

THINKING ELECTRONIC INDUSTRIAL CO., LTD.

HEAD OFFICE: 8F-1, No.93, Ta-Shun 1st Rd., Kaohsiung, Taiwan
 TEL: 886-7-5577660 FAX: 886-7-5570560

MANUFACTURING SITE

- KAOHSIUNG FACTORY: No.51, Kaifa Road, Nantze Export Processing Zone,
 Kaohsiung City 81170, Taiwan
 TEL: 886-7-9616668 FAX: 886-7-9616698
- CHANGZHOU FACTORY: Wujin High & New Tech Ind. Development Zone, Hutang,
 Wujin, Changzhou City 213161, Jiangsu, China
 TEL:86-519-86578999 FAX:86-519-86558643
- DONG GUAN FACTORY: Chiao-Tou Tsun, Sha-Tao Hsiang, Chang-An Town,
 Dong-Guan City 523863, Guangdong, China
 TEL:86-769-85542016 FAX:86-769-85546890
- YICHANG FACTORY: No. 283 Xiaoting Avenue, Xiaoting Dist., Yichang
 City 443007, Hubei, China
 TEL:86-717-6510010 FAX:86-717-6511430

**SPECIFICATION FOR APPROVAL**

CUSTOMER

CERTIFIED

MODEL/TYPE

PART NO.

APPLICATION

CUSTOMER P/N

ISSUE DATE

REV. NO.

REV. DATE

SCK-035

SCK10035LSY701 (RoHS+HF)

Aug.30.2011

FOR CUSTOMER APPROVAL	CHECKED BY
	<i>Xiulan Zhang</i>
	APPROVED BY
	<i>Huairfang Zhang</i>





REVISED RECORD SHEET

REV. NO	REV. DATE	REVISED CONTENT



INDEX	Page
■ Part Number Code	1
■ Structure and Dimensions	2
■ Electrical Characteristics	2
■ Reliability	3
■ Soldering Recommendation	4
■ Max. Current Derating Curve	5
■ RoHS Compliant Declaration	5
■ Storage Conditions of Products	5
■ Taping and Dimensions	6
■ Packaging	7
■ Safety Approvals & Certificates & Test Report	8
■ R-T Characteristic Curve	9
■ V-I Characteristic Curve	10

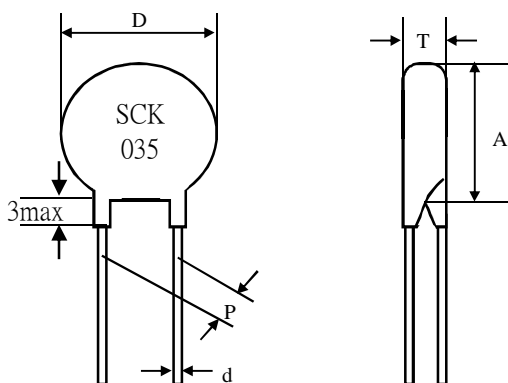
Part Number Code

Example :

SCK **10** **03** **5** **L** **S** **Y701**
 (1) (2) (3) (4) (5) (6) (7)

No.	Item	Digit	Specification
(1)	Product Type	SCK	Thinking NTC thermistor SCK type
(2)	Body Size	10	φ 10 mm
(3)	Zero Power Resistance at 25°C (R ₂₅)	03	3Ω
(4)	Max. Steady State Current at 25°C	5	I _{max} =5A
(5)	Tolerance of R ₂₅	L	± 15%
(6)	Appearance	S	Straight lead
(7)	Optional Suffix	Y701	P:5± 0.5mm RoHS+HF compliance

Structure and Dimensions



(unit : mm)

Body Size	D max.	P	d	A max.	T max.
φ 10mm	11.5	5±0.5	0.8±0.02	11.5	5

* **Print of Marking** : SCK / 035 / YWW

* "Y" is "year" code ; "WW" is "weeks" code .

Electrical Characteristics

Part No.	Zero Power Resistance at 25°C	Tolerance of R ₂₅	Max. Steady State Current at 25°C	Residual Resistance at 25°C I _{max}	Max. Power Rating at 25°C
	R ₂₅ (Ω)	(± %)	I _{max} (A)	R _{I_{max}} (Ω)	P _{max} (W)
SCK10035LSY701	3	15	5	0.127	2.4

Part No.	Dissipation Factor	Thermal Time Constant	Max. Energy	Capacitance at 240Vac	Operating Temperature Range
	δ (mW/°C)	τ (sec.)	W _{max} (J)	(μF)	T _L ~T _U (°C)
SCK10035LSY701	Approx. 17	Approx. 43	9	470	-40 ~+170

Note:Due to the mechanical force, which is acted on the wire lead, the coating may have cracks and chips. However, it does not affect the performance and reliability of the component.



