

Taclex Electronics Co., Ltd.

SPEC NO: 20210531001

承认书

SPECIFICATION

客户: IMI Technology (Shenzhen) Co., Ltd.

品名 (SERIES) : ROTARY

客戶料號(CUSTOMER P/N): N/A

TACLEX 料号 (MANUFACTURER P/N) : RSF-AARM

提出日期 (DATE) : <u>2021-5-31</u>

APPROVED BY					
CUSTOMER	TACLEX				

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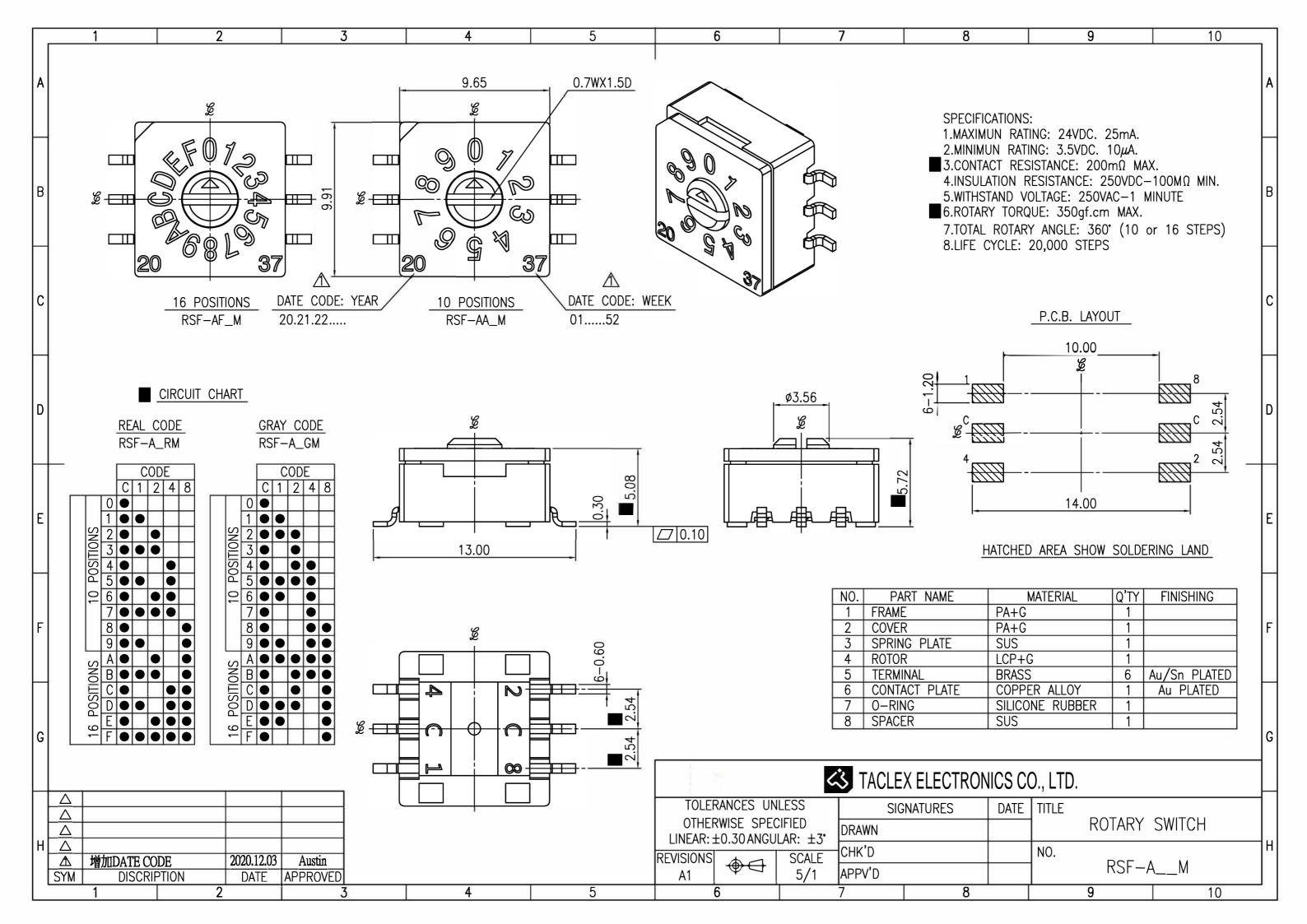
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1 1VI	4M Change Apply Report				Check		
	i Change Ap	opry Report	TACLEX	Wennie	Emma		
P/N: RSF-AARM		Change Description		Date: 2021.06.22			
Reason: 4M C	Change Statement		1. Base and cover pla	astic material change:			
☐ Improve production 1. 1	Man: N/A		We will use both of t	he following materials	in our base and cover		
☐ Improve quality 2. 1	Machine: N/A		PA9T GN2332-1-KW008→	White PA9T GN2:	330-NA→Natural		
☐ Improve safety 3. 1	Material: Base and co	ver plastic material change					
□ Customer's spec	Before: Only PA9T GN2	332-1-KW008 → White					
thers	After : Both PA9T (GN2332-1-KW008→White & PA9T GN2330-NA→Natura					
Mterial Change Col	lor						
* 1	Reason						
1	In this year, because	of the poor condition of raw materials, we highl	y		100 100 10		
dep	pends on the distrib	ution of plastic factory. The plastic factory	2. Position Change of	of D/C			
sug	ggested that we'd bett	er approve plastic in both colors at the same time	Before				
whi	ich is more flexible and	lavoid the risks of plastic materials out of stock		9.65			
4.	Mehtod: N/A		\$ 507				
5.	Others: Position chan	ge of D/C					
※ 1	Reason		6819				
In	order to distinguish	the products after material change, the $\ensuremath{\text{D/C}}$ wil					
be	laser-carved in the f	ront of products.	<mark>变更前</mark>				
			After				
			20 POSITIONS DATE CODE: YEAR 2021:22 **E POSITIONS DATE CODE: YEAR 2021:22 **E POSITIONS DATE CODE: YEAR 2021:22	9.65 0.7WX1.50 POSITIONS DATE CODE: WEEK O152			
Effect: 1. Improve supply stab	oility						
2.Improve quality							
Switch Date: From next order	r	Remark	•				



