

# 东莞市宏泽电子有限公司

## 確 認 書 APPROVAL SHEET

TO: .....

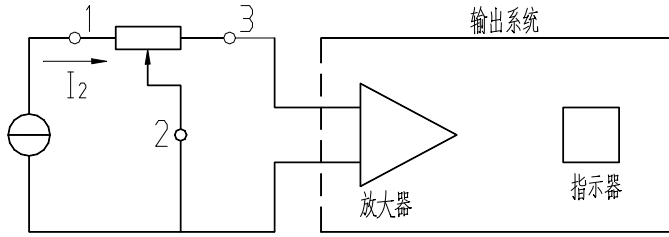
We are pleased in sending you herewith our specification and drawings for your approval.  
Please return to us one "APPROVAL SHEET" with your approved signatures.

COMMODITY:	摇杆電位器
MODEL NUMBER:	3D16A1N-B10K-267 ±20% (圆孔带开关)
ISSUE DATE:	2018-03-15 客户料号:
APPROVED DATE:	

APPROVED SIGNATURES		

批准	審核	制定

1. General Characteristics		1. 一般特性	
1.1 Shape and dimensions In accordance with the outline and dimension drawing.		1.1 形状尺寸 见附图	
1.2 Operating temperature range -10°C~+75°C		1.2 使用温度范围 -10°C~+75°C	
1.3 Conserving temperature range -20°C~+85°C		1.3 保存温度范围 -20°C~+85°C	
1.4 Test conditions Ordinary temperature (5~35°C) Ordinary humidity (45~85°C) Ordinary atmospheric pressure (86~106kPa)		1.4 测试条件 常温 (温度 5~35°C) 常湿 (湿度 45~85%) 常压 (气压 86~106kPa)	
2. Mechanical Characteristics		2. 机械特性	
	Item 项目	Measuring condition 测试条件	Specifications 规格
Rotation operation	2.1	Total rotation angle 全回转角度	The rotation Angle of machine 机械回转角度
回转操作		Electricity travel 电气行程	In effect angle 印刷电阻有效角度
		Middle tapping angle 中心抽头角度	Middle tapping angle in resistance 印刷电阻中间银层度数
	2.2	Operating force 动作力	Measure the slip-off torque of the detent. 测试脱离中心点时的力矩
	2.3	开关行程	按压开关
3. Electrical characteristics		3. 电气特性	
	Item 项目	Measuring condition 测试条件	Specifications 规格
3.1	Rating 额定值	Power rating(70°C) 70°C时额定功率 W	0.0125W
		Max operating voltage (virtual value of direct current or alternating current) 极限电压 (直流或交流峰有效值) V	50V
		Insulating voltage (Max direct current or alternating current) 绝缘电压 (直流或交流峰值)	300V

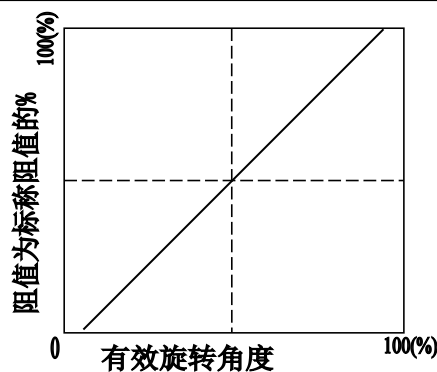
Item 项目	Measuring condition 测试条件	Specifications 规格
3.2 Resistance error 两联阻值误差	Measurement shall be made at 1、3 terminals of two resistance) 在两联电阻体的 1、3 端测试	
3.3 Medium value 中间值	Measurement shall be made at 1、2 terminals and 2、3 terminals as stilling station 静止状态时在 1、2 端和 2、3 端测试	$\leq 5\% R_{\text{总}}$
3.4 Residual resistance 残留电阻	Measurement shall be made separately when potentiometers rotate at 1 terminal and 3 terminal. 电位器旋至 1 与 3 端时分别测试	<input type="checkbox"/> $\leq 1\% R_{\text{总}}$ <input checked="" type="checkbox"/> $\leq 5\% R_{\text{总}}$
3.5 Total Resistance error 总阻误差	Measurement shall be made at 1、3 terminals of resistance. 在电阻体的 1、3 端测试	<input type="checkbox"/> $10K \Omega \pm 10\%$ <input checked="" type="checkbox"/> $10K \Omega \pm 20\%$
3.6 Slider noise 滑动噪声	<p>The residual resistance with the shaft (lever) placed at the end of terminal 1, shall be measured between the terminals 1 and 2. Next with the shaft (lever) placed at the end of terminal 3, the resistance shall be measured between the terminals 2 and 3. If there are tapped terminals, the shaft (lever) shall be turned (moved) and the resulting minimum resistance between the taped terminal and the terminal 2 shall be measured.</p>  <p>按照如图的测试电路测试，以每分钟 2~5 圈的速度转动摆杆。</p>	$\leq 68mV$
3.7 Insulation resistance 绝缘电阻	Measure to Apply AC250V. (Between terminal for reinforcing and the other terminals) AC250V 测试	$100M\Omega$ min. 不小于 $100M\Omega$
3.8 Withstand voltage 耐电压	Apply A.C250V for 1min. (Between terminal for reinforcing and the other terminals) A.C250V1 分钟	No damage. Arc and dielectric breakdown. 无损伤、电弧和电故障