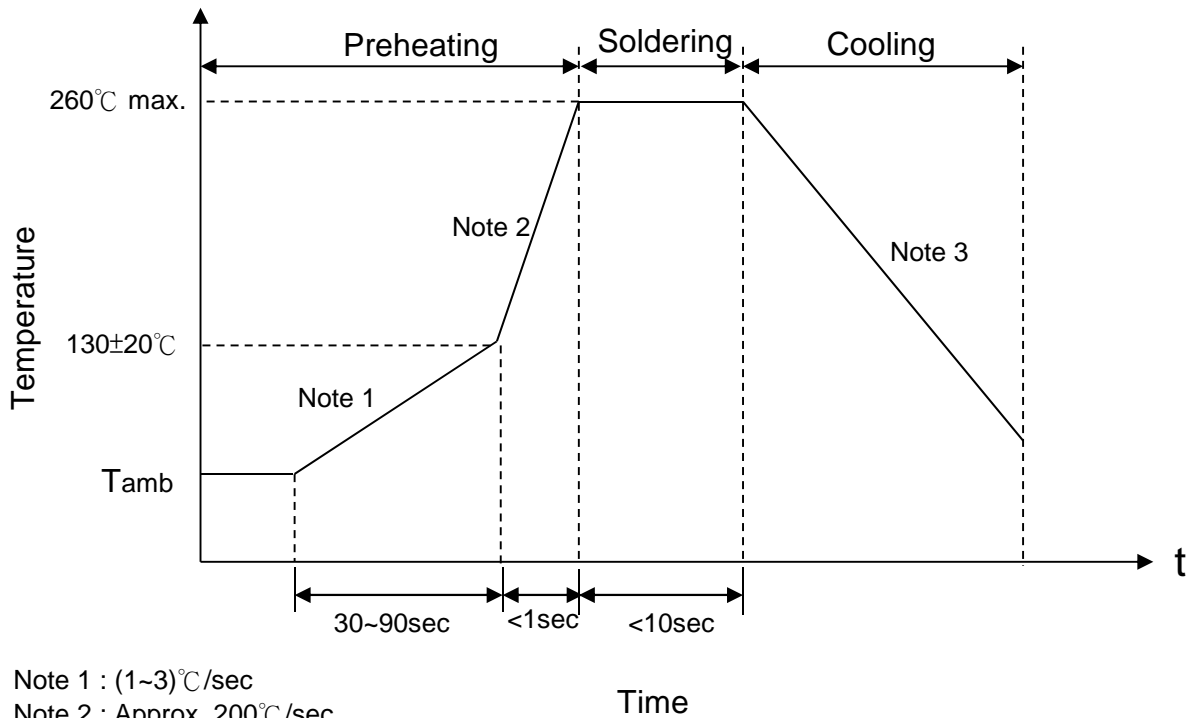
Reliability

Item	Standard	Test conditions / Methods	Specifications															
Tensile Strength of Terminals	IEC68-2-21	Gradually applying the force specified below to each terminal and keeping the unit fixed for 10±1 sec. <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Terminal diameter (mm)</td> <td style="text-align: center;">Force (kg)</td> </tr> <tr> <td style="text-align: center;">0.5<d≤0.8</td> <td style="text-align: center;">1.0</td> </tr> <tr> <td style="text-align: center;">0.8<d≤1.25</td> <td style="text-align: center;">2.0</td> </tr> </table>	Terminal diameter (mm)	Force (kg)	0.5<d≤0.8	1.0	0.8<d≤1.25	2.0	No visible damage									
Terminal diameter (mm)	Force (kg)																	
0.5<d≤0.8	1.0																	
0.8<d≤1.25	2.0																	
Bending Strength of Terminals	IEC68-2-21	Hanging the force specified below to each terminal and gradually bending each terminal by 90° in one direction, then 90° in the opposite direction, and again back to the origin. <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Terminal diameter (mm)</td> <td style="text-align: center;">Force (kg)</td> </tr> <tr> <td style="text-align: center;">0.5<d≤0.8</td> <td style="text-align: center;">0.5</td> </tr> <tr> <td style="text-align: center;">0.8<d≤1.25</td> <td style="text-align: center;">1.0</td> </tr> </table>	Terminal diameter (mm)	Force (kg)	0.5<d≤0.8	0.5	0.8<d≤1.25	1.0	No visible damage									
Terminal diameter (mm)	Force (kg)																	
0.5<d≤0.8	0.5																	
0.8<d≤1.25	1.0																	
Solderability	IEC68-2-20	245 ± 3 °C , 3 ± 0.3 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	IEC68-2-20	260 ± 3 °C , 10 ± 1 sec	No visible damage ΔR ₂₅ /R ₂₅ ≤ 10%															
High Temperature Storage	IEC68-2-2 UL1434	Tmax ± 5 °C , 1000 ± 24 hrs	No visible damage ΔR ₂₅ /R ₂₅ ≤ 15%															
