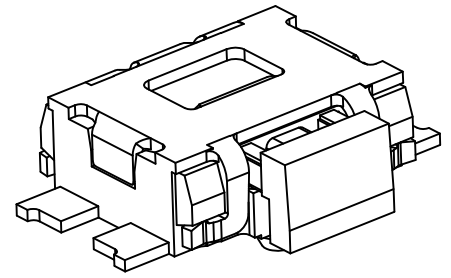
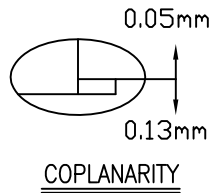
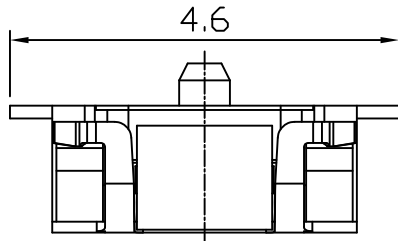


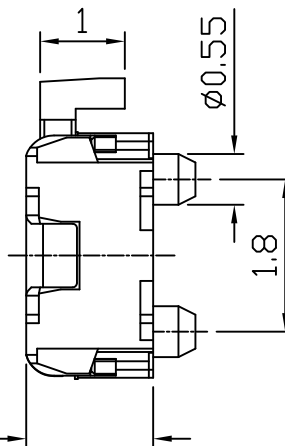
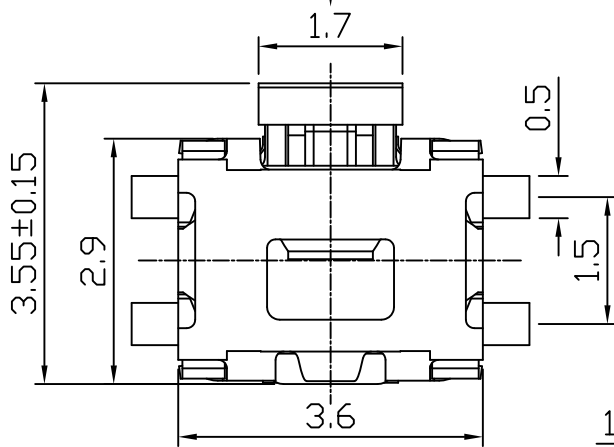
SYMB	REVISION	DATE	由 Autodesk 教育版产品制作	DATE	APVD.	VERSION: 2	F2A-52-1/1
						MODE	Tactile Feedback
						TIMING	
						LINE(S)	CIRCUIT STROKE
						1	1P1T 0.2

Without any banned substance! Compliance with RoHS!

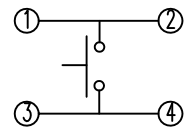


STEREOSCOPIC MODEL

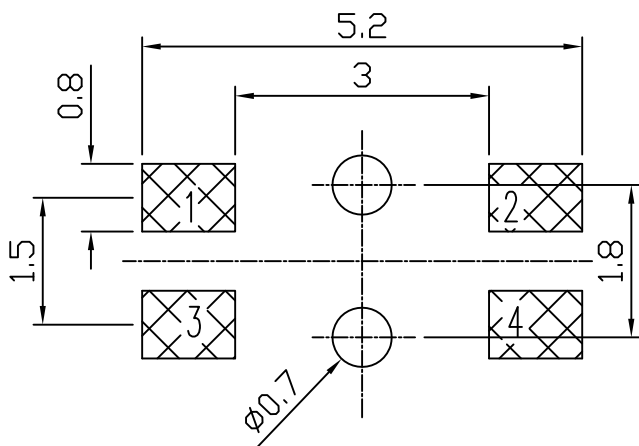
PUSH TRAVEL 0.20



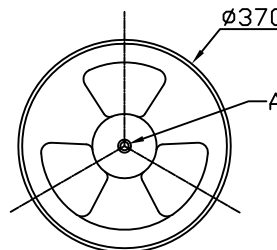
O/P FORCE
220±80gf



CIRCUIT DIAGRAM

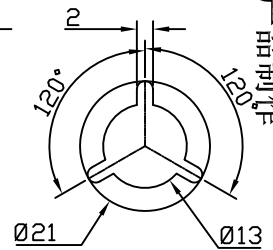


Recommended PAD Layout $\Phi \pm 0.05$
TOP VIEW

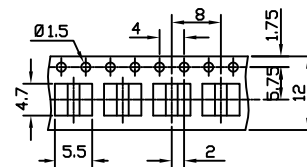


SCALE 1:10.2

REEL



"A" DETAIL



SCALE 1:2.1

CARRIER TAPE

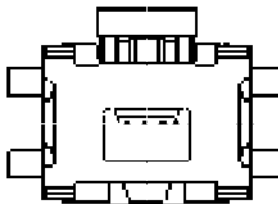
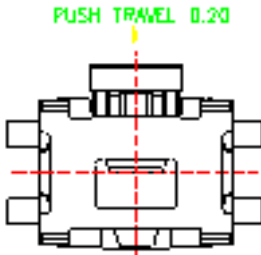
COVER TAPE

