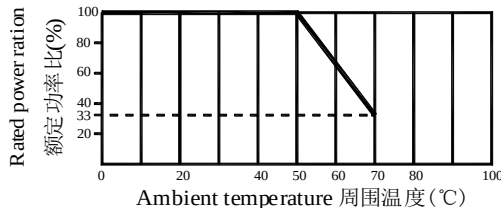


C2043N SERIES GENERAL SPECIFICATION

C2043N 系 列 规 格 书

1/3

1、GENERAL一般事项		
1.1、Sscope The specification applies to model C2043N type mainly used for consumer products		适用范围 此规格书适用于C2043N机型
1.2、Operating temperature range:-10℃~60℃		使用温度范围 -10℃~60℃
1.3、Storage temperature range:-10℃~70℃		保存温度范围 -10℃~70℃
1.4、Test conditions: Standard atmospheric conditions: Unless otherwise specified,the standard range of atmospheric conditions for making measurements and test is as follows: Ambient temperature:5~35℃ Relative humidity:45~85% Air pressure:86kpa to 106kpa If there is any doubt about the results,measurements shall be Made within the following limit: Ambient temperature:20±2℃ Relative humidity:60~70% Air pressure:86kpa to 106kpa		试验状态 标准状态 无特别规定之实验及测定时以温度5~35℃，相对湿度45~85%，气压86~106kpa之标准状态测定。 发生判定疑问或另有特别要求则以基准状态（温度20±2℃，相对湿度60~70%，气压 86~106kpa）为标准测定。
2 ELECTRICAL CHARACTERISTICS电气性能		
Item 项 目	Conditions 条 件	Specifications 规 格
2.1、Nominal total resistance and tolerance 公称全阻抗值	The resistance between terminals 1 and 3 shall be measured 端子1-3间阻值测定。	50K Ω ±20%
2.2、Resistance law 阻抗变化特性	Measurement shall be made by the resistance law method. For other procedures(refer JISC5261 standard) 用电压法测试，参照JISC5261标准	W Taper (Refer to the attached) W线性 (参见附页)
2.3、Power rating 额定功率（W）	Power rating is based on continuum full load operation at the maximum voltage between terminals 1 and 3 . Power rating vs.ambient temperature shall be denoted on the following graph. 端子1-3间连续负载后的最大功率。 环境温度对功率影响的曲线如下图表示： 	0.2W
2. 4、Rated voltage 额定电压	Rated voltage 额定电压： $E=\sqrt{PR}$	200V AC 10V DC
	Power rating P: 额定功率 (W) Nominal total resistance R: 公称全阻抗值 (Ω) When the rated voltage exceeds the maximum operating voltage. The maximum operating voltage shall be the rated voltage. 额定电压大于最高使用电压时,最高使用电压作为额定电压。	
		Max Operation Voltage 最高工作电压

C2043N SERIES GENERAL SPECIFICATION

C2043N 系 列 规 格 书

2/3

2.5、Residual resistance 残留电阻	The resistance at each end of the(A).Resistance between terminals 1and2, terminal 2and3 shall be measured.A:Angle of effective rotation 接触刷停留在(A)终端位置,在端子1-2间,端子2-3间测定之最阻值,A:有效回转角度		$R1, 2: \leq 20\Omega$ $R2, 3: \leq 30\Omega$
2.6、Slide noise 滑动噪音	Apply DC 20V between terminals 1-3 to measure the noise voltage . (rated voltage $\leq 20V$.apply by rated voltage) 在端子1-3间加直流电压20V(额定电压 $\leq 20V$,则以额定电压值测试)后,测定的杂音电压. Slide speed : 1 Cycles/3s 滑动速度: 1来回/3秒		68mVp-p or less $\leq 68mVp-p$
2.7、Insulation resistance 绝缘阻抗	Apply voltage of DC 500V and measure for 1 minute. DC 500V 1分钟	Between individual terminals and frame 端子-固定板	$50M\Omega$ or more $\geq 100M\Omega$
2.8、Dielectric strength 耐电压	Trip current:2mA Measuring frequency : 50~60Hz ; 500V AC for 1 minute. 电流: 2mA 频率: 50~60Hz AC 500V 1分钟	Between individual terminals and frame 端子-固定板	Electrical characteristics shall be 电气性能符合规定要求。