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Date:

No break down and no

crook in operating part.

開關操作部沒有故障和

2021.05.24

1 Test conditions:

測試條件:

Standard test conditions shall be $5\sim35^{\circ}\text{C}$ in temperature, $45\sim85\%$ RH in humidity and $86\sim106$ kPa in atmospheric pressure. should any doubt arise in judgment, tests shall be conducted at $20\pm2^{\circ}\text{C}$ in temperature, $60\sim70\%$ RH in humidity and $86\sim106$ kPa in atmospheric pressure.

標準測試條件為溫度 $5\sim35$ ℃、濕度 $45\sim85$ %RH、大氣壓力 $86\sim106$ kPa,在判定上如有疑義時測試條件為溫度 20 ± 2 ℃、濕度 $60\sim70$ %RH、大氣壓力 $86\sim106$ kPa。

2 Operating temperature range: -40~+ 85°C

使用溫度範圍: -40~+85℃

3 Storage temperature range: -40∼+ 85°C

儲存溫度範圍: -40~+85℃

4 Construction:

構浩

4.1 Shape and dimension are subject to attached drawing regulation.

外型尺寸依據圖面規範。

4.2 Appearance: whole should be a good completion, no rust, no crack and good plating.

外觀: 外形完整,沒有鏽蝕,沒有裂痕及良好的電鍍。

4.3 Protective structure: IPX7 equivalent.

保護結構: IPX7 防護等級。

5 Rating: (resistive load)

額定功率: (電阻負荷)

5.1 25mA, 24VDC MAX.

25mA, 24VDC 最大負荷。

5.2 10μ A, 3.5VDC MIN.

