

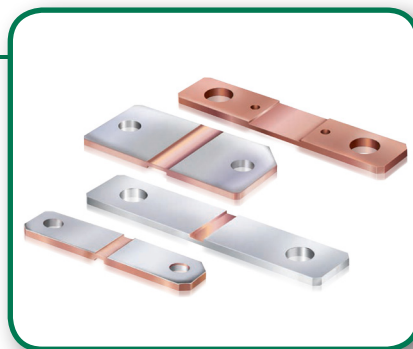
UEB SERIES

LOW OHM BATTERY SHUNT RESISTORS

AEC-Q200 • RoHS

FEATURES

- Continuous current load upto 400A (0.5 m-ohm)
- Maximum fastening torque 12Nm
- Shunt available with tinned or without tinned terminals
- Alignment pins to prevent the resistor from moving during the soldering process can be provided
- Measurement pins to measure the voltage can be provided
- Open frame electron beam welded punched out type
- 6W to 50W
- R000035 to R001



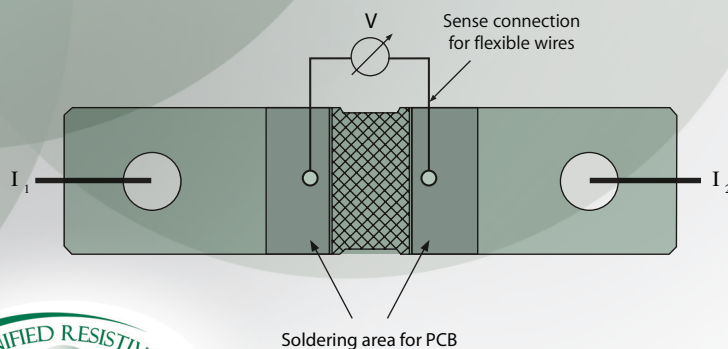
APPLICATIONS

- Current sensing resistor for electronic battery management in electric vehicles and solar inverters

ELECTRICAL AND ENVIRONMENTAL CHARACTERISTICS

PARAMETER / PERFORMANCE TEST & TEST METHOD	PERFORMANCE REQUIREMENTS
Power Rating	For FeCrAl - Full power dissipation at 70°C and linearly derated to zero at +170°C. For Manganin (< 0.5% Improved Stability) - Full power dissipation at 105°C & linearly derated to zero at +135°C. For Manganin (< 1% Stability) - Full power dissipation at 140°C and linearly derated to zero at +170°C.
Inductance	< 1nH
Temperature Range	- 40°C to +170°C
Voltage Rating / Limiting Voltage / Max. Working Voltage (Subject to max. Terminal Temperature of 120°C)	$\sqrt{P \times R}$
Temperature Coefficient of Resistance (Ambient Temperature Range 20°C - 60°C)	< 50 ppm / K (Depending on Resistance Value) For resistance values < 0.05 m Ω TCR on Request
Life Test / Operational Life - 2000 h rated power with Temperature limitation on Terminal kept at 120°C	$\Delta R \pm 0.1\%$ - Average
Thermal EMV (0-60°C)	0.3 μ V/K
Internal heat resistance (Rthi)	From 2°K/W

