

# Specification

SHEET 1 OF 4

NO:SE000-04-3

Model: S3033N

## 1. Mechanical characteristics: 機械性

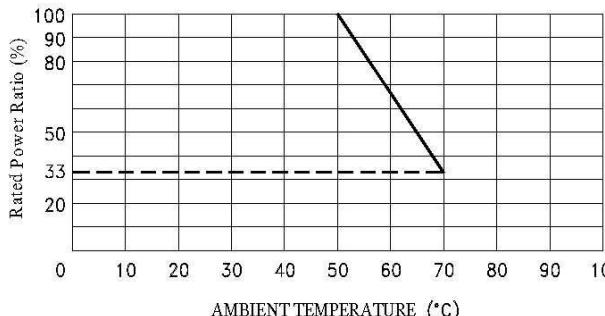
Item(項目)	Test methods(試驗方法)	Performance(性能)
1.1 Travel 行程	Determined by measuring the rotational angle(travel) when the shaft(lever) is turned(moved) from the end position of terminal 1 to the end position of terminal 3.推柄總1端底部至3端最底部所移動的距離.	30MM
1.2 Operating force 作動力	Determined by measuring the torque(operating force) necessary to turn (move) the shaft(lever). Unless otherwise specified, measurement shall be made at ambient temperature of 5 to 35°C, and the shaft rotational speed shall be 60° per second and the lever traveling speed 20mm per second.指在周圍溫度 5°C~35°C 推柄以每秒 20mm 勻速滑動所需的力量。(拉力計測得)	50± 30 gf.cm
1.3 Click Number Click 數目	This mechanism provides the click feel during operation.電位器中停頓點數目.	Center click
1.4 Click torque Click 脫出力	Determined by measuring the click torque necessary to turn(move) the shaft(lever). unless otherwise specified, measurement shall be made at ambient temperature of 5 to 35°C.推柄滑過其停頓點時所需的力量。	100± 40 gf.cm
1.5 Push-pull strength 柄推拉強度	A specified force shall be applied in the axial direction of the shaft(lever) for 10 seconds to check the operating part and other sections for deformation, breakage, operating condition, etc.垂直作用于推柄在行程方向，向前推或向后拉直至推柄或相關連部位變形、破壞之力量.	3 kgf

## 2. Electrical characteristics: 電氣性能：

2.1 Resistance taper 阻值線性	With the shaft(lever) placed in the specified position, shall be determined by measuring the voltage between the specified terminals (between terminals 1 and 2 or between terminal 2 and 3) and calculating the percentage in reference to the voltage between terminals 1 and 3.電位器碳片之阻值變化規律。(電阻表測得)	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> W
2.2 Total resistance 總阻值	With the shaft(lever) placed at the end of terminal 1 or 3, shall be determined by measuring the resistance between the reslstor terminals 1 and 3 unless otherwise specified.電位器1、3端全部電阻值。(電阻表測得)	5KΩ~2MΩ

Model: S3033N

NO:SE000-04-3

Item(項目)	Test methods(試驗方法)	Performance(性能)
2.3 Total resistance tolerance 總阻值容許差		+/-20%
2.4 Max. operating voltage 最高使用電壓	Terminal 1 to 3 that can be applied to the maximum voltage.電位器 1、3 端所承受之最大電壓。	Curve B: 200V AC Other B: 150V AC
2.5 Rated power 定格電力	<p>The mximum value of electric power that can be applied continuously to the whole area of a resistor (between terminals 1 and 3) at the rated ambient temperature. Meanwhile, assuming that the rated ambient temperature of a carbon film resistor is 50° C, then the maximum power at an ambient temperature of 50~70°C can be obtained by multiplying the rated power by the rated power ratio determined from the derating curve shown below. 電位器 1、3 端之功率(承受之最大值). 機箱內溫度在 50°C~70°C 之間會減低其功率, 超過 70°C 可能喪失全部功率(失效).</p> <p style="text-align: center;">DERATING CURVE</p> 	<p>Curve B single line(單聯): 0.2W Dual unit type(雙聯): 0.1W Other B: single line(單聯): 0.1W Dual unit type(雙聯): 0.05W</p>
2.6 Residual resistance 殘留阻值	<p>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 tapped terminal 1 and the terminal 2 shall be measured. 指電位器 1、2 端(將推柄滑至 1 端底部測)及 2、3 端(將推柄滑至 3 端底部測)殘留, 一般指接地 1 端与 2 端之殘留。(電阻表測得)</p>	<p><math>200K\Omega &lt; R \leq 2M\Omega</math> 20Ω (1~2 端) 50Ω (2~3 端) <math>200K\Omega \geq R \geq 10K\Omega</math> 20Ω max. <math>10K\Omega &gt; R</math> 10Ω max.</p>

