

TO-263 SMD Power Resistors – STR35 Series



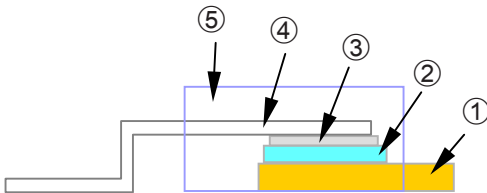
Features

- 35 watts at 25°C case temperature
- TO-263 style power package for surface mounted resistor
- Molded case for protection
- Resistor is electrically isolated from metal tab

Applications

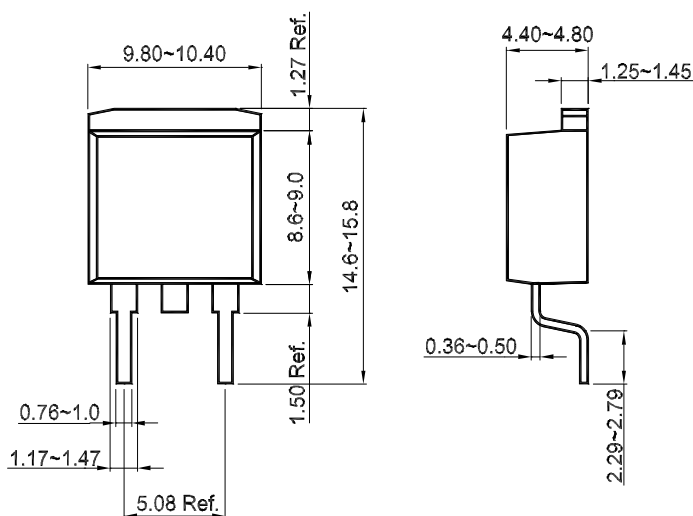
- Switching Power Supplies
- Snubbers Circuits
- Automated Machine Controller
- RF Power Amplifiers
- Low Energy Pulse Loading
- UPS
- Voltage Regulation
- Bleeder Resistors

Construction

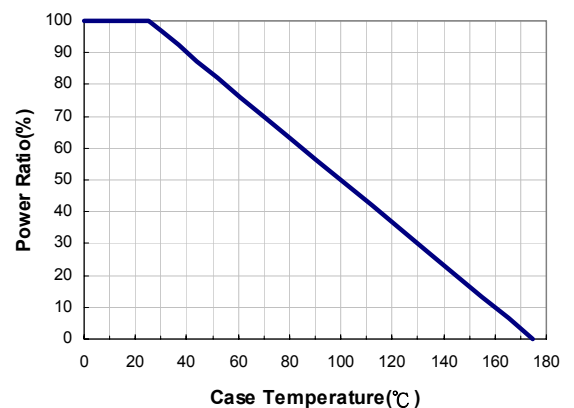


① Flange	④ Lead
② Alumina Substrate	⑤ Molding
③ Resistor Layer	

Dimensions



Derating Curve



Type	Weight (g)
STR35	1.5g

Part Numbering

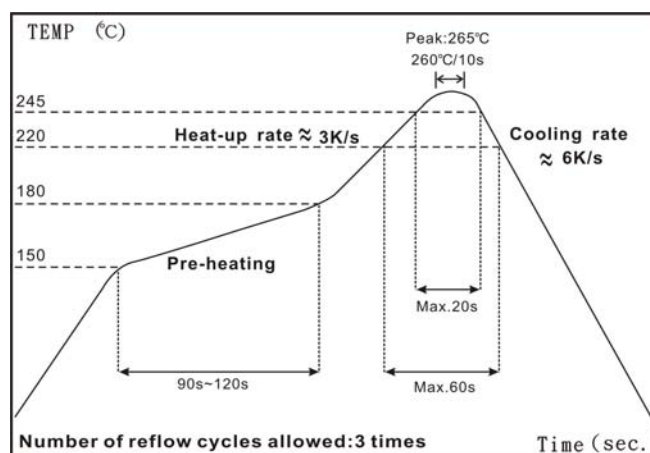
STR	35	J	B	D	1001
Product Type	Power	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Resistance
	35: 35 Watts	D: $\pm 0.5\%$ F: $\pm 1\%$ J: $\pm 5\%$ K: $\pm 10\%$	T: Taping D: Tube	D: ± 50 E: ± 100 F: ± 200 G: ± 300 - : No Specified	R500: 0.5Ω 0100: 10Ω 4700: 470Ω 1001: $1K\Omega$ 1002: $10K\Omega$

Electrical Characteristics Specifications

Item Type	Resistance Range				TCR (PPM/°C)
	±0.5%	±1%	±5%	±10%	
STR35			0.5Ω –0.91Ω		No Specified
		1Ω –2.7Ω			±100 ±300
		3Ω -10Ω			±100 ±200
	>10Ω –100KΩ				±50 ±100 ±200

- Operating Voltage: 500V Max.
- Dielectric Strength: 2000VAC
- Insulation Resistance: $10G\Omega$ min.
- Working Temperature Range: -55°C to $+175^{\circ}\text{C}$
- Resistance Value $< 1\Omega$ is available

