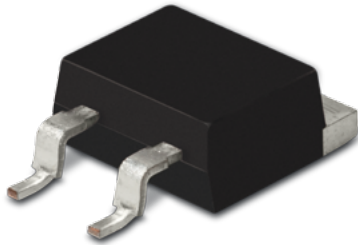


# Data Sheet for Precision Resistors

Power Resistor (thin film)

Series M35



- Power rating up to 35 Watt (with heat-sink)
- Resistance range from 0,01Ω..51kΩ
- Resistance tolerance ±1%
- TCR up to ±50ppm/°C
- TO-263 housing (D-PAK)
- Low inductance (<10nH)
- Reflow solderable at 260°C / 20 sec.

Electrical Specification	
Resistance range	0,01Ω..51kΩ
Resistance tolerance	±1%..±5%
Power rating @ 25°C (0W @ +175°C)	35 W with heat-sink 2 W without heat-sink
Max. working voltage	500V
TCR-rate	±50ppm/°C @ R ≥ 10Ω ±100ppm/°C @ 0,1Ω ≤ R <10Ω ±250ppm/°C @ R < 0,1Ω
Working temperature range (max.)	-55 °C up to +175 °C

Mechanical Specification	
Resistance technology / material	Thin film
Housing material	Epoxy moulded
Design	TO-263
Connections	Cooper tinned

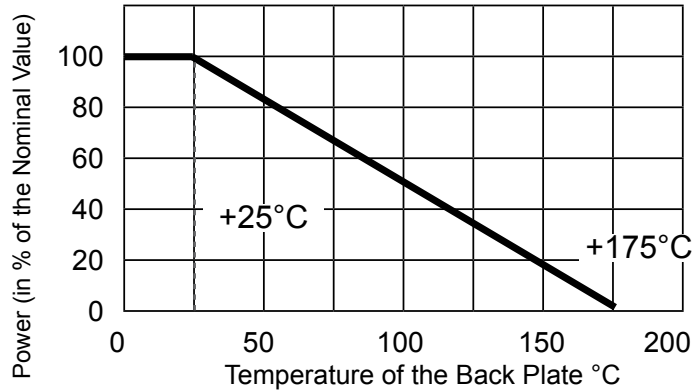
Parameters	Test Conditions	Specification ΔR
Load life	90 min on, 30 min off, 1000h @25 °C	±1%
Moisture resistance	90..95% RH, 0,1W, 1000h @ 40 °C	±1%
Thermal shock	-55 °C 30 min., +155 °C 30min. 5 Zyklen	±0.25%
Resistance to soldering heat	350 °C±5°C, 3 Sekunden	±0.1%
Vibration	IEC60068-2-6	±0.25%
Dielectric strength: 2000 VAC		
Inductance: 8.4 nH		
Isolation resistance: >1 GΩ		
Thermal resistance: 3.3K/W		

# Data Sheet for Precision Resistors

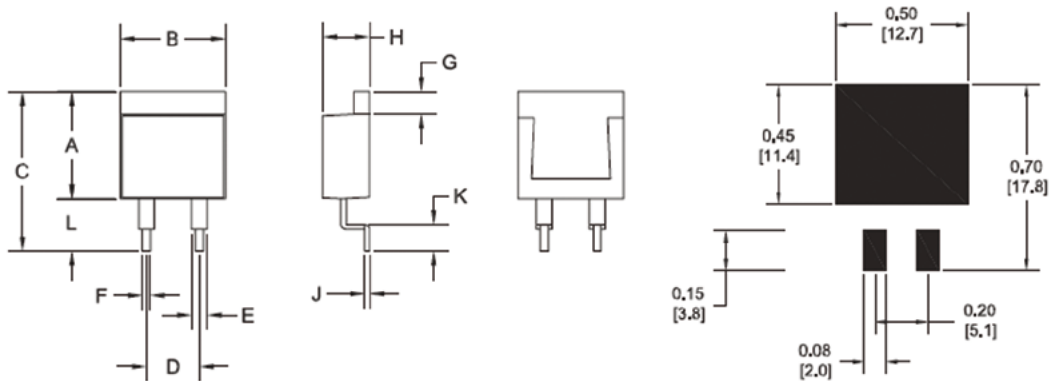
Power Resistor (thin film)

Series M35

## Power Derating Curve



## Drawing



	A	B	C	D	E	F	G	H	J	K	L
Dimension in mm	10.3 ±0.2	10.1 ±0.2	15.3 ±1.0	5.08 ±0.1	1.5 ±0.05	0.75 ±0.05	2.2 ±0.2	4.5 ±0.2	0.5 ±0.05	2.5 ±0.5	5.0 ±1.0

## Power Rating Notes:

The M35 series resistors have to be combined with a correctly dimensioned heat-sink. The internal temperature of the resistor should not exceed 175°C.

Formula for the calculation of an appropriate heat-sink:

$$R_{OH} = \frac{T_{max} - (P \times R_{OR}) - T_U}{P}$$

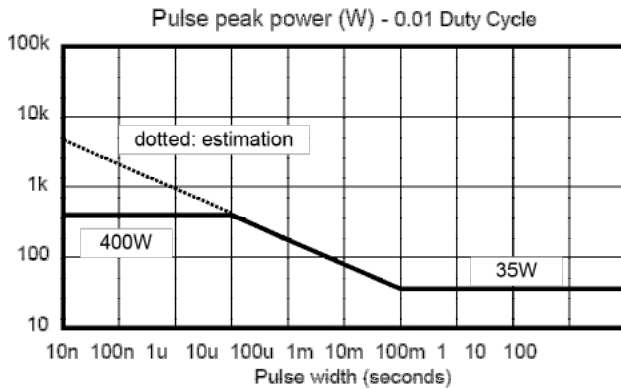
- $R_{OH}$  Thermal Resistance of the Heat-Sink(°C/W)
- $R_{OR}$  Thermal Resistance of the Resistor (°C/W)
- $T_{max}$  Maximum Temperature of the Resistor
- $T_U$  Ambient Temperature of the Heat-Sink (°C)
- $P$  Power applied to the Resistor (W)

# Data Sheet for Precision Resistors

Power Resistor (thin film)

Series M35

## Pulse Energy Durability



Load life test will be necessary in actual equipment.

## Order code

Description	Selection: <b>standard=black/bold</b> , possible <i>options=grey/italic</i>		
<b>Series:</b>	<b>M35</b>		
<b>Resistance tolerance:</b> ±1% @R ≥ 0,1 Ω ±5 @R < 0,1 Ω		<b>W1%</b> <b>W5%</b>	
<b>Temperature coefficient:</b> ±50ppm/°C @ R ≥ 10Ω ±100ppm/°C @ 0,1Ω ≤ R <10Ω ±250ppm/°C @ R < 0,1Ω			<b>TK50</b> <b>TK100</b> <b>TK250</b>
<b>Resistance value - please choose:</b> From 0,01Ω to ≤ 51kΩ			<b>xxxxxxx</b>

Order Example	Series	Resistance tolerance	Temperature coefficient	Resistance value
Choice	M35	±1%	50ppm/°C	10,1kΩ
Code	M35	W1%	TK50	10k100

Packaging	Quantity	Reel Dimensions
M35	500	Outer Diameter:330 mm, Inner Diameter: 100 mm, Tape Width: 23,9 mm (min.), 27,4 (max.)