Item(項目)	Test methods(試驗方法)	Performance(性能)																
2.7 Insulation resistance 絕緣抵抗	Measured with a megger by applying specified voltage to the specified locations. The undermentioned spots shall be tested unless otherwise specified. However, if the section concerned is so constructed as to conduct, that particular part shall not be tested. 在電位器(不導通)的部件之間輸入直流電壓(破壞試驗,主要測非導體之絕緣電阻,類同于耐電壓).	More than 100M Ω at DC 250V																
2.8 Rotational noise 回轉雜音	Measured by connecting the resistor to the amplifier having frequency characteristics specified in JIS C 6443, applying DC voltage of 20V between the terminals 1 and 3 (if rated voltage is 20V or less, this voltage shall be applied) and by rotating (moving) the shaft (lever) at a speed of about 30 cycles per minute. 推柄從電位器 1 端勻速滑至 3 端時電位器所呈現之雜音狀況(無異音為良品,用雜音表測得).																	
2.9 Resistance temperature characteristics 抵抗溫度特性	The total resistance shall be measured immediately after allowing the resistor in a test chamber of 70±3°C for 5 hours without load. 電位器在 70±3°C 槽內,無負荷狀態下,放置 5 小時后測試。	<table border="1"> <thead> <tr> <th data-bbox="496 801 917 907">Total resistance 總阻值</th> <th data-bbox="917 801 1069 907">Taper 線性</th> <th data-bbox="1069 801 1204 907">B</th> <th data-bbox="1204 801 1313 907">Other than B</th> </tr> </thead> <tbody> <tr> <td data-bbox="496 907 917 936">10K Ω max</td> <td data-bbox="917 907 1069 936"></td> <td data-bbox="1069 907 1204 936">-20%~+5%</td> <td data-bbox="1204 907 1313 936">-20%~+5%</td> </tr> <tr> <td data-bbox="496 936 917 965">10K Ω ~1M Ω</td> <td data-bbox="917 936 1069 965"></td> <td data-bbox="1069 936 1204 965">-25%~+5%</td> <td data-bbox="1204 936 1313 965">-30%~+5%</td> </tr> <tr> <td data-bbox="496 965 917 1003">Over 1M Ω</td> <td data-bbox="917 965 1069 1003"></td> <td data-bbox="1069 965 1204 1003">-30%~+5%</td> <td data-bbox="1204 965 1313 1003">-35%~+5%</td> </tr> </tbody> </table>	Total resistance 總阻值	Taper 線性	B	Other than B	10K Ω max		-20%~+5%	-20%~+5%	10K Ω ~1M Ω		-25%~+5%	-30%~+5%	Over 1M Ω		-30%~+5%	-35%~+5%
Total resistance 總阻值	Taper 線性	B	Other than B															
10K Ω max		-20%~+5%	-20%~+5%															
10K Ω ~1M Ω		-25%~+5%	-30%~+5%															
Over 1M Ω		-30%~+5%	-35%~+5%															
2.10 Withstand voltage 耐電壓	Measured by applying AC voltage to the specified spot for a minute to check for arc, burning, dielectric breakdown and other abnormalities. Respective terminals may be tested in group. The locations described below shall be tested unless otherwise specified. However, if the section concerned is so constructed as to conduct, that particular part shall not be tested. 在電位器不導通的金屬件之間輸入交流電壓 1 分鐘(破壞試驗,耐壓測試儀測得).	For 1 minute or more at AC 300V																
Gang error 相互偏差	With the shaft(lever) placed in the specified position, shall be determined by applying test voltage of 2 to 15V (sinewave RMS value) between the terminals 1 and 3 at 1,000±200Hz and measuring the voltage between the resistor terminal 2 and the specified terminal (terminal 1 or 3), and shall be calculated by the following equation. Meanwhile, unless otherwise specified, DC test voltage may be applied. 在電位器 1、3 端間加入 1000±200HZ 2-15V 的正弦波試驗電壓,推柄滑動后測試第一聯与第二聯之電壓.(用 dB 表測得)	-40dB~0dB ≤ 3dB																

Model: S3033N

SHEET 4 OF 4

NO:SE000-04-3

3.Durability:耐久性能:

3.1	Rotational life 回轉壽命	The shaft(lever) shall be turned at a speed of 600 cycles per hour (counting 1 reciprocating motion as 1 cycle) and 5,000~8,000 cycles a day over 90% of the effective rotational angle(total travel). Unless otherwise specified, the following requirements shall be met after the test is completed: Variation in total resistance:±15%; Slider noise:less than 150mV.指在無負荷情況下,推柄每小時 600 次的速度,有效移動距離達 90%以上,每日 5000~8000 次的使用次數測試,全阻變化±15%,動雜音低於 150mV.	≥ 15,000 cycles
-----	-------------------------	--	-----------------

4.Remarks:備註:

For details, please contact our sales department Thank you.  客戶如有其他要求請與我司業務聯系。
--