3 Mechanical characteristics 机械性能

Item 项 目	Conditions 条 件		Specifications 规 格
3.1、Total travel slide 全滑动行程	Travel fo effective slide. 有效滑动行程		$20\pm 0.5mm$
3.2、Sliding force 滑动力矩	Sliding speed 1 Cycles/3s 滑动速度 1来回 / 3秒	standard atmospheric conditions 常温 $5^{\circ}C$ 至 $35^{\circ}C$	10~80gf
		$-10^{\circ}C$	
		$60^{\circ}C$	
3.3、Number of Detemts Click定位数目			☒ without Detent ☐ 1C (Center Detent中段功能) ☐ Other其它 <u> </u> C
3.4、Click slip out 定位推动力	Measured at standard aatmospheric conditions 标准状态下测定 Speed:20mm/sec 滑动速度: 每秒20mm		$20\sim 110gf$
3.5、stop trength 止档强度	The following torsion moment load of 3Kgf.cm shall be applied to the shaft for 5sec at both ends (after fixation) 固定后于旋转前后两端末加3Kgf.cm力保持5秒		Electrical characteristics shall be satisfied. with specification. 电气性能符合规定要求
3.6、Lever wobble 滑柄偏摆量	A torsion moment of 2.5 N(250 gf)shall beapplied at the lever in a director perpendicular to the axial direction and then the displacement shall be measured 固定后, 垂直于滑柄顶端施加2.5 N (250 gf) 的力		2mm Max.
3.7、Thurst and tensile lever 推柄挤压引张强度	Thrust and tensile static load of 5kgf.cm shall be applied to the potentiometer in the lever directions for 10 sec 于推柄垂直之端面方向、挤压或引张方向加5kgf.cm静荷重10秒以上.		Without damage such as bad sliding and braking or play in the lever.Electrical characteristics shall be satisfied 柄不能有破损、滑动异常
3.8、Teminal strength 端子强度	After fixed add 0.5kgf static foru along to the terminal posiston and heep 10 sec 固定后沿端子方向加 0.5kgf 静载荷力并保持10秒		Electrical characteristics shall be satisfied.with specification 电气性能符合规定要求

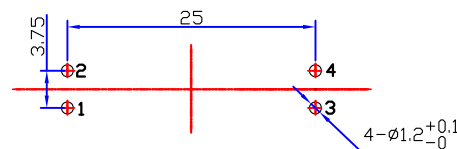
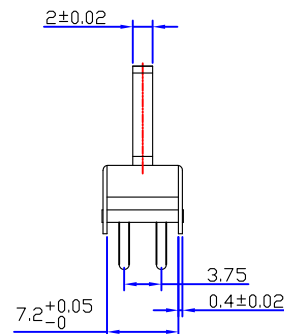
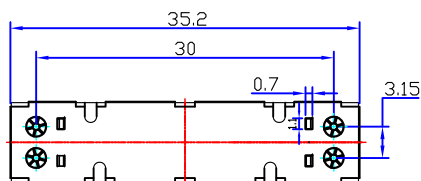
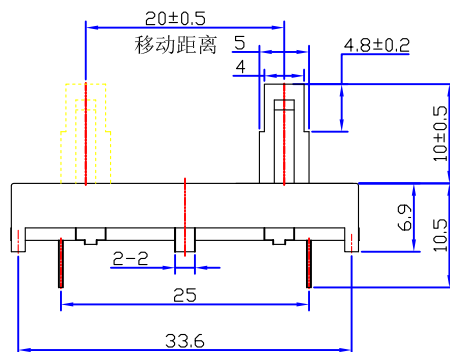
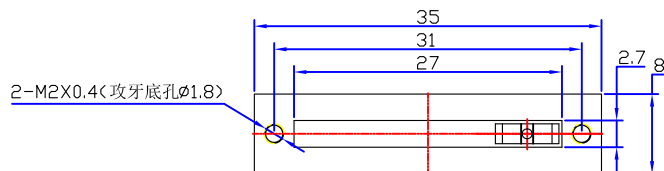
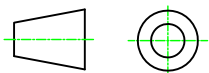
4 ENDURANCE CHARACTERISTICS耐久性能

Item 项 目	Conditions 条 件		Specifications 规 格
4.1、Solder ability 焊锡性	The terminals shall be immersed into solder bath at $260\pm 5^{\circ}C$ for $3\pm 0.5s$ in the same manner as para. 端子在 $260\pm 5^{\circ}C$ 温度的焊锡槽内浸锡 3 ± 0.5 秒。		shall cover 75% minimum of the surface being immersed. 浸渍面须有75%以上焊锡附着
4.2、Resistance to soldering heat 焊锡耐热性	Substrate to be soldered:Cooper clad laminated phenol in one surface of 1.6mm thickness,Do not use double sided through PCB. Preheating:Surface temperature of substrate shall be settled qithin $100^{\circ}C$ in one minutes. 使用基板: T=1.6mm厚单面铜泊积层板面. 预热: 基板表面温度 $100^{\circ}C$ 以下, 1分钟以内. Wave soldering: 波峰焊条件: Bit temperature温度: $350^{\circ}\pm 5^{\circ}C$ Application time of soldering 时间: 5 ± 1 sec		Change in total resistance is relative to the value before test : $\pm 5\%$, Without case deformation of case or terminals loosong . Electrical characteristics shall be satisfied. With specification 总阻变化值: $\pm 5\%$ 外观无变形, 端子无松动, 电气性能符合规定要求。

