

APPROVAL APPLICATION

承 認 書

SMD Trimmer Potentiometer

FOR TOGOBOX

TYPE : VR031T Series

力圖科技有限公司

Powershop International Company

台北市大同區承德路 3 段 163 號 2 樓

TEL : (02)2586-6101 FAX : (02)2586-6103

Issued by _____ Date _____

Checked by _____ Date _____

Approved by _____ Date _____

SPECIFICATIONS

Chip Trimmer Potentiometer VR031 series

1/5

1. Scope

This Specification applies to 3 mm Chip trimmer potentiometer with Metal-Glaze-Resistor, used in electronic equipment.

2. Specification

- 2.1 Power Rating :0.1W (~ +70)
- 2.2 Maximum Operating Voltage :50V
- 2.3 Nominal Total Resistance Range :100 Ω ~ 1M Ω
- 2.4 Total Resistance Tolerance :± 25%
- 2.5 Temperature Coefficient (T.C.R.) :± 250 ppm/
- 2.6 Resistance Law (Taper) :40% ~60% (Linear taper)
- 2.7 Ineffective Rotation :10% or less of total rotation, at each end
- 2.8 Residual Resistance :total resistance 1KΩ or less :20Ω or less
:total resistance more than 1KΩ :2% or less
- 2.9 Operating Temperature Range :-40 ~ +100
- 2.10 Storage Temperature Range :-10 ~ +40

3. Mechanical characteristics

- 3.1 Total Mechanical Rotation :270 ° ± 20 °
- 3.2 Rotational Torque :0.98 mN•m ~ 11.76 mN•m
- 3.3 End Stop Strength :14.7 mN•m for 5 seconds

4. Endurance Characteristics

	Item	Conditions	Specifications
1	Vibration	The entire frequency range, from 10Hz to 55Hz and return to 10Hz, shall be transversed in 1 min. Amplitude(total excursion): 1.5 mm	Change in resistance within ±5%
2	Soldering Heat	Peak temperature : 240 ± 5 Application time : more than 220 ± 5 40s	Change initial resistance within ±2%
3	High Temp. Storage	70 ± 2 without electrical load for 1000h ± 12h Out from the chamber and maintained at standard atmospheric conditions for 1h ~ 2h	Change in resistance within ±5%
4	Load Life	70 ± 2 with a DC rated voltage for 1.5h between terminals 1 and 3 followed by a pause of 30 min for 1000h ± 12h Out from the chamber and maintained at standard atmospheric conditions for 1h ~ 2h	Change in resistance within ±5%

SPECIFICATIONS

Chip Trimmer Potentiometer VR031 series

2/5

	Item	Conditions	Specifications
5	Temperature Cycle	5 successive change of temperature cycles, such as -40 ± 3 for 30 min, then standard atmospheric conditions for 10 min to 15 min, then 100 ± 2 for 30 min, then standard atmospheric conditions 10 min to 15 min.	Change in resistance within ±2%
6	Humidity	40 ± 2 with relative humidity of 90% to 95% without electrical load for 1000h ± 12h Out from the chamber and maintained at standard atmospheric conditions for 1h ~ 2h	Change in resistance within ±5%
7	Humidity Load Life	40 ± 2 with relative humidity of 90% to 95% with a DC rated voltage for 1.5h between terminals 1 and 3 followed by a pause of 30 min for 1000h ± 12h Out from the chamber and maintained at standard atmospheric conditions for 1h ~ 2h	Change in resistance within ±5%
8	Rotational Life	The moving contact shall be rotated without electrical load for 20 cycles ± 2 cycles at a rate of 10 min	Change in resistance within ±10%

5. Marking

Nominal total resistance : First number shows significant figures and the other shows quantity of zero.

ex. 1 kΩ : 13

10 kΩ : 14

100 kΩ : 15



6. Material List

No.	Part Name	Base Material		Plating			
		Generic Type	Type Number	Undercoat		Surface Coating	
				Type of Coating	Thickness	Type of Coating	Thickness
1	Substrate	Alumina	-	-	-	-	-
2	Element	Metal Glaze	-	-	-	-	-
3	Electrode	AgPd	-	-	-	-	-
4	Terminals	Stainless	SUS304	Nickel	1μm Max	Tin	0.5~3μm
5	Connector	Ag Adhesive	-	-	-	-	-
6	Move contact	Stainless	SUS304	-	-	-	-

