

Data Sheet

Customer:

Product: TO-220 Power Resistors – TR35 Series

Size: TR35

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VIKING TECH CORPORATION
光頡科技股份有限公司
No.70 Guangfu N. Rd., Hukou
Township, Hsinchu County 303,
Taiwan

TEL:886-3-5972931
FAX:886-3-5972935•886-3-5973494
E-mail:sales@viking.com.tw

VIKING TECH CORPORATION KAOHSIUNG BRANCH
光頡科技股份有限公司高雄分公司
No.248-3, Sin-Sheng Rd., Cian-Jhen Dist., Kaohsiung,
806, Taiwan

TEL:886-7-8217999
FAX:886-7-8228229
E-mail:sales@viking.com.tw

VIKING ELECTRONICS (WUXI) CO., LTD.
光頡電子(無錫)有限公司
No.22 Xixia Road, Machinery & Industry Park,
National Hi-Tech Industrial Development Zone
of Wuxi, Wuxi, Jiangsu Province, China
Zip Code:214028
TEL:86-510-85203339
FAX:86-510-85203667•86-510-85203977
E-mail:china@viking.com.tw

| Produced by (QC) | Checked (QC) | Approved by (QC) | Prepared by (Sales) | Accepted by (Customer) |
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| Mandy Chen | Ben Chang | Ben Chang | | |

TO-220 Power Resistors – TR35 Series



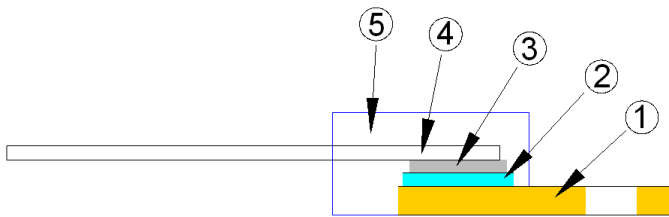
Features

- 35 watts at 25°C case temperature heat sink mounted
- TO-220 style power package
- Single screw mounting to heat sink
- Molded case for protection and easy to mount
- Electrically isolated case
- Non-Inductive design

Applications

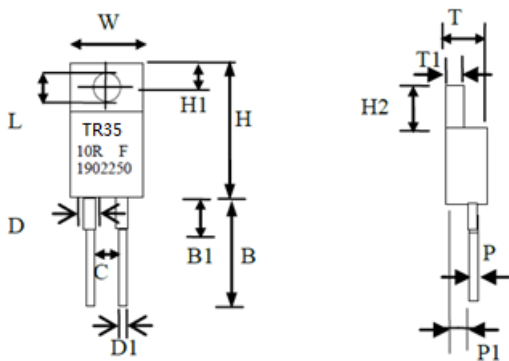
- Switching Power Supplies
- Snubbers Circuits
- Automated Machine Controller
- RF Power Amplifiers
- Low Energy Pulse Loading
- UPS
- Voltage Regulation

Construction

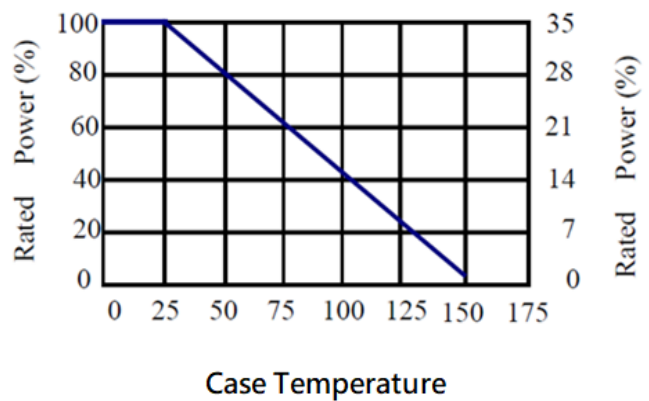


| | |
|---------------------|-----------|
| ① Flange | ④ Lead |
| ② Alumina Substrate | ⑤ Molding |
| ③ Resistor Layer | |

Dimensions



Derating Curve



Unit:mm

| Type | W | H | H1 | B | B1 | D | D1 | L | C | T | T1 | H2 | P | P1 |
|------|----------------|----------------|---------------|----------------|----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| TR35 | 10.16 ±0.30 | 15.00 ±0.30 | 2.90 ±0.25 | 13.50 ±0.80 | 4 max | 1.27 ±0.10 | 0.78 ±0.08 | 3.84 ±0.30 | 5.08 ±0.25 | 4.60 ±0.20 | 1.25 ±0.10 | 6.23 ±0.38 | 0.50 ±0.15 | 2.30 ±0.25 |

Part Numbering

| | | | | | |
|--------------|--------------|---|----------------|---|--|
| TR | 35 | J | D | D | 1001 |
| Product Type | Power | Resistance Tolerance | Packaging Code | TCR (PPM/°C) | Resistance |
| | 35: 35 Watts | D: ±0.5% F: ±1% J: ±5% K: ±10% | D: Tube | D: ±50 E: ±100 F: ±200 G: ±300 - : No Specified | R100: 0.1Ω 0100: 10Ω 4700: 470Ω 1001: 1KΩ 1002: 10KΩ |

Electrical Characteristics Specifications

| Item Type | Resistance Range | | | | TCR (PPM/°C) |
|--------------|------------------|-----|---------------|------|----------------------|
| | ±0.5% | ±1% | ±5% | ±10% | |
| TR35 | | | 0.05Ω - 0.91Ω | | No Specified |
| | | | >1Ω - 2.7Ω | | ±100 ±200 ±300 |
| | | | >3Ω - 10Ω | | ±100 ±200 ±300 |
| | | | >10Ω - 10KΩ | | ±50 ±100 ±200 |

- Operating Voltage: 350V Max.
- Dielectric Strength: 1800VAC
- Insulation Resistance: 10GΩ min.
- Working Temperature Range: -65°C to +150°C

Environmental Characteristics

| Item | Requirement | Test Method |
|--|-------------------|---|
| Temperature Coefficient of Resistance (T.C.R.) | As Spec. | Referenced to 25°C, ΔR taken at +105°C |
| Short Time Overload | ΔR±0.3% | 2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds |
| Load Life | ΔR±1.0% | 2,000 hours at rated power |
| Damp Heat with Load | ΔR±0.5% | 40±2°C, 90~95% R.H., RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hr "OFF" |
| Solderability | 90% min. coverage | 245±5°C for 3 seconds |
| Thermal Shock | ΔR±0.3% | -65°C~150°C, 100 cycles |

TO-220 Power Resistors- 35 Watts

| Item | Requirement | Test Method |
|---------------------------|----------------------|------------------|
| Terminal Strength | $\Delta R \pm 0.2\%$ | (Pull Test) 2.4N |
| Vibration, High Frequency | $\Delta R \pm 0.2\%$ | 20g peak |

- Lead Material: Tinned Copper
- Maximum Torque: 0.9 N-m
- Without a Heat Sink, When in Free Air at 25°C, the TR35 is Rated for 2.50W
- The Case Temperature is to be used for the Definition of the Applied Power Limit
- The Case Temperature Measurement must be made with a Thermocouple Contacting the Center of the Component mounted on the Designed Heat Sink.
- Thermal Grease should be Applied Properly.
- RCWV(Rated Continuous Working Voltage)= $\sqrt{P \cdot R}$ or Max. Operating Voltage whichever is lower.

■ Packaging

Tube Packaging Quantity

| Type | Packaging |
|------|-----------|
| | Tube |
| TR35 | 50 pcs |