Damp Heat	IEC68-2-3 UL1434	40 ± 2°C , 90 ~ 95 % RH , 1000 ± 24 hrs	No visible damage ΔR ₂₅ /R ₂₅ ≤ 15%															
Thermal Shock	IEC68-2-14 UL1434	The thermal shock conditions shown below shall be repeated 5 cycles <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Period (minutes)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">Tmin ± 5</td> <td style="text-align: center;">30 ± 3</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">Room temperature</td> <td style="text-align: center;">5 ± 3</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">Tmax ± 5</td> <td style="text-align: center;">30 ± 3</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">Room temperature</td> <td style="text-align: center;">5 ± 3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Period (minutes)	1	Tmin ± 5	30 ± 3	2	Room temperature	5 ± 3	3	Tmax ± 5	30 ± 3	4	Room temperature	5 ± 3	No visible damage ΔR ₂₅ /R ₂₅ ≤ 15%
Step	Temperature (°C)	Period (minutes)																
1	Tmin ± 5	30 ± 3																
2	Room temperature	5 ± 3																
3	Tmax ± 5	30 ± 3																
4	Room temperature	5 ± 3																
Life Test	IEC60539-1 4.26.1	25 ± 5 °C , Imax. , 1000 ± 24 hrs	No visible damage ΔR ₂₅ /R ₂₅ ≤ 15%															
Endurance	UL1434	25±5°C, Imax. , C _T , 1min ON / 5 min OFF x1000 C _T =Capacitance at 240Vac	No visible damage ΔR ₂₅ /R ₂₅ ≤ 15%															
Insulation test	MIL-STD-202F-Method 302	1000 V _{DC} 1 min	No visible damage ≥ 500 MΩ															

Products have been tested at Thinking Electronic Industrial Co., Ltd. Laboratory recognized by UL (Underwriters Laboratories Inc.) under CTDTP (Client Test Data Program).

Soldering Recommendation

Wave Soldering Profile



Note 1 : (1~3)°C/sec

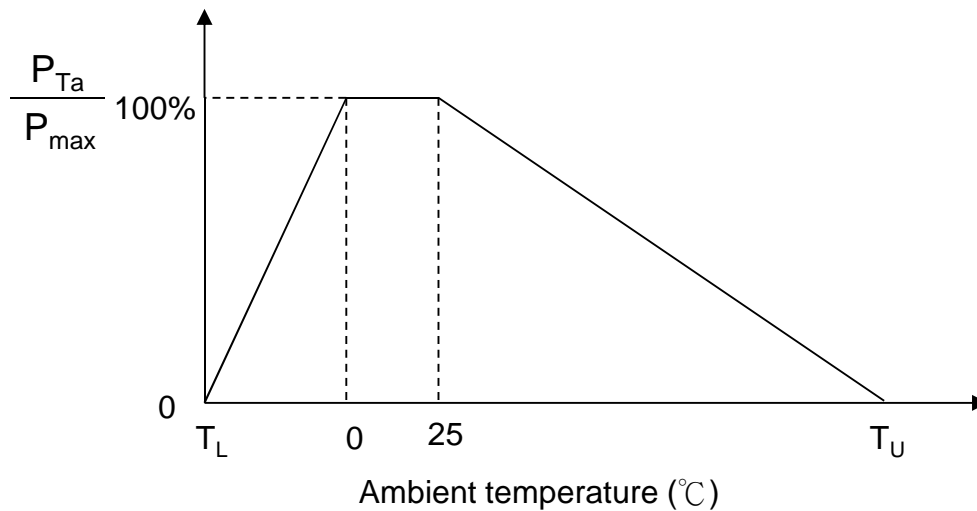
Note 2 : Approx. 200°C/sec

Note 3 : 5°C/sec max

Recommended Reworking Conditions with Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	360°C (max.)
Soldering Time	3 sec (max.)
Distance From Thermistor	2 mm (min.)