 10μ A, 3.5VDC 最小負荷。

6 Electrical performance:

電氣性能:

7.3

Control strength

操作部強度

	电恶性矩:		
No.	Items	Test conditions	Specifications
項次	項目	測 試 條 件	規 格
6.1	Contact resistance	Shall be measured at 1KHz±200Hz (MAX. 20mV, MAX.	$200 \mathrm{m}\Omega$ MAX.
	接觸電阻	50mA.) or 1A, 5VDC. by voltage drop method.	200mΩ 以下。
		量測於 1KHz±200Hz (MAX. 20mV, MAX. 50mA.) 或 1A,	
		5VDC.電壓降下法量測。	
6.2	Insulation resistance	Shall be measured by applying 250VDC. Between all terminals	100M Ω MIN.
	絕緣電阻	and between the terminals and the body for 1 minute.	100MΩ 以上。
		施以 250VDC 於端子與端子和端子與本體間 1 分鐘後測定。	
6.3	Withstand voltage	250VAC. 50~60Hz (sensitivity electric current 2mA.) Shall be	No dielectric break down.
	耐電壓	applied between all terminals and between the terminals and the	No electric arc.
		body for 1 minute.	No damage of insulation.
		施以 250VAC. 50~60Hz (感受電流 2mA.)於端子與端子和端	沒有絕緣破壞、沒有產生
		子與本體間 1 分鐘。	電弧、沒有部品損傷。
	Mechanical performance	e:	
7	機械性能:		
7.1	Rotational torque		Refer to individual product
	旋轉轉矩		drawing.
			請查閱個別製品圖面。
7.2	Rotational angle		Refer to individual product
	旋轉角度		drawing
			請查閱個別製品圖面。

The static load of 1 Kgf shall be applied in the vertical direction

The static load of 1 Kgf shall be applied in the right angle of the

正上方於操作部位置施以 1Kgf 靜態負荷 15 秒。

of the control unit for 15 seconds.

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Cold test

耐寒性

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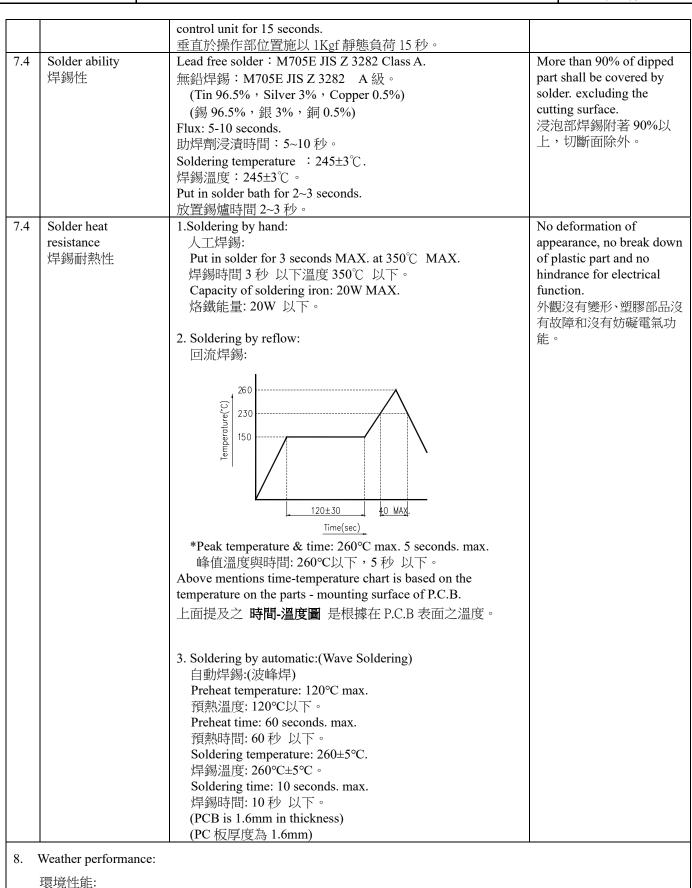
Contact resistance:

Insulation resistance:

接觸電阻: 200mΩ 以下.

 $200m\Omega$ MAX.

2021.05.24



Testing switch being kept in the conditions at -40±2°C in

temperature for 96 hours, then in a normal ambient condition for

在條件被保留之試驗用開關置於溫度-40±2℃、96 小時後置

1 hour, then to be measured within 1 hour.

