

DATA SHEET

Product Name **Communication Terminal Resistors**

Part Name **CTR 1/4W $\pm 1\%$ 120 Ω**

Part No. **CTR0W4F1200B00**

File No. **SND-01-077**

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1. Scope

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

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=10⁰ 1=10¹ 2=10² 3=10³ 4=10⁴ 5=10⁵ 6=10⁶ 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:

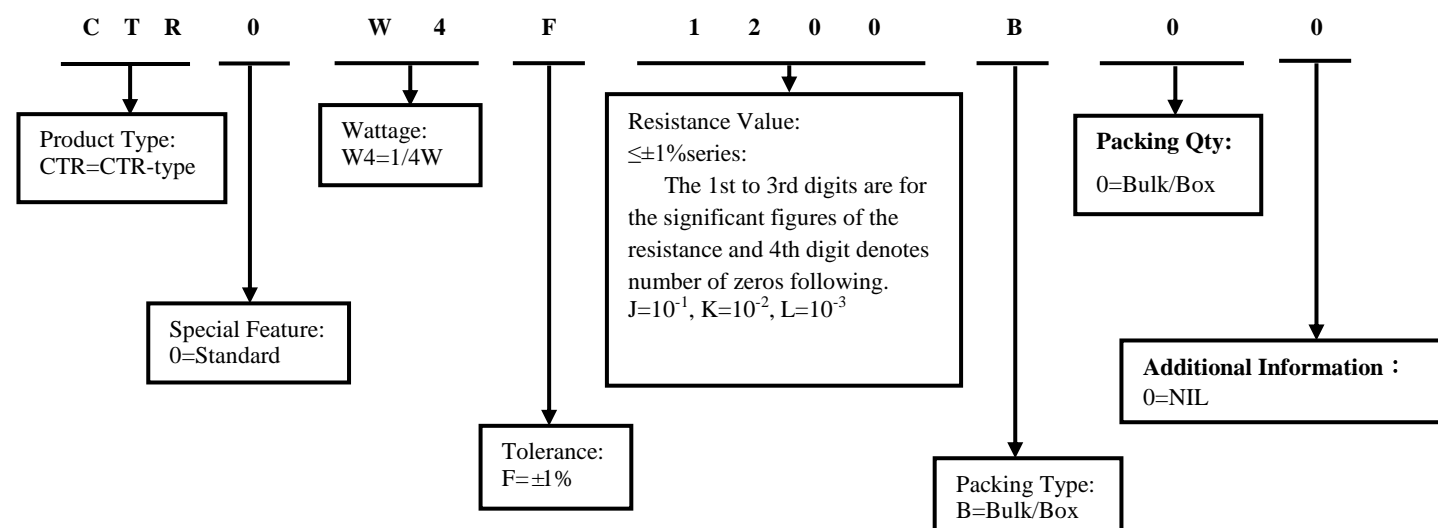
0=Bulk/Box

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

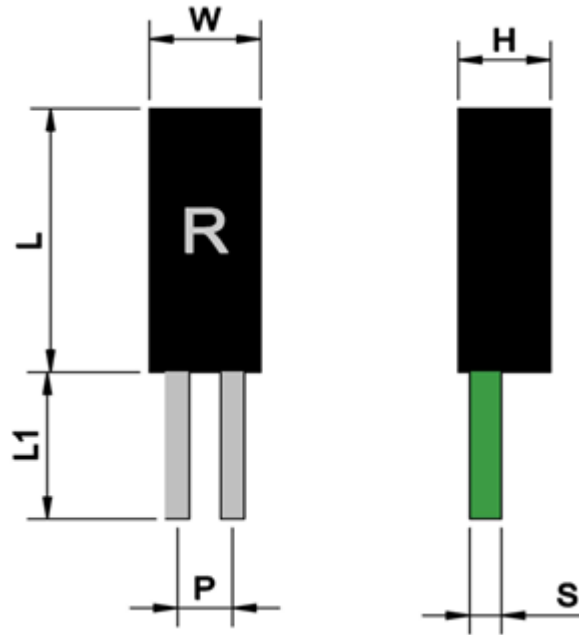
Example: 0= standard product

3. Ordering Procedure

(Example: CTR 1/4W ±1% 120Ω B/B)



