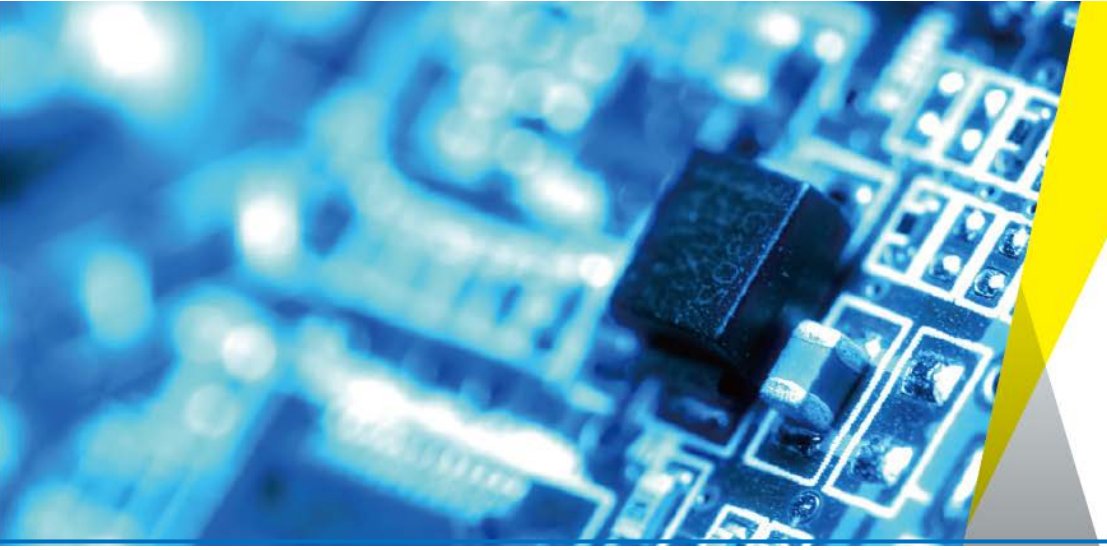

DATA SHEET

Product Name	**Communication Terminal Resistors**
Part Name	**CTR 1/4W ±1% 120Ω**
Part No.	**CTR0W4F1200B00**
File No.	**DIP-SP-125**

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1. Scope

1.1 This datasheet is the characteristics of Communication Terminal Resistors manufactured by UR.

1.2 Compliant with RoHS directive.

1.3 Halogen free requirement.

2. Part No. System

The standard Part No. includes 14 digits with the following explanation:

2.1 For Cement Fixed Resistors, these 4 digits are to indicate the product type but if the product type has only 3digits, the 4th digit will be "0"

Example: CTR=CTR-type

2.2 5th~6th digits:

2.2.1 For power of 1 watt to 16 watt ,the 5th digit will be a number or a letter code and the 6th digit will be the letters of W.

Example: W4=1/4W

2.3 The 7th digit is to denote the Resistance Tolerance. The following letter code is to be used for indicating the standard Resistance Tolerance.

F=±1%

2.4 The 8th to 11th digits is to denote the Resistance Value.

2.4.1 For the standard resistance values of E-24 series, the 8th digit is "0",the 9th & 10th digits are to denote the significant figures of the resistance and the 11th digit is the number of zeros following;

2.4.2 The following number s and the letter codes are to be used to indicate the number of zeros in the 11th digit:

$0=10^0$ $1=10^1$ $2=10^2$ $3=10^3$ $4=10^4$ $5=10^5$ $6=10^6$ $J=10^{-1}$ $K=10^{-2}$ $L=10^{-3}$ $M=10^{-4}$

2.5 The 12th, 13th & 14th digits.

2.5.1 The 12th digit is to denote the Packaging Type with the following codes:

B=Bulk/Box

2.5.2 The 13th digit is normally to indicate the Packing Quantity of Tape/Box & Tape/Reel packaging types. Using "0" to indicate the Bulk packaging types, the following letter codes is to be used for some packing quantities:

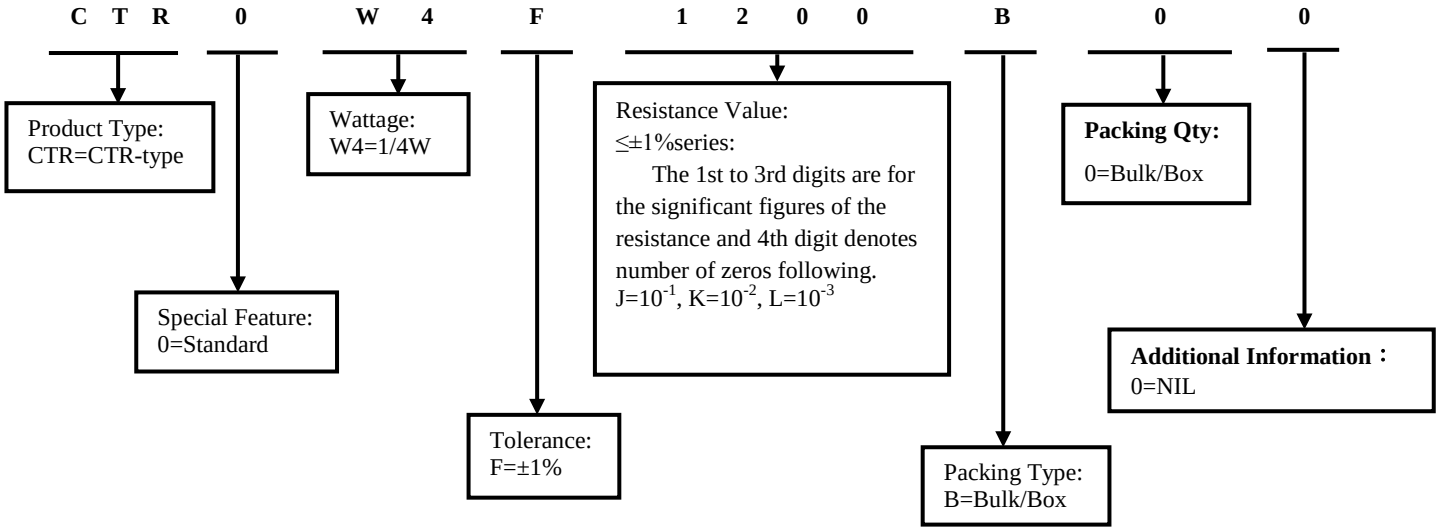
0=Bulk/Box

2.5.3 For some items, the 14th digit alone can use to denote special features of additional information with the following codes or standard product

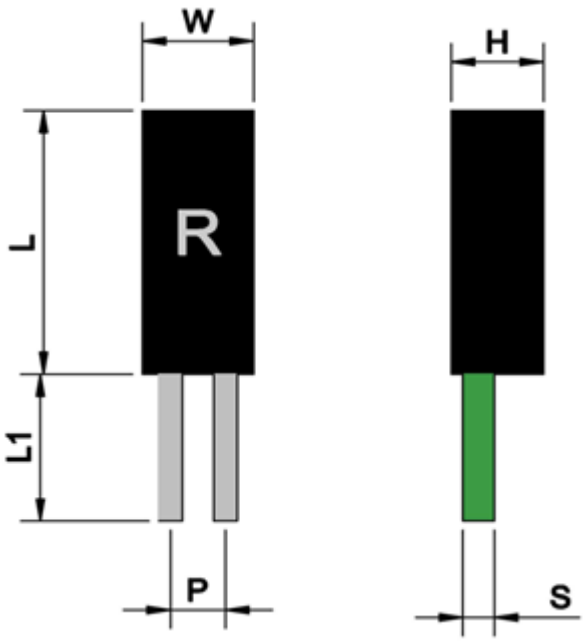
Example: 0= standard product

3. Ordering Procedure

(Example: CTR 1/4W ±1% 120Ω B/B)



4. Dimension (mm)

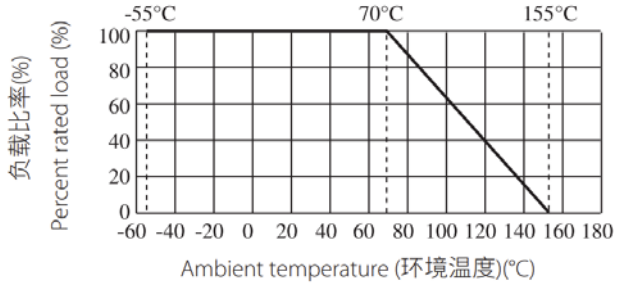


Type	W+0.1/-0	L+1/-0	L1+0/-1	H+0.1/-0	P±0.1	S±0.1
CTR 1/4W	7.1	18	10	5.9	3.5	2

5. Ratings

Type	Power	Resistance Range	Tolerance	Operating Temperature
CTR	1/4W	120Ω	±1%	-55℃~+155℃

6. Derating Curve



6.1 Voltage rating:

Resistors shall have a rated direct-current (DC) continuous working voltage or an approximate sine-wave root-mean-square (RMS) alternating-current (AC) continuous working voltage at commercial-line frequency and waveform corresponding to the power rating, as determined from the following formula:

RCWV = $\sqrt{P \times R}$

Where: RCWV = rated dc or RMS ac continuous working voltage at commercial-line frequency and waveform (VOLT.)