4. Endurance		4. 耐久特性	
Item 项目	Measuring condition 测试条件	Specifications 规格	
4.1 Heat resistance  耐热特性	Temperature . . . . . $85 \pm 2^\circ\text{C}$ Time . . . . . 16 hours After that , leave in ordinary temp and humidity for an hour. Then measure. 温度 . . . . . $85 \pm 2^\circ\text{C}$ 时间 . . . . . 16 小时 然后放置在常温和湿度下一个小时再测试。	Item 2.2 3.2 3.3 3.4 3.5 The same as the initial spec.	项目: 2.2 3.2 3.3 3.4 3.5 同初始规格
4.2 Moisture resistance  耐湿特性	Temperature . . . . . $40 \pm 2^\circ\text{C}$ Humidity . . . . . 90~95%Rh Time . . . . . $96 \pm 4$ hours After that , leave in ordinary temp and humidity for an hour. Then measure. 温度 . . . . . $40 \pm 2^\circ\text{C}$ 湿度 . . . . . 90~95%Rh 时间 . . . . . $96 \pm 4$ 小时 然后放置在常温和湿度下一个小时再测试。	The same as above.  同上	
4.3 Low temperature resistance  耐寒特性	Temperature . . . . . $-20 \pm 3^\circ\text{C}$ Time . . . . . $16 \pm 2$ hours After that , leave in ordinary temp and humidity for an hour. Then measure. 温度 . . . . . $-20 \pm 3^\circ\text{C}$ 时间 . . . . . $16 \pm 2$ 小时 然后放置在常温和湿度下一个小时再测试。	The same as above.  同上	
4.4 H <sub>2</sub> S resistance  耐硫化特 性	Density . . . . . $3 \pm 1$ ppm. Temperature . . . . . $40 \pm 2^\circ\text{C}$ Humidity . . . . . 80%Rh Time . . . . . $24 \pm 2$ hours After that , leave in ordinary temp and humidity for an hour. Then measure. 浓度 . . . . . $3 \pm 1$ ppm. 温度 . . . . . $40 \pm 2^\circ\text{C}$ 湿度 . . . . . 80%Rh 时间 . . . . . $24 \pm 2$ 小时 然后放置在常温和湿度下一个小时再测试。	The same as above.  同上	

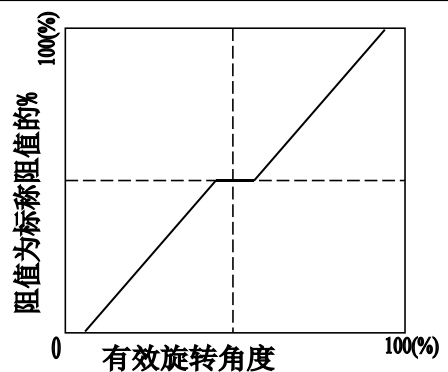
Item 项目		Measuring condition 测试条件	Specifications 规格
4.5	Vibration 耐振动特性	Amplitude . . . . . 1.5mm Frequency . . . . . 10~55~10Hz for 1 min Vibration directions X.Y.Z (3 directions) Time . . . . . X.Y.Z. each 2 hours 振幅 . . . . . 1.5mm 频率 . . . . . 10~55~10Hz 1 分钟 颤动方向 X.Y.Z (3 个方位) 时间 . . . . . X.Y.Z. 各 2 小时	The same as above. 同上
4.6	Impact resistance 耐冲击特性	Acceleration . . . . . 735m/s(75G) Time . . . . . 6ms Directions . . . . . 6 directions×3 times 加速度 . . . . . 735m/s(75G) 作用时间 . . . . . 6ms 方向 . . . . . 6 个方位×3 次	There shall not be visual transformation and noticeable wobble of terminal etc.. 无视觉变化和明显的端部摆振。
4.7	Operation life 操作寿命	Operation times . . . . . 100,000T Reciprocate 100,000 times at a speed of 30 ~ 45 times reciprocation per minute with no-load in the ordinary temp and humidity. 操作次数 . . . . . 100,000T 在常温、常湿, 无负载的情况下, 以每分钟往复 30~45 次的速度进行 100,000 次	Item 2.2 2.3 3.2 3.3 3.4 The same as the initial spec. Item 3.5 $\Delta R \leq 25\%R$ 项目 2.2 2.3 3.2 3.3 3.4: 同初始规格 项目 3.5 $\Delta R \leq 25\%R$

附图:  
(线性规律)

- 一
- 二



(一)



(二)

设计

审核

批准

日期

印 章

东莞市宏泽电子有限公司