Max. Current Derating Curve



Note: T_L = Minimum operating temperature ($^{\circ}\text{C}$)

T_U = Maximum operating temperature ($^{\circ}\text{C}$)

For example :

Ambient temperature(T_a)=55 $^{\circ}\text{C}$

Maximum operating temperature(T_u)=200 $^{\circ}\text{C}$

$P_{Ta} = (T_u - T_a) / (T_u - 25) \times P_{max} = 82\% P_{max}$

RoHS Compliant Declaration

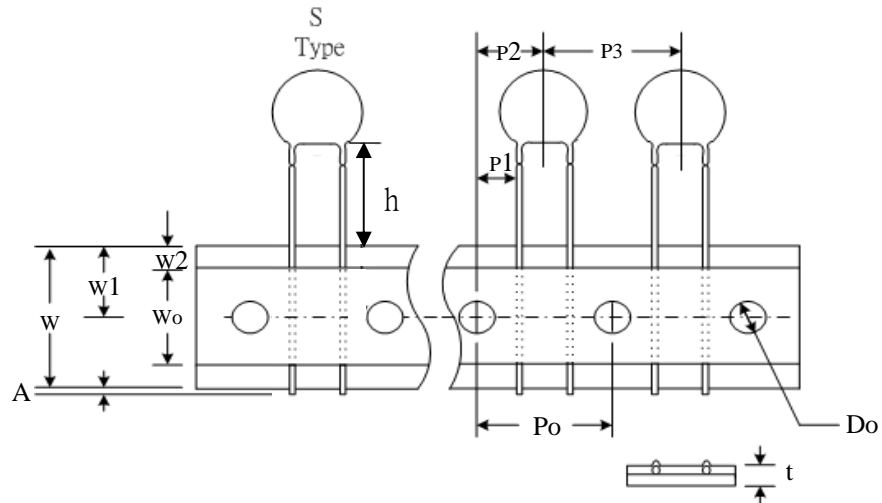
We hereby declare that the components delivered to your company are compliant with RoHS directive 2015/863/EU.

Storage Conditions of Products

(I) Storage Conditions :

- 1.Storage Temperature : -10 $^{\circ}\text{C}$ ~+40 $^{\circ}\text{C}$
- 2.Relative Humidity : $\leq 75\%RH$
- 3.Keep away from corrosive atmosphere and sunlight.

(II) Period of Storage : 1 year

Taping and Dimensions

(Unit : mm)

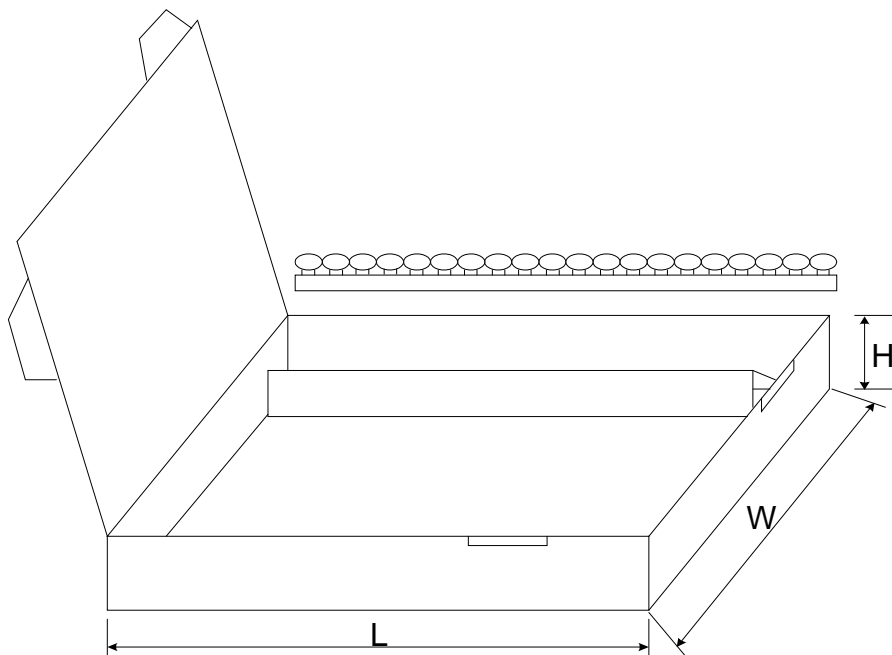
ITEM	Po	P3	P1	P2	h	Wo	W1	W2	W	A	Do	t
Nor.	12.7	12.7	3.45	6.35	14	12	9	3	18	1	4	0.6
Tol.	±0.5	±0.5	±0.7	±1.3	±1	±1	±0.5	Max.	±0.5	Max.	±0.2	±0.2

Packaging

(一) : 1300 PCS (Taping) In The Box , See figure(一)

(二) : Box Dimensions

L x W x H
345 x 275 x 55 (Unit:mm)



See figure(一)