SPECIFICATIONS

Chip Trimmer Potentiometer VR031 series

3/5

7. Approval Application List

Nominal Total Resistance	Tolerance	Residual Resistance		Part Number
		Between 1 , 2	Between 2 , 3	
B100 Ω	± 25%	20 Ω max	20 Ω max	VR031T B101
B200 Ω		20 Ω max	20 Ω max	VR031T B201
B300 Ω		20 Ω max	20 Ω max	VR031T B301
B500 Ω		20 Ω max	20 Ω max	VR031T B501
B1K Ω		20 Ω max	20 Ω max	VR031T B102
B2K Ω		40 Ω max	40 Ω max	VR031T B202
B3K Ω		60 Ω max	60 Ω max	VR031T B302
B5K Ω		100 Ω max	100 Ω max	VR031T B502
B10K Ω		200 Ω max	200 Ω max	VR031T B103
B20K Ω		400 Ω max	400 Ω max	VR031T B203
B30K Ω		600 Ω max	600 Ω max	VR031T B303
B50K Ω		1K Ω max	1K Ω max	VR031T B503
B100K Ω		2K Ω max	2K Ω max	VR031T B104
B200K Ω		4K Ω max	4K Ω max	VR031T B204
B300K Ω		6K Ω max	6K Ω max	VR031T B304
B500K Ω		10K Ω max	10K Ω max	VR031T B504
B1M Ω	20K Ω max	20K Ω max	VR031T B105	

8. Meaning of part NO.

VR 03 1 T B103
 a b c d e

a : Model

b : Size-3mm

c : Type code

d : Packing (Taping Reel)

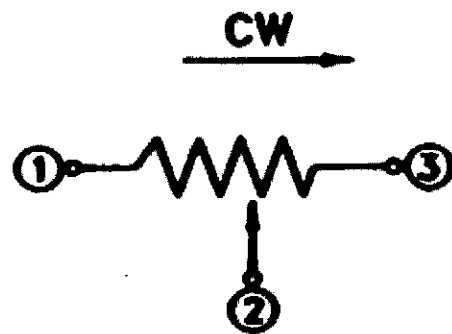
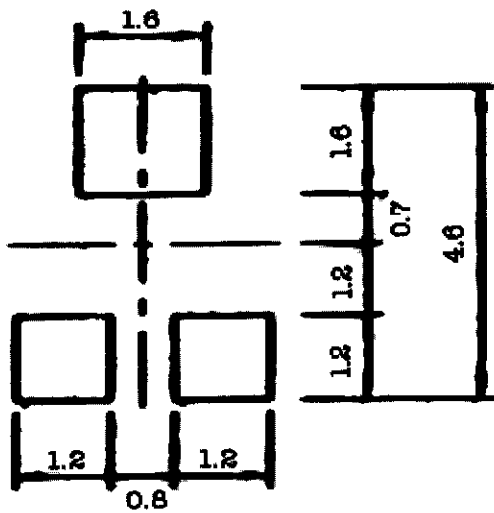
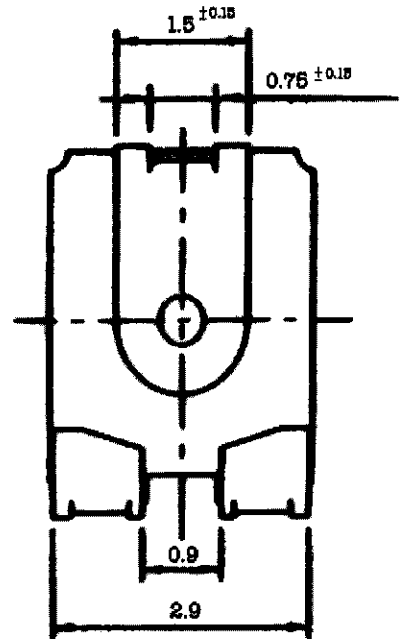
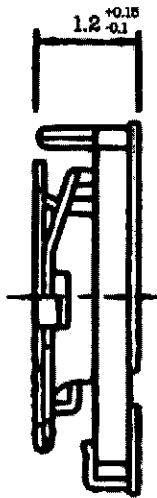
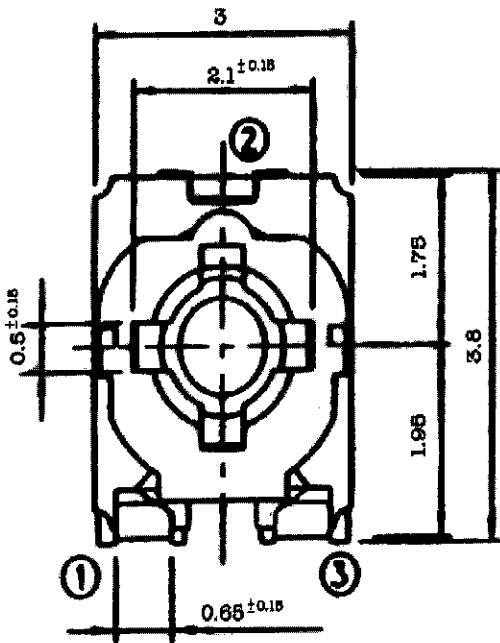
e : Resistance

SPECIFICATIONS

Chip Trimmer Potentiometer VR031 series

9. Shape and dimensions

Tolerances unless otherwise specified ± 0.3



SPECIFICATIONS

Chip Trimmer Potentiometer VR031 series

10. Taping Reel

