 			中間方向center: 160±40gf.
7.2 行程 Travels		開關發生轉換後，操作元件末端之間與初始位置之間的距離。 Distance from the end of operating component to the position when switch is being transformed. PUSH TRAVEL 0.15 			中心正按Center push: 0.15±0.1mm

產品規格書				檔編號No. :	頁數Page	
SPECIFICATION				SETD01634	P4/6	
產品類別Type:		輕觸開關Tact Switch		Prepared	Checked	Approved
產品系列Series:		TSKH-373509	版本Version:	1	李 晓斌	任 明华
產品編號Part No.:		TSKH-373509-160-Y	日期Date:	2014/6/12		
7.3 操作件強度 Operating Part Strength		置開關於正常安裝位置，在操作件中心施加與操作件動作相同方向的1kgf靜負荷，時間為60 ±5S. Put the switch in the normal gearing position,Bring 1kgf pressure which direction is similar to the actuator operates direction in the tip of the actuator center ,time is 60±5S.			無機械和電氣損傷。 The switch shall be free from mechanical and electrical damage.	
7.4 振動 Vibration Proof		開關採用常規安裝方法牢固地安裝在實驗設備上，按下述參數進行實驗： 1) 振頻：10-55Hz 2) 振幅：1.5mm 3) 振動變化速率：10 ~ 55 ~ 10Hz 大約1分鐘 4) 變頻方法：線形方式 5) 振動方向：三個互相垂直的方向，其中一個方向為 操作元件運動的方向。 Switch shall be secured to a testing machine by a normal mountingdevice and method,,Switch shall be measured after following test: 1)Vibration frequency range:10~ 55Hz. 2) Total amplitude:1.5mm 3)Sweep ratio:10~ 55 ~ 10Hz,Approx 1 minute 4)Method of changing the sweep vibration frequency linear. 5)Direction of vibration:Three perpendicular directions including actuating direction.			符合第6.1、 6.2、 6.3第7.1條要求。 According to item 6.1、 6.2、 6.3 and 7.1 to examine.	
8 耐候試驗 Weather Proof Characteristics						
專案Item		測試條件 Test method			標準Criteria	
8.1 高溫 Hot Proof		試件在80±2℃的溫控箱內保持48小時，然後在正常溫度和濕度下恢復1小時，並在此後的1小時內對試件進行測量，水滴應消失。 After testing at 80±2℃ for 48 hours,the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour and measurement shall be made with 1 hour after that,water drops shall be eliminated.			符合第6.1、 6.2、 6.3第7.1條要求。 According to item 6.1、 6.2、 6.3 and 7.1to examine.	

產品規格書				檔編號No. :	頁數Page
SPECIFICATION				SETD01634	P5/6
產品類別Type:		輕觸開關Tact Switch		Prepared	Checked
產品系列Series:		TSKH-373509	版本Version:	1	
產品編號Part No.:		TSKH-373509-160-Y	日期Date:	2014/6/12	
				李 晓斌	任 明华
				梁 成元	
8.2 恒定濕熱 Moisture Resistance		試件在60±2°C,90 ~ 95%RH的溫控箱內保持48小時，然後在正常溫度和濕度下恢復1小時，並在此後的1小時內對試件進行測量，水滴應消失。 After testing at 60±2°C,90 ~ 95%RH for 48 hours,the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour and measurement shall be made with 1 hour after that, Water drops shall be eliminated.			
8.3 低溫 Cold Proof		試件在-40±2°C的溫控箱內保持48小時，然後在正常溫度和濕度下恢復1小時，並在此後的1小時內對試件進行測量，水滴應消失。 After testing at -40±2°C for 48 hours,the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour and measurement shall be made with 1 hour after that, water drops shall be eliminated.			
8.4 溫度轉換 Temperature Cycling		試件按下述試驗條件試驗5個迴圈，然後在正常溫度和濕度下恢復1小時，並在此後的1小時內對試件進行測量，水滴應消失。 After 5 cycles of following conditions,the switch shall be allowed to stand under normal temperature and humidity conditions for 1 hour after that,Water drops shall be eliminated. 			
符合第6.1、6.2、6.3第7.1條要求。 According to item 6.1、6.2、6.3 and 7.1to examine.					
9 耐久性試驗 Durability Characteristics					
專案Item		測試條件 Test method		標準Criteria	
9.1 壽命試驗 Operating Life		1)在不帶負荷的條件下，在壽命測試設備上連續轉換300,000次，頻率：60次/分鐘。 1)300,000 cycles of operation shall be performed continuously cycles without load at a rate of 60 cycles per minute.		動作力：初始值的±30% Operating force:within ±30% initialization value. 彈跳 10 ms Max Bounce 10 ms Max 其餘符合第6.1、6.2、6.3、7.1條 Etceteras according to item 6.1, 6.2、6.3 ,7.1 to examine.	

產品規格書				檔編號No. :	頁數Page
SPECIFICATION				SETD01634	P6/6
產品類別Type:	輕觸開關Tact Switch			Prepared	Checked
產品系列Series:	TSKH-373509	版本Version:	1	李	任
產品編號Part No.:	TSKH-373509-160-Y	日期Date:	2014/6/12	晓斌	明华
				梁	成元
10. 焊接Soldering					
專案Item	測試條件 Test method			標準Criteria	
101 耐焊接熱 Solder Heat Resistance	試件在下述條件下進行試驗： 1) 焊接溫度: $260 \pm 5^{\circ}\text{C}$; 2) 焊接時間: $5 \pm 1\text{s}$; 3) 熔錫面積: PCB板厚度的一半 (PCB: $t=1.6$) 。 Specimen shall be checked in the following conditions test: 1) Soldering temperature: $260 \pm 5^{\circ}\text{C}$; 2) Soldering time: $5 \pm 1\text{s}$; 3) Soldering area : 1/2 of PCB board thickness (PCB: $t=1.6$).			無機械和電氣損傷。 The switch shall be free from mechanical and electrical damage.	
10.2 回流焊 Reflow Soldering				外觀無裂開、鬆動等異常現象，滿足於電氣性能。 Without deformation of frame or excessive looseness of terminals , Electrical performance shall be satisfied.	
10.3 可焊性 Solderbilty	1. 超过90%的浸锡面积被焊料所覆盖。 More than 90% of immersed part shall be covered with solder 建议钢网尺寸如下图所示: 			开关在下述参数条件下进行试验： 1. 设备：自动焊接机 2. 焊料：常规 3. 焊剂：焊剂，质量百分比为25%松香，75% 甲醇的无色透明溶液。 4. 焊接温度： $260 \pm 5^{\circ}$ 5. 建议钢网厚度为0.1mm, 所刷锡膏厚度 $\leq 0.12\text{mm}$ 6. 浸渍深度：接线端应浸到开关根部处。 7. 禁止使用酒精，汽油，慢干水（异佛尔酮）等化学物品接触开关。	