

# Data Sheet for Precision Resistor

Power Resistor (wirewound)

Series UT



- Power ratings up to 10 Watts
- Stable pulse handling
- Resistance tolerances  $\pm 0.01\%$ ..10%
- TCR up to  $\pm 20$  ppm/ $^{\circ}\text{C}$
- Non-inductive windings (option)
- Resistance values from  $0.01\Omega$ ..260k $\Omega$
- Option high temperature range  $-55^{\circ}\text{C}$ ..350 $^{\circ}\text{C}$
- Option 4 pin (Kelvin) connection

Electrical Specification	UT						
	1/2A	1A*	2A*	3	5*	7	10*
Resistance range from 0. 01 $\Omega$ ..	..2,5k $\Omega$	..10k $\Omega$	..22k $\Omega$	..45k $\Omega$	..91k $\Omega$	..150k $\Omega$	..260k $\Omega$
Resistance tolerance	$\pm 0,01\%$ .. $\pm 10\%$						
Power rating standard (0W @ +275 $^{\circ}\text{C}$ )	0.4W	1W	2.5W	4W	5W	7W	10W
Power rating HT version (0W @ +350 $^{\circ}\text{C}$ )	0.5W	1.5W	3W	5.5W	6.5W	9W	13W
Max. working voltage	20V	52V	130V	210V	360V	650V	850V
TCR-rate	$\pm 20$ ppm/ $^{\circ}\text{C}$ @ R > 10 $\Omega$ $\pm 50$ ppm/ $^{\circ}\text{C}$ @ R = 1 $\Omega$ ..10 $\Omega$ $\pm 90$ ppm/ $^{\circ}\text{C}$ @ R < 1 $\Omega$						
Working temperature range (max.)	-55..+275 $^{\circ}\text{C}$ standard / -55..+350 $^{\circ}\text{C}$ HT version						
*MIL-R-26 / MIL-R-39007	--	RW-70	RW-69	--	RW-74	--	RW-78

Mechanical Specification	
Resistance technology / material	Wirewound / wire alloy
Housing material	Inorganic Silicone
Connections	Axial cooper tinned

Parameters	Test Conditions (MIL-STD 202)	Specification	
		$\Delta R$ Standard	$\Delta R$ HT version
Dielectric	See norm	$\pm 0.2\%$ +0.05 $\Omega$	$\pm 0.2\%$ +0.05 $\Omega$
Load life	See norm	$\pm 1\%$ +0.05 $\Omega$	$\pm 3\%$ +0.05 $\Omega$
Storage	See norm	$\pm 0.2\%$ +0.05 $\Omega$	$\pm 2\%$ +0.05 $\Omega$
Moisture resistance	See norm	$\pm 0.2\%$ +0.05 $\Omega$	$\pm 2\%$ +0.05 $\Omega$
Thermal shock	See norm	$\pm 0.2\%$ +0.05 $\Omega$	$\pm 2\%$ +0.05 $\Omega$
5X Overload ( 5s )	See norm	$\pm 0.2\%$ +0.05 $\Omega$	$\pm 2\%$ +0.05 $\Omega$
Shock	See norm	$\pm 0.1\%$ +0.05 $\Omega$	$\pm 0.2\%$ +0.05 $\Omega$
Vibration	See norm	$\pm 0.1\%$ +0.05 $\Omega$	$\pm 0.2\%$ +0.05 $\Omega$

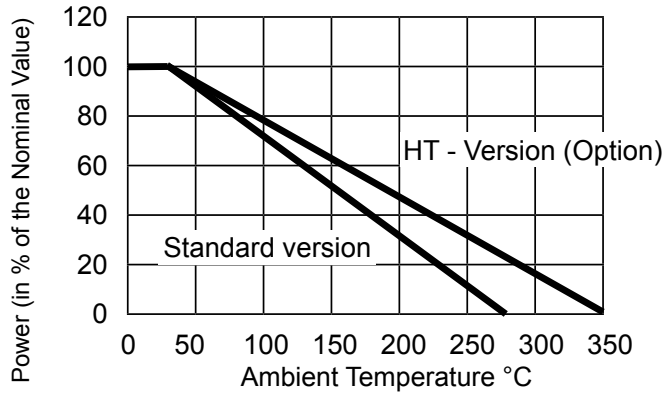
Dielectric strength: 1000 VAC (500 VAC @ UT-1/2A, UT-1A)

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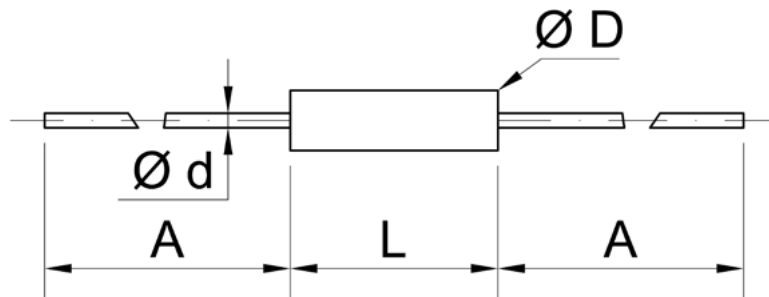
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## Power Derating Curve



## Drawing



UT	A (min.)	L (±1.6)	ØD (±0.8)	d (±0.05)
1/2A	25.4	6.4	2.4	0.5
1A	25.4	10.3	2.4	0.5
2A	25.4	12.7	4.7	0.8
3	25.4	17.1	6.9	1.0
5	25.4	22.2	7.9	1.0
7	25.4	35.0	9.5	1.0
10	25.4	45.2	9.5	1.0

Dimensions in mm

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## Order code

Description	Selection: <b>standard=black/bold</b> , possible <i>options=grey/italic</i>							
<b>Series:</b>	<b>UT</b>							
<b>Type / size:</b>								
1/2A (max. 2.5kΩ)		<b>1/2A</b>						
1A (max. 10kΩ)		<b>1A</b>						
2A (max. 22kΩ)		<b>2A</b>						
3 (max. 45kΩ)		<b>3</b>						
5 (max. 91kΩ)		<b>5</b>						
7 (max. 150kΩ)		<b>7</b>						
10 (max. 260kΩ)		<b>10</b>						
<b>Resistance tolerance:</b>								
±0.02%			<b>W0,02%</b>					
±0.05%			<b>W0,05%</b>					
±0.1%			<b>W0,1%</b>					
±0.25%			<b>W0,25%</b>					
±0.5%			<b>W0,5%</b>					
±1%			<b>W1%</b>					
±5			<b>W5%</b>					
±10%			<b>W10%</b>					
<i>Option ±0.01%</i>			<i>W0,01%</i>					
<b>Temperature coefficient:</b>								
±20ppm/°C @ R >10Ω				<b>TK20</b>				
±50ppm/°C @ R =1Ω..10Ω				<b>TK50</b>				
<i>Option ±90ppm/°C @ R &lt;1Ω</i>				<i>TK90</i>				
<b>Resistance value - please choose:</b>								
<b>From 0.01Ω bis ≤ see type</b>					<b>xxxxxxx</b>			
<i>Option non-inductive windings:</i>								
<i>max. resistance value / 2</i>							<i>N</i>	
<i>Option high temperature version</i>								<i>HT</i>
<i>Option 4 pin (Kelvin) connection</i>								<i>K</i>

Order Example	Series	Type	Resistance tolerance	Temperature coefficient	Resistance value	Inductance	Temperature version	Connection
Choice	UT	3	±0.1%	20ppm/°C	10.1kΩ	Standard	Standard	Standard
Code	UT	3	W0,1%	TK20	10k100	-	-	-