Safety Approvals (Model No.:SCK-035)



* UL 1434 / cUL / CLASS 9073 31 recognized (File # E138827)



* CSA / C22.2 No.1 recognized (File # 97495)



* TUV / EN 60539-1:2002, EN60730-1:2000 recognized (File # R 50050155)



* CQC GB/T 6663.1-2007 recognized (File # CQC18001199474)

* CQC GB/T 6663.1-2007 recognized (File # CQC18001199471)

Certificates

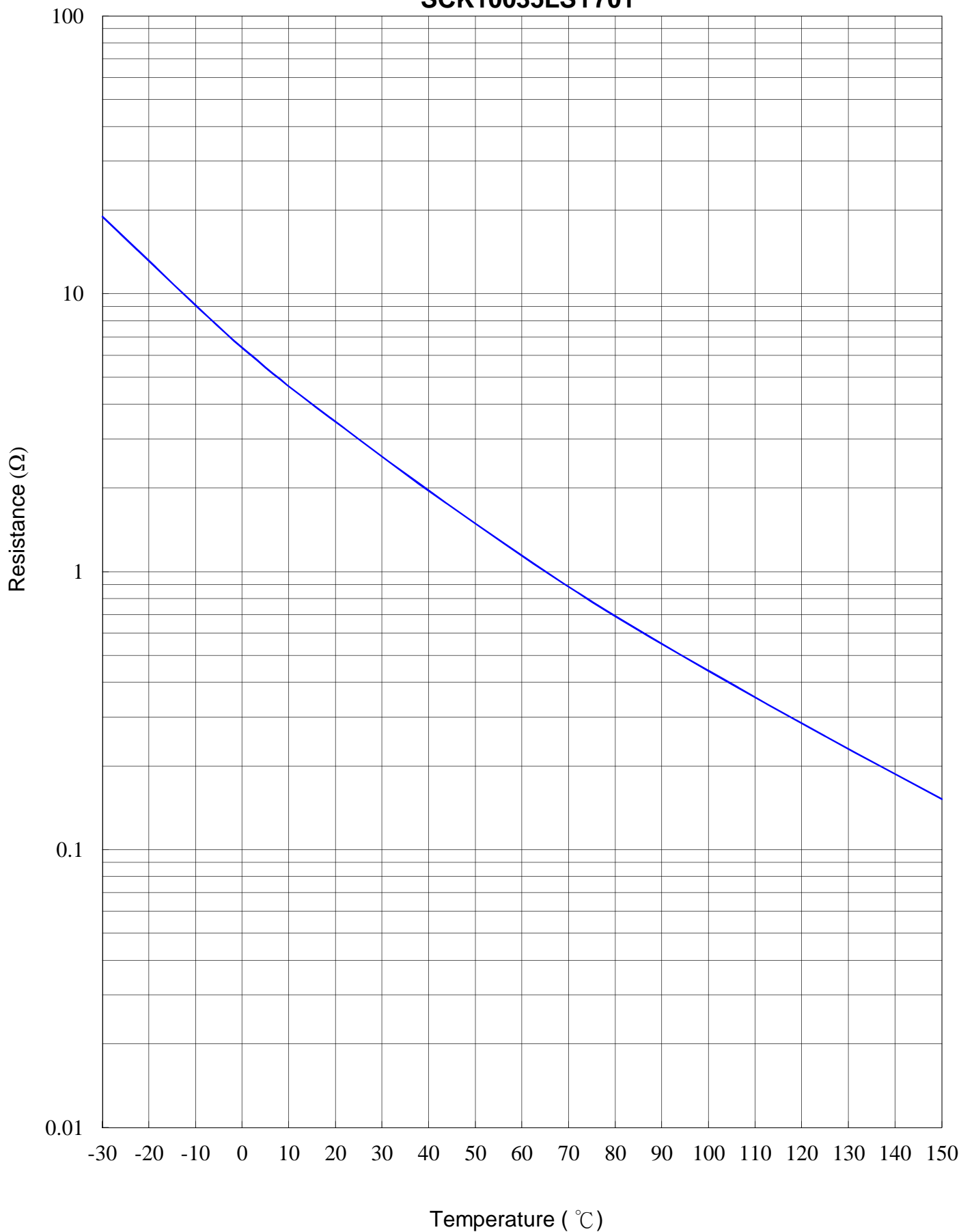
- (1) IATF 16949 certificate
- (2) ISO 9001 certificate

Test Report

- (1) RoHS test report
- (2) Halogen-free test report

R-T Characteristic Curve

SCK10035LSY701



V-I Characteristic Curve (Ambient $T_a=25\text{ }^\circ\text{C}$)

