TO-220 Power Resistors – TR35 Series

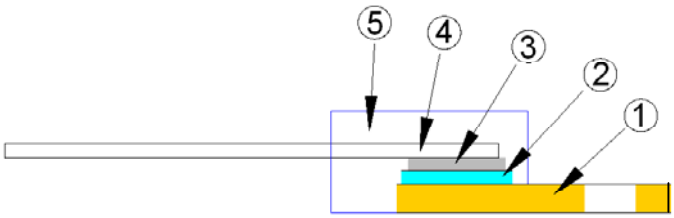
■Features

- 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

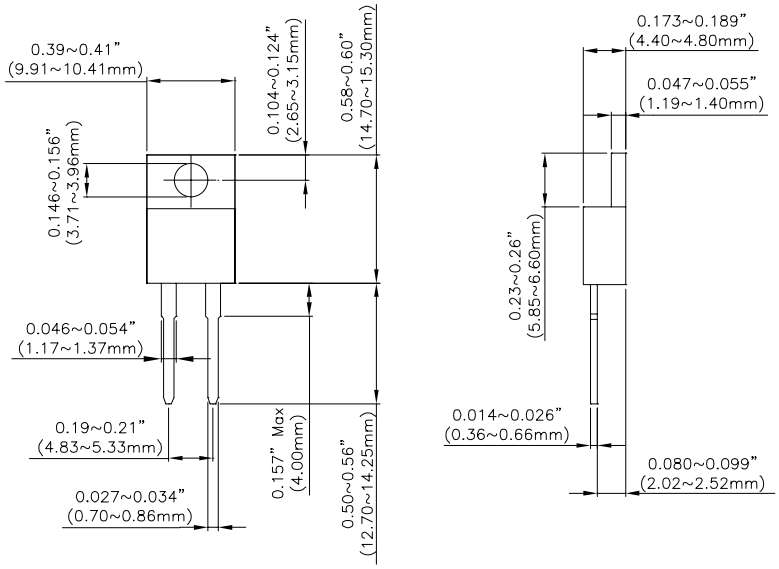
■Construction



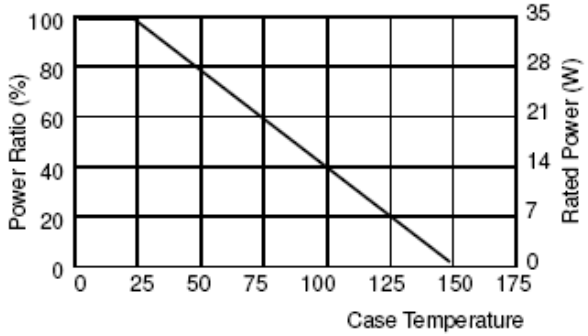
①	Flange	④	Lead
②	Alumina Substrate	⑤	Molding
③	Resistor Layer		

■Dimensions

Type	Weight (g) (1000pcs)
TR35	1902



■Derating Curve



■Part Numbering

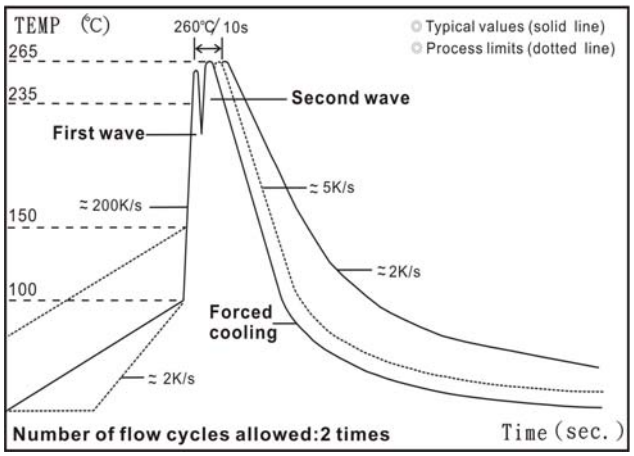
TR	35	J	B	D	1001
Product Type	Power	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Resistance
	35: 35 Watts	D: ±0.5% F: ±1% J: ±5% K: ±10%	B: Bulk D: Tube	D: ±50 E: ±100 F: ±200 G: ±300 - : No Specified	R100: 0.1Ω 0100: 10Ω 4700: 470Ω 1001: 1KΩ 1002: 10KΩ

■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 ±300
		3Ω -10Ω			±100 ±200
	>10Ω –10KΩ				±50 ±100 ±200

- Operating Voltage: 350V Max.
- Dielectric Strength: 1800VAC
- Insulation Resistance: 10GΩ min.
- Working Temperature Range: -65°C to +150°C
- Resistance Value < 1Ω is available

■Soldering Condition



Wave Soldering (Flow Soldering)

(1) Time of wave soldering at maximum temperature point 260°C：10s

(2) Time of soldering iron at maximum temperature point 410°C：5s

■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℃~150°C, 100 cycles
Terminal Strength	ΔR±0.2%	(Pull Test) 2.4N
Vibration, High Frequency	ΔR±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*R) or Max. Operating Voltage whichever is lower.

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version B2	Sep 30,2014	ECN-14017	Product's Dimensions Updated
Version B3	Apr 30,2015	-	- Increase Tube Package Code
Version B4	Jul 15,2016	-	- Resistance range 1Ω-2.7Ω increase TCR100 Specifications - Adjust the resistance range