Soldering Condition



IR Reflow Soldering

- (1) Time of IR reflow soldering at maximum temperature point 260°C : 10s
- (2) Time of soldering iron at maximum temperature point 410°C : 5s

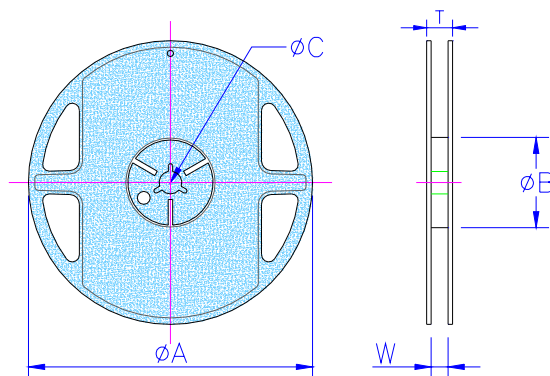
■ Environmental Characteristics

Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	JIS-C-5201-1 4.8 IEC 60115-1 4.8 Referenced to 25°C, ΔR taken at +105°C
Short Time Overload	$\Delta R \pm 0.3\%$	JIS-C-5201-1 4.13 IEC 60115-1 4.13 2 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds
Load Life	$\Delta R \pm 1.0\%$	JIS-C-5201-1 4.25 IEC 60115-1 4.25 2,000 hours at rated power
High Temperature Exposure	$\Delta R \pm 0.25\%$	MIL-STD-202 method 108 at +175°C for 1000 hrs. Unpowered.
Temperature Cycling	$\Delta R \pm 0.3\%$	JESD22 Method JA-104 -55°C~+175°C, 1000 cycles
Damp Heat with Load	$\Delta R \pm 0.5\%$	JIS-C-5201-1 4.24 IEC 60115-1 4.24 40±2°C, 90~95% R.H., RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hr "OFF"
Vibration, High Frequency	$\Delta R \pm 0.2\%$	MIL-STD-202 Method 204 5 g's for 20 min., 12 cycles each of 3 orientations, 10-2000 Hz
Resistance to Soldering Heat	$\Delta R \pm 0.5\%$	JIS-C-5201-1 4.18 IEC 60115-1 4.18 260±5°C for 10 seconds
Solderability	90% min. coverage	J-STD-002 245±5°C for 3 seconds
Terminal Strength	No broken	AEC-Q200-006 Force of 1.8kg for 60 seconds.

- Lead Material: Tinned Copper
- Maximum Torque: 0.9 N-m
- When in Free Air at 25°C, the STR35 is Rated for 2.50W
- The Case Temperature is to be used for the Definition of the Applied Power Limit
- RCWV(Rated Continuous Working Voltage)= $\sqrt{P \cdot R}$ or Max. Operating Voltage whichever is lower.

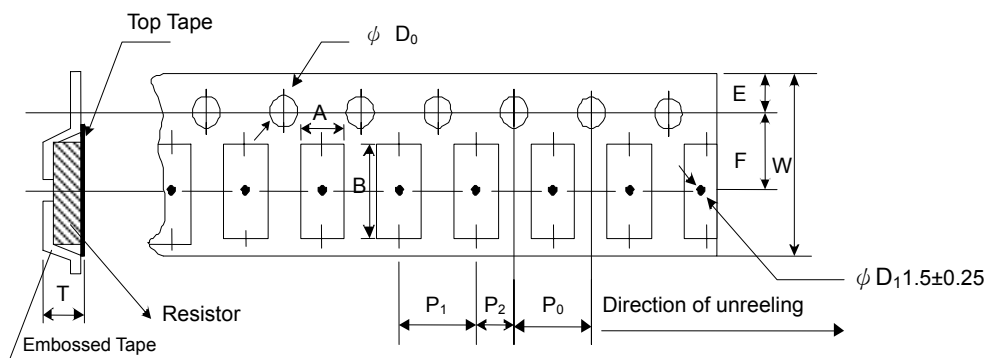
■ Packaging

Reel Specifications & Packaging Quantity



Type	Packaging Quantity	Tape Width	Reel Diameter	ΦA (mm)	ΦB (mm)	ΦC (mm)	W (mm)	T (mm)
STR35	500 pcs	24mm	13 inch	330±1.0	100±0.5	13.5±0.3	25.4±0.5	30.0±0.5

Embossed Plastic Tape Specifications



Type	A (mm)	B (mm)	W (mm)	E (mm)	F (mm)	P ₀ (mm)	P ₁ (mm)	P ₂ (mm)	ΦD ₀ (mm)	T (mm)
STR35	10.80±0.10	16.13±0.10	24.0±0.30	1.75±0.1	11.5±0.1	4.0±0.1	16.0±0.1	2.0±0.1	1.55±0.05	5.25±0.20

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version A	Jun 03,2014	-	- First issue of this specification
Version A1	Apr 30,2015	-	- Increase Tube Package Code
Version A2	Jul 15,2016	-	- Resistance range 1Ω-2.7Ω increase TCR100 Specifications - Adjust the resistance range