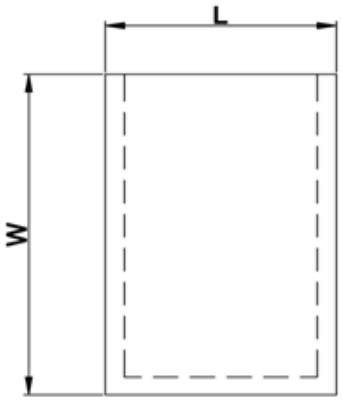
P = power rating (WATT.) R= nominal resistance (OHM)

7. Performance Specification

Characteristic	Limits	Test Methods (GB/T5729&JIS-C-5201&IEC60115-1)
Temperature Coefficient	±100PPM/℃	4.8 Natural resistance changes per temp. Degree centigrade $\frac{R_2-R_1}{R_1(t_2-t_1)} \times 10^6$ (PPM/℃) R_1: Resistance Value at room temperature （t_1）; R_2: Resistance at test temperature （t_2） t_1: +25℃ or specified room temperature t_2: Test temperature（-55℃or 125℃）
Short-time overload	Resistance change rate must be in ΔR/R≤±(1%+0.05Ω) , and no mechanical damage.	4.13 Permanent resistance change after the application of a potential of 2.5 times RCWV or Max.Overload Votage whichever less for 5 seconds.
Dielectric withstanding voltage	No evidence of flashover mechanical damage, arcing or insulation break down.	4.7 Testing voltage is 1000V, 60-70 seconds.
Insulation resistance	≥1 MΩ	Testing voltage is 500V, 60 seconds.
Rapid change of temperature	Resistance change rate must be in ΔR/R≤±(5%+0.05Ω), and no mechanical damage.	4.19 30 min at -55℃ and 30 min at 155℃; 100 cycles.
Humidity (Steady state)	Resistance change rate must be in ΔR/R≤±(5%+0.05Ω), and no mechanical damage.	4.24 Temporary resistance change after a 240 hours exposure in a humidity test chamber controlled at 40℃±2℃ and 90 to 95% relative humidity.
Load life in humidity	Resistance change rate must be in ΔR/R≤±(1%+0.05Ω), and no mechanical damage.	7.9 Resistance change after 1000 hours (1.5hours “ON” ，0.5hours “OFF”) at RCWV or Max. Working Voltage whichever less in a humidity test chamber controlled at 40±2℃ and 93%±3% RH.
Load life	Resistance change rate must be in ΔR/R≤±(1%+0.05Ω), and no mechanical damage.	4.25.1 Permanent Resistance change after 1000 hours operating at RCWV or Max. Working Voltage whichever less with duty cycle of 1.5 hours “ON” ，0.5 hour “OFF” at 70±2℃ ambient.
Terminal strength	No evidence of mechanical damage	4.16 Resistance to a 2.5Kg direct load for 10 seconds in the direction of the longitudinal axis of the terminal leads.

8. Packing

8.1 Kraft paper bag

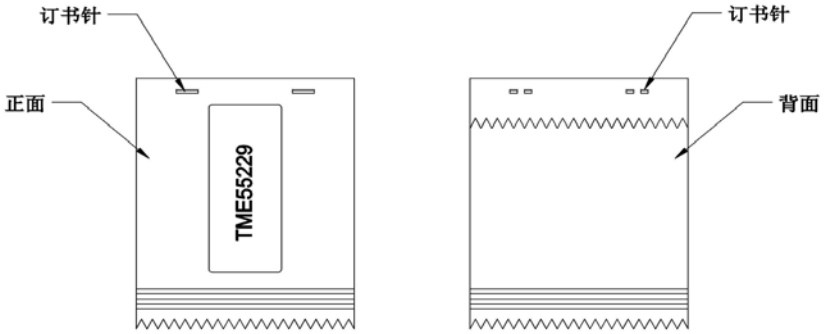


Unit: mm

Type	Packing	W±1	L±1	Quantity
CTR	Kraft paper bag	90	60	2pcs

Note: Kraft paper bag sealed with paper tape.

8.2 Label



9. Note

9.1. UNI-ROYAL recommend products store in warehouse with temperature between 15 to 35℃ under humidity between 25 to 75%RH.
Even under storage conditions recommended above, solder ability of products will be degraded stored over 1 year old.

9.2. Cartons must be placed in correct direction which indicated on carton, otherwise the reel or wire will be deformed.

9.3. Storage conditions as below are inappropriate:

a. Stored in high electrostatic environment

b. Stored in direct sunshine, rain, snow or condensation.

c. Exposed to sea wind or corrosive gases, such as Cl_2, H_2S, NH_3, SO_2, NO_2, Br etc.

10. Record

Version	Description	Page	Date	Amended by	Checked by
1	First version	1~4	Sep.29, 2024	Junying Ye	Haiyan Chen
2	Modify the tolerance of the “H” Add the packing	3 4	Nov.06,2024	Junying Ye	Haiyan Chen
3	Add Terminal strength Add packaging remarks	4	Nov.15,2024	Junying Ye	Haiyan Chen
4	Add label	5	Nov.22,2024	Junying Ye	Haiyan Chen