4. Dimension (mm)

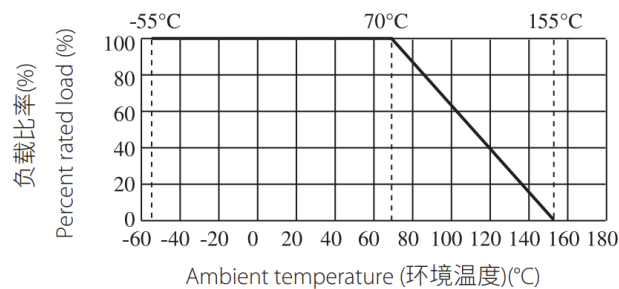


Type	W+0.1/-0	L+1/-0	L1+0/-1	H+0.1/-0	P±0.1	S±0.1
CTR 1/4W	7.1	18	10	5.9	3.5	2

5. Ratings

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

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:

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

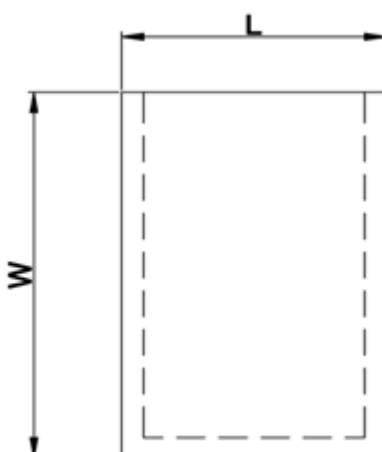
Where: RCWV = rated dc or RMS ac continuous working voltage at commercial-line frequency and waveform (VOLT.)

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

7. Performance Specification

Characteristic	Limits	Test Methods (GB/T5729&JIS-C-5201&IEC60115-1)
Temperature Coefficient	$\pm 100 \text{ PPM}/^{\circ}\text{C}$	4.8 Natural resistance changes per temp. Degree centigrade $\frac{R_2 - R_1}{R_1(t_2 - t_1)} \times 10^6 \text{ (PPM}/^{\circ}\text{C})$ R ₁ : Resistance Value at room temperature (t ₁) ; R ₂ : Resistance at test temperature (t ₂) t ₁ : +25°C or specified room temperature t ₂ : Test temperature (-55°C or 125°C)
Short-time overload	Resistance change rate must be in $\Delta R/R \leq \pm(1\% + 0.05\Omega)$, 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	$\geq 1 \text{ M}\Omega$	Testing voltage is 500V, 60 seconds.
Rapid change of temperature	Resistance change rate must be in $\Delta R/R \leq \pm(5\% + 0.05\Omega)$, and no mechanical damage.	4.19 30 min at -55°C and 30 min at 155°C; 100 cycles.
Humidity (Steady state)	Resistance change rate must be in $\Delta R/R \leq \pm(5\% + 0.05\Omega)$, and no mechanical damage.	4.24 Temporary resistance change after a 240 hours exposure in a humidity test chamber controlled at 40°C $\pm 2^{\circ}\text{C}$ and 90 to 95% relative humidity.
Load life in humidity	Resistance change rate must be in $\Delta R/R \leq \pm(1\% + 0.05\Omega)$, 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 $\pm 2^{\circ}\text{C}$ and 93% $\pm 3\%$ RH.
Load life	Resistance change rate must be in $\Delta R/R \leq \pm(1\% + 0.05\Omega)$, 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 $\pm 2^{\circ}\text{C}$ ambient.

8. Packing



Unit: mm

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

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:
- Stored in high electrostatic environment
 - Stored in direct sunshine, rain, snow or condensation.
 - 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

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