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			•
8.2	W. co. co.	於正常環境 1 小時,於 1 小時內量測。 Testing switch being kept in the conditions at 85±2℃ in	100MΩ MIN. 絕緣電阻: 100MΩ 以上. Item 6.3 滿足項次 6.3 Item 7.1 滿足項次 7.1 Contact resistance:
6.2	Heat test 耐熱性	temperature for 96 hours, then in a normal ambient condition for 1 hour, then to be measured within 1 hour. 在條件被保留之試驗用開關置於溫度 85±2℃、96 小時後置於正常環境 1 小時,於 1 小時內量測。	200mΩ MAX. 接觸電阻: 200mΩ 以下. Insulation resistance: 100MΩ MIN. 絕緣電阻: 100MΩ以上. Item 6.3 滿足項次 6.3 Item 7.1 滿足項次 7.1
8.3	Humidity test 耐溼性	Testing switch being kept in the conditions at 40±2℃ and 90~95% RH for 96 hours, then in a normal ambient condition for 1 hour, then to be measured within 1 hour. 在條件被保留之試驗用開關置於溫度 40±2℃溼度 90~95% RH、96 小時後置於正常環境 1 小時,於 1 小時內量測。	Contact resistance: 200mΩ MAX. 接觸電阻: 200mΩ 以下. Insulation resistance: 10MΩ MIN. 絕緣電阻: 10MΩ 以上. Item 6.3 滿足項次 6.3 Item 7.1 滿足項次 7.1
8.4	Water resistance (adhere to IPX7) 防水性 (符合 IPX7)	1. Liquid: Fresh water 液體: 淡水 2. Temperature: 20±15 ℃ (Ambient temperature) 温度: 20±15℃ (環境温度) 3. Immersion depth: 1 M 浸入深度: 1 公尺 4. Duration of test: 30 min. 測試持續時間: 30 分鐘 Water around the switch shall be removed by the moisture absorbing material, then expose the switch in the ambient temperature and humidity for 1 hour before checking. 開關周圍的水應通過吸濕材料去除,然後將開關置於環境溫度和濕度下 1 小時內檢查。 * Temperature difference between switch and liquid shall be 5 ℃ max. *開關與液體之間的溫差最大為5℃。	Water ingress shall be limited enough to prevent deleterious effect to the switch function. 開關內部沒有水侵入,阻止對開關特性產生有害影響。
	Durability: 耐久性能:		
9.1	Life test 壽命測試 (without load) (無負荷)	Measurements shall be made following the test set forth below: 依照下列指出測試方式作量測: 1. Resistive load: without load. 電阻負荷: 無負荷。 2. Rate of operation: 15~20 steps / minute. 操作速率: 15~20 段/分鐘。 3. Cycles of operation: 20,000 steps. 操作次數: 20,000 段。	Contact resistance: 200m Ω MAX. 接觸電阻: 200m Ω 以下. Insulation resistance: 10MΩ MIN. 絕緣電阻: 10MΩ 以上. Item 7.1 滿足項次 7.1
9.2	Life test 壽命測試 (with load) (負荷)	Measurements shall be made following the test set forth below: 依照下列指出測試方式作量測: 1. Resistive load: 100mA, 5VDC. 電阻負荷: 100mA, 5VDC。 2. Rate of operation: 15~20 steps / minute.	Contact resistance: 200m Ω MAX. 接觸電阻: 200m Ω 以下. Insulation resistance: 10MΩ MIN.

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操作速率: 15~20 段/分鐘。
3. Cycles of operation: 20,000 steps. 操作次數: 20,000 段。

超緣電阻: 10MΩ 以上. Item 7.1 滿足項次 7.1

[Requirement for storage conditions]

【貯存條件要求】

· When this product is stored under the following conditions and conditions, it can affect the performance deterioration and solderability, etc., avoid storing under the following conditions.