C2043N 系 列 规 格 书

4.3、Resistance to heat 耐热性	120±8h in a thermostatic chamber.Then the potentiometer shall be measured after maintaining at standard atmospheric conditions for 1h . 温度70±2℃恒温槽中120±8小时放置后,置于常温常湿1小时除去水滴后测定。			Change in total resistance is relative to the value before test : ±20% 总阻变化值: 初期值的±20%	
4.4、Resistance to cold 耐寒性	The potentiometer shall be stored at a temperature of -25±3℃ for 120±4h in a thermostatic chamber.Then the potentiometer shall be taken out of the chamber and its surface moisture shall be removed. And measure the potentiometer which shall be subjected to standard atmospheric conditions for 1h . 温度-25±3℃恒温槽中120±4小时放置后,置于常温常湿1小时除去水滴后,1小时内测定。			Change in total resistance is relative to the value before test : ±20% 总阻变化值: 初期值的±20%	
4.5、Damp heat 耐湿性	The potentiometer shall be stored at a temperature of 40±2℃, with relative humidity of 90% to 95% for 120±4h in a thermostatic chamber.Then the potentiometer shall be taken out of the chamber and its surfacemoisture shall be removedbe . and measure the potentiometer which shall subjected to standard atmospheric conditions for 1h. 温度40±2℃,湿度90-95%,恒温恒湿槽中放置120±4小时后,置于常温常湿1小时除去水滴后,1小时内测定。			Change in total resistance is relative to the value before test : +35%~-5% 总阻变化值:初期值的+35%~-5% Insulation resistance: 50MΩ or more 绝缘阻抗: ≥50MΩ Noise : 150mV p-p or less 转动噪音: ≤150mV p-p	
4.6、Change of temperature 温度循环试验	The potentiometer shall be subjected to 5 successive change of tempera-ture cycles as shown in table below. Then is surface moisture shall be removed.And measure the potentiometer which shall be subjected to standard atmospheric conditions for 1hour . 以下条件温度连续5个周期的试验后,置于常温常湿1小时除去水滴后,1小时内测定。			Change in total resistance is relative to the value before test : ±30% 总阻变化值: 初期值的±30% Insulation resistance:100MΩ or more 绝缘阻抗 :≥100MΩ 。 Dielectric strength : Without damage to parts arcing or breakdown etc. 耐电压:无损伤,变形,绝缘破坏等情形. Appearance: There shall be no dafo- rmation or cracks of molded part. 外观: 塑胶部分无形成破裂	
		Temperature 温度	Duration 放置时间		
	1	-10±3℃	30 min (分)		
	2	standard atmospheric conditions 常温	10 to 15 min(分)		
	3	70±2℃	30 min (分)		
4	standard atmospheric conditio 常温	10 to 15 min(分)			
4.7、Endurance 耐久性	The moving contact without electrical load shall be rotated from one end stop to the other and returned to its original position exceeds 90% of effective angle.This procedure constitutes 1 cycle.And the moving contact shall be subjected to 600 cycles per hour. total 10000±200 cycles.(5000 to 8000 continuous cycles for 24h). 轴以600周/小时(来回算1周)的速度旋转,24小时旋转5000~8000周,有效旋转角度超过90%,共10000±200周。			Variable Value of Total Resistance: specified value±15% 总阻变化值: 规格值范围的±15% Rotational noise:150mVp-p or less 转动噪音: ≤150mVp-p Rotational torque shall not deviate from the previously specified value. 回转矩矩满足规格值 Residual resistance : R1~2: 10Ω or less R2~3: 10Ω or less 残留电阻: R1~2: ≤40Ω R2~3: ≤60Ω	
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版 本 号: 00	2019/2/18				
REVISION变更记事:	更改时间				
		DSGD.主 办	CHKD 审 查	APPD.核 准	TITLE标题: Slide Series Potentiometer 直滑系列电位器
		工程 2022.01.12 韦德爱	工程 2022.01.12 喻钊	工程 2022.01.12 彭先炎	DOCUMENT NO.文号: C2043N

16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



Mounting hole detail
Viewed from component side of PCB

技术要求

1. 未注尺寸公差:
 $L \leq 1.0$ 时, ± 0.02
 $1.0 < L \leq 10$ 时, ± 0.03
 $L > 10$ 时, ± 0.05
2. 未注角度公差 $\pm 0.5^\circ$ 。
3. 未注对称度公差: ± 0.03 。
4. 未注工艺圆角为R0.2。
5. 所有毛刺小于0.03。
6. 采用ROHS材料。

未注尺寸公差
Gen.tolerance

$0 < L \leq 10$: ± 0.3

$10 < L \leq 50$: ± 0.5

$50 < L \leq 100$: ± 1.0

东莞市长泰尔电子有限公司
DONG GUAN CHANG TAI ER ELECTRONICS CO.,LTD.

比例 Scale	1:1	版本 Edition	1.0	单位 Unit	mm	设计 Designed By	审核 Checked By	批准 Approved By
品名 Type Name	直滑式电位器					工程部 2022.01.12 韦德爱	工程部 2022.01.12 喻钊	工程部 2022.01.12 彭先炎
图号 Dwg.NO.	C2043N-CE10B5.0-W503-0P0							

阻抗变化特性 Resistance tapers