PACKING DETAIL

<QTY:4000PCS/REEL>

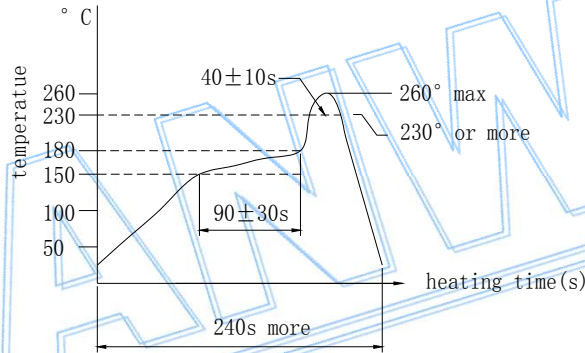
TYPE	TACT SWITCH		UNIT	mm	9				
SERIES	TSMB-353508		SCALE	14:1	8				
PART NO.	TSMB-353508-220		DATE	15/11/27	7				
SPEC. NO.	SETD02123		PAGE	1/6	6	TAPE FILM	PA	2	YELLOW
DRAWN	CHECKED	APVD.	TOLERANCE		5	TERMINAL	PBS	4	Ag PLATED
			ANGLE		4	COVER	SUS	1	
			UP TO 1		3	STEM	PA46	1	BLACK
			ABOVE 1 ~ 5		2	CONTACT	SUS	1	Ag CLAD
			ABOVE 5 ~50		1	CASE	PA46	1	BLACK
SANWIN ELECTRONIC TECHNOLOGY CO., LTD.					MATERIAL		QTY.	FINISHING	

產品規格書				檔編號No. :	頁數Page
SPECIFICATION				SETD02123	P2/6
產品類別Type:	輕觸開關Tact Switch			Prepared	Checked
產品系列Series:	TSMB-353508	版本Version:	2		
產品編號Part No.:	TSMB-353508-220	日期Date:	2015/11/27		
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TSMB-353508-220。 This product specification is applied to the TSMB-353508-220Tact Switch.					
1.2 使用環境條件 Acclimatization: 使用溫度範圍 Operating Temperature rang:-20°C ~ 70°C 保存溫度範圍 Preservative Temperature:-30 ~ 80°C					
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°C 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°C 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 5V,10mA Max 機械壽命 Mechanical life:50,000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以下 200mΩ max	

產品規格書				檔編號No. :	頁數Page		
SPECIFICATION				SETD02123	P3/6		
產品類別Type:		輕觸開關Tact Switch		Prepared	Checked	Approved	
產品系列Series:		TSMB-353508	版本Version:	2	李 晓斌	任 明华	梁 成元
產品編號Part No.:		TSMB-353508-220	日期Date:	2015/11/27			
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 0.20 			中間方向center: 220±80gf.		
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 start position when switch is being transformed. PUSH TRAVEL 0.20 			中心正按Center push: 0.2±0.1mm		

產品規格書				檔編號No. :	頁數Page
SPECIFICATION				SETD02123	P4/6
產品類別Type:	輕觸開關Tact Switch			Prepared	Checked
產品系列Series:	TSMB-353508	版本Version:	2	李	任
產品編號Part No.:	TSMB-353508-220	日期Date:	2015/11/27	晓斌	明华
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.	
7.5 衝擊 Impact shock test	1)加速度 Acceleration : 80G 2)衝擊次數：六個方向3次，共18次 2)Cycle of test:3cycles each in 6 directions,for a total 18 cycles.				
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°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 80±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.			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				SETD02123	P5/6		
產品類別Type:		輕觸開關Tact Switch		Prepared	Checked	Approved	
產品系列Series:		TSMB-353508	版本Version:	2	李 晓斌	任 明华	梁 成元
產品編號Part No.:		TSMB-353508-220	日期Date:	2015/11/27			
8.2 恒定濕熱 Moisture Resistance		試件在60±2℃,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℃,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℃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℃ 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. temperature °C 60 40 20 0 -10 30 15 30 15 time (MIN)					
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50,000次，頻率：120-160次/分鐘。 1)50,000 cycles of operation shall be performed continuously cycles without load at a rate of 120-160 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				SETD02123	P6/6	
產品類別Type:		輕觸開關Tact Switch		Prepared	Checked	Approved
產品系列Series:		TSMB-353508	版本Version:	2	李 晓斌	任 明华
產品編號Part No.:		TSMB-353508-220	日期Date:	2015/11/27		
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±5℃ ； 2) 焊接時間：5±1S; 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±5℃ ； 2)Soldering time:5±1S; 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		焊接溫度：245±5℃ Solder temperature: 245 ±5℃. 浸漬時間：3 ±0.5S Dipping time: 3 ±0.5 second.			超過90%的浸漬覆蓋焊接。 More than 90% of the dipping covered by solder.	