本產品在下列情況和條件下存放時,可以影響性能惡化和可焊性等,避免存放在以下條件。

- (1) The highest temperature is -10 $^{\circ}$ C and the lowest temperature is + 40 $^{\circ}$ C. The humidity is 85% min. 温度最高-10 $^{\circ}$ C,最低+ 40 $^{\circ}$ C的地方, 濕度為 85%min。
- (2) In a corrosive gas environment. 在腐蝕性氣體環境中。
- (3) Long-term storage exceeds 6 months. 長期儲存超過 6 個月。
- (4) The product is exposed to direct sunlight. 產品暴露在直射陽光下的地方。
- · Store in a packaged state so that no load pressure is applied. 存放在包裝狀態,以便不施加負載壓力。
- · Please use this product as soon as possible, our recommendation is within 3 months, the limit is 6 months. 請盡快使用本產品,我們的建議是在 3 個月內,限制是 6 個月。
- · If the leftovers left after opening the package, please keep them properly and keep them airtight. 如果打開包裝後剩餘的剩餘物,請妥善保存並保存氣密等。

产品可靠性检验记录表

	实验编号	RSF(1	10段)			日期	2021年	4月16日 至 20:	21年5月17日	执行	标准		规	格书
	产品料号	RSF-A	ARM			□附件有 ■附件					则者			艶瓊
	, ,,,,,,	实验结果 (测试前							实验结果 (测试后				判別	备注
NO	测试项目	测试标准	1	2	3	检验项目	测试条件规格	测试项目	测试标准	1	2	3		
	接触电阻	200mΩ ΜΑΧ	12.2	12.2	12.0			接触电阻	200mΩ ΜΑΧ	12.2	11.7	12.2		
	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK			绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		
1	耐电压	250VAC/60S	OK	OK	OK	操作部强度测试	1Kg下压旋钮15秒 1Kg侧压旋钮15秒	耐电压	250VAC/60S	OK	OK	OK	OK	
	扭力测试	350gf.cm MAX	OK	OK	OK		1Kg则压爬钮1349	扭力测试	350gf.cm MAX	OK	OK	OK		
	外观/作动力	实测值 N	OK	OK	OK			外观/作动力	实测值 N	OK	OK	OK		
	接触电阻	200mΩ ΜΑΧ	11.9	12.9	11.4			接触电阻	200mΩ MAX	12.6	13.2	12.0		
	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		245±3℃	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		
2	耐电压	250VAC/60S	OK	OK	OK	焊锡性测试	助焊剂渍时间5~10秒	耐电压	250VAC/60S	OK	OK	OK	OK	
	扭力测试	350gf.cm MAX	OK	OK	OK		放置锡炉时间2~3秒	扭力测试	350gf.cm MAX	OK	OK	OK		
	外观/作动力	实测值 N	OK	OK	OK]		外观/作动力	附著95%以上	OK	OK	OK		
	接触电阻	200mΩ ΜΑΧ	11.9	11.9	12.6			接触电阻	200mΩ MAX	11.9	12.6	11.8		
	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK	to to the terms	故店泅座2~0°0 以工	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		
3	耐电压	250VAC/60S	OK	OK	OK	焊锡耐熱性测试 (回流焊錫)	峰值溫度260℃以下 時間5秒以下	耐电压	250VAC/60S	OK	OK	OK	OK	
	扭力测试	350gf.cm MAX	OK	OK	OK	(100,190)	21 Ido 12 24 1	扭力测试	350gf.cm MAX	OK	OK	OK		
	外观/作动力	实测值 N	OK	OK	OK			外观/作动力	附著95%以上	OK	OK	OK		
	接触电阻	200mΩ ΜΑΧ	12.7	11.9	12.2			接触电阻	200mΩ ΜΑΧ	12.1	11.2	12.6		
	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		40 - 2°C	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		
4	耐电压	250VAC/60S	OK	OK	OK	耐寒性测试	-40±2℃ 96H	耐电压	250VAC/60S	OK	OK	OK	OK	
	扭力测试	350gf.cm MAX	OK	OK	OK		, , , , ,	扭力测试	350gf.cm MAX	OK	OK	OK		
	外观/作动力	实测值 N	OK	OK	OK			外观/作动力	实测值 N	OK	OK	OK		
	接触电阻	200mΩ MAX	12.5	13.0	12.6			接触电阻	200mΩ MAX	12.3	13.5	12.9		
	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		85±2℃	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		
5	耐电压	250VAC/60S	OK	OK	OK	耐热性测试	83±2 € 96H	耐电压	250VAC/60S	OK	OK	OK	OK	
	扭力测试	350gf.cm MAX	OK	OK	OK			扭力测试	350gf.cm MAX	OK	OK	OK		
	外观/作动力	实测值 N	OK	OK	OK			外观/作动力	实测值 N	OK	OK	OK		
	接触电阻	200mΩ MAX	12.1	11.7	12.7			接触电阻	200mΩ ΜΑΧ	11.9	11.5	12.7		
	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		40±2℃	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		
6	耐电压	250VAC/60S	OK	OK	OK	耐湿性测试	湿度90~95% 240H	耐电压	250VAC/60S	OK	OK	OK	OK	
	扭力测试	350gf.cm MAX	OK	OK	OK		24011	扭力测试	350gf.cm MAX	OK	OK	OK		
	外观/作动力	实测值 N	OK	OK	OK			外观/作动力	实测值 N	OK	OK	OK		
	接触电阻	200mΩ MAX	13.1	11.4	12.2			接触电阻	200mΩ MAX	12.6	12.9	12.4		
l _	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK	防水测试	淡水, 20±15℃	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK		
7	耐电压	250VAC/60S	OK	OK	OK	(IP67)	1公尺, 30min	耐电压	250VAC/60S	OK	OK	OK	OK	
	扭力测试	350gf.cm MAX	OK	OK	OK			扭力测试	350gf.cm MAX	OK	OK	OK		
	外观/作动力	实测值 N	OK	OK	OK			外观/作动力	实测值 N	OK	OK	OK		
	接触电阻	200mΩ MAX	12.3	11.5	11.4			接触电阻	200mΩ MAX	13.5	14.0	12.4		
_	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK	A B	2万次寿命测试	绝缘电阻	100MΩMIN/250VDC/60S	OK	OK	OK	077	
8	耐电压	250VAC/60S	OK	OK	OK	寿命测试	16段为1圏 15-20段/分	耐电压	250VAC/60S	OK	OK	OK	OK	
	扭力测试	350gf.cm MAX	OK	OK	OK		15 20(50))	扭力测试	50%初期值	OK	OK	OK		
	外观/作动力	实测值 N	OK	OK	OK			外观/作动力	实测值 N	OK	OK	OK		
	总结						合札	\$						

