

# Series UPR / UPSC

Radial resistors, extremely precise

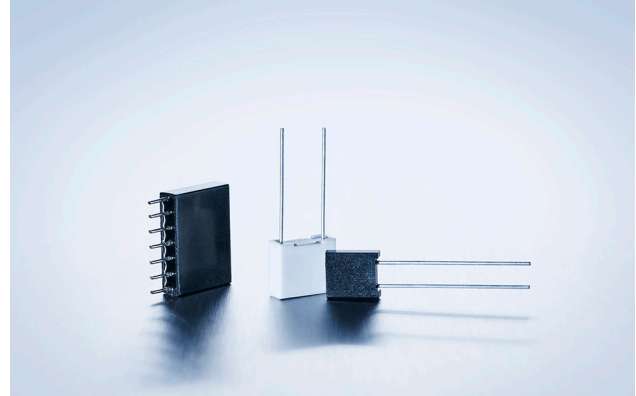
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The advantage of EBG's metal film resistors is its particularly high precision in terms of ohmic value, TC and long-term stability.

## Features

- High precision ohmic values
- Low temperature coefficient precision resistors
- Long-term stability
- Ohmic range 10 Ω to 5 MΩ
- Non-Inductive design
- ROHS compliant



## Technical Specifications

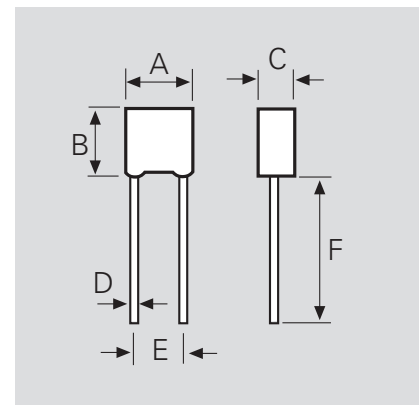
**Resistance value** UPSC: 40 Ω ≤ 5 MΩ  
UPR: 10 Ω ≤ 5 MΩ

<b>Resistance tolerance</b>	±1 % standard tolerances to ±0.01 % on special request
<b>Temperature coefficient</b>	±2 ppm/°C to ±25 ppm/°C
<b>Long-term stability</b>	better than ±0.05 % per 2,000 hours of operation
<b>Std. operating temperature</b>	-55°C to +85°C
<b>TC temperature range</b>	-10°C to +70°C (at +85°C ref. to +25°C)
<b>Overload</b>	6.25 times rated power for 5 seconds at voltage not to exceed 1.5 times maximum rated working voltage, ΔR less than 0.1 % + 0.01 Ω
<b>Load life</b>	2,000 hours at 125°C ΔR less than 0.5 % + 0.01 Ω
<b>Moisture resistance</b>	MIL-STD-202, method 106 ΔR less than 0.4 % + 0.01 Ω
<b>Thermal shock</b>	MIL-STD-202, method 107, Cond. B, ΔR less than 0.2 % + 0.01 Ω
<b>Insulation resistance</b>	> 10,000 MΩ at 250 V DC
<b>Low temperature operation</b>	ΔR less than 0.15 % + 0.01 Ω
<b>Dielectric withstanding voltage</b>	ΔR less than 0.15 % + 0.01 Ω
<b>Vibration</b>	ΔR less than 0.2 % + 0.01 Ω
<b>Shock</b>	ΔR less than 0.2 % + 0.01 Ω

## Dimensions

Dimensions	Dimensions in millimeter (inches)	
	UPSC	UPR
<b>A</b>	7.50 ± .20 (.295 ± .008)	10.50 ± .30 (.413 ± .012)
<b>B</b>	8.50 ± .20 (.335 ± .008)	9.00 ± .30 (.354 ± .012)
<b>C</b>	2.50 ± .20 (.098 ± .008)	4.00 ± .30 (.157 ± .012)
<b>D</b>	0.63 ± .05 (.025 ± .002)	0.63 ± .05 (.025 ± .002)
<b>E</b>	3.81 ± .38 (.150 ± .015)	7.62 ± .38 (.300 ± .015)
<b>F</b>	25 ± 1 (.98 ± .04)	18 ± 5 (0.71 ± .196)

Model no.	Temperature coefficient ppm/°C	Wattage +70°C	Max. working voltage	Dielect strength V DC
UPSC	± 2 to ± 25	0.20	300	500
UPR	± 2 to ± 25	0.20	250	400



Tests	Conditions	MIL-R-55182/9	Typical drifts
Power conditioning (108)	100 hours/rated power at +125°C 90/30° cycle	-	± 0.02% combined test
Thermal shock (107)	5 cycles -65°C / +150°C	± 0.2 % + 0.01 Ω combined test	
Short time overload	6.25 times rated power / 5 sec.	-	-
Low temperature storage and operation	1h stor. 45 min rated power at -65°C	± 0.15 % + 0.01 Ω	-
	24h stor. 45 min rated power at -65°C	-	+ 0.01 %
Terminal strength (211)	2lb pull test	± 0.2 % + 0.01 Ω	+ 0.01 %
Dielectric withstanding voltage (301)	300 V atmospheric 200 V / 100,000 ft.	± 0.15 % + 0.01 Ω	+ 0.01 %
Resist to soldering (210)	260°C / 5 sec.	± 0.1 % + 0.01 Ω	+ 0.01 %
Moisture resistance (106)	10 days	± 0.4 % + 0.01 Ω	+ 0.01 %
Shock	10 shocks 100g 6ms sawtooth	± 0.2 % + 0.01 Ω	+ 0.01 %
Vibration (204)	10 to 2000 Hz. 20g 8 hours	± 0.2 % + 0.01 Ω	+ 0.01 %
Load life (108)	2000 hours at rated power at +25°C, +85°C or +125°C	± 0.5 % + 0.01 Ω	+ 0.05 %
	10,000 hours at rated power at +125°C	± 2 % + 0.01 Ω	+ 0.2 %
Storage life	10,000 hours no load at room conditions	-	+ 0.005 %

## How to make a request

Model no.\_Ohmic Value\_Tolerance\_TCR

**For example:**  
UPR 120R 0.1% 2ppm or  
UPSC 50R 0.1% 2ppm

The above spec. sheet features our standard products. For further options please contact our local EBG representative or contact us directly.

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