CONNECTION DIAGRAM

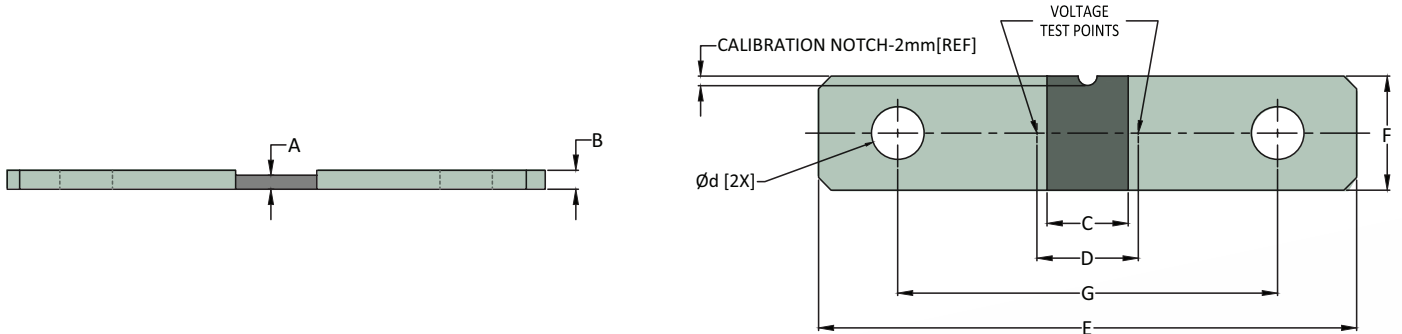


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PHYSICAL CONFIGURATION



DIMENSIONAL TABLE

SR No.	URT TYPE	Resistance Value	Tolerance*	A ±0.2	B ±0.1	C ±0.5	D ±0.2	E ±0.3	F ±0.1	G	Ød ±0.1	CHAMFER	
1	UEB36W R00005 (8518)	R00005	±3, ±5, ±10%	2.2	3	4.5	7.7	85	18	60± 0.2	8.3	2x45° (3Place)	5x45° (1Place)
2	UEB36W R000125 (8518)	R000125	±3, ±5, ±10%	2	3	10.3	13.5	85	18	60± 0.2	8.3	2x45° (4Place)	
3	UEB36W R00025 (8518)	R00025	±3, ±5, ±10%	2	3	21	24.2	85	18	60± 0.2	8.3		
4	UEB15W R0001 (8518)	R0001	±3, ±5, ±10%	2.2	3	9	12.2	85	18	60± 0.2	8.3		
5	UEB8W R0002 (8518)	R0002	±3, ±5, ±10%	2	3	16.5	19.7	85	18	60± 0.2	8.3		
6	UEB7W R0005 (8518)	R0005	±3, ±5, ±10%	2	3	12.8	15.8	85	18	60± 0.2	8.3		
7	UEB36W R000035 (8420)	R000035	±3, ±5, ±10%	2	3	4.8	8	84	20	60± 0.2	8.3		
8	UEB36W R00005 (8420)	R00005	±3, ±5, ±10%	2.2	3	5	8.2	84	20	60± 0.2	8.3		
9	UEB36W R00025 (8420)	R00025	±3, ±5, ±10%	2	3	23	26.2	84	20	60± 0.2	8.3		
10	UEB15W R0001 (8420)	R0001	±3, ±5, ±10%	2.2	3	10	13.2	84	20	60± 0.2	8.3		
11	UEB8W R0002 (8420)	R0002	±3, ±5, ±10%	2	3	18	21.2	84	20	60± 0.2	8.3		
12	UEB7W R0005 (8420)	R0005	±3, ±5, ±10%	2	3	14	17.2	84	20	60± 0.2	8.3		
13	UEB6W R001 (8420)	R001	±3, ±5, ±10%	2	3	28	31.2	84	20	60± 0.2	8.3		
14	UEB50W R00005 (7036)	R00005	±3, ±5, ±10%	2.2	3	9	12.5	70	36	50± 0.1	8.5	2x45° (3Place)	10x45° (1Place)
15	UEB36W R00005 (6918)	R00005	±3, ±5, ±10%	2.2	3	4.5	6.6	69	18	52± 0.1	6.8	2x45° (3Place)	5x45° (1Place)
16	UEB36W R000075 (6315)	R000075	±3, ±5, ±10%	1.92	3	5	8.1	63	15.5	48± 0.1	5	2x45° (3Place)	5x45° (1Place)
17	UEB15W R0001 (6018)	R0001	±3, ±5, ±10%	2	3