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The information presented on the UL Prospector datasheet was acquired by UL Prospector from the producer of the material. UL Prospector makes substantial efforts to assure the accuracy of this data. However, UL Prospector assumes no responsibility for the data values and strongly encourages that upon final material selection, data points are validated with the material supplier.

Component - Plastics E90350

Guide Information

KURARAY CO LTD

GENESTAR DIV, OTE CENTER BLDG 1-1-3, OTEMACHI, CHIYODA-KU TOKYO 100-8115 JP

GN2330(#)

Polyamide 9T (PA9T), furnished as pellets

	<u>Min. Thk</u>	<u>Flame</u>			<u>RII</u>	<u>RII</u>	<u> </u>
<u>Color</u>	<u>(mm)</u>	<u>Class</u>	<u>HWI</u>	<u>HAI</u>	<u>Elec</u>	<u>lmp</u>	<u>Str</u>
ALL	0.75	V-0	0	0	150	120	130
	1.5	V-0	0	0	150	130	140
	3.0	V-0	0	0	150	130	140

Comparative Tracking Index (CTI): 1

Dielectric Strength (kV/mm): -

High-Voltage Arc Tracking Rate (HVTR): 3

Dimensional Stability (%): -

Inclined Plane Tracking (IPT) kV: -

Volume Resistivity (10x ohm-cm): -

High Volt, Low Current Arc Resis (D495): 5

(#) - Suffix optional.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 2001-07-10 Last Revised: 2008-09-08

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IEC and ISO Test Methods				
Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.75	V-0 (ALL)
			1.5	V-0 (ALL)
			3.0	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	°C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m ²	-	-
ISO Izod Impact	ISO 180	kJ/m ²	-	-
ISO Charpy Impact	ISO 179-2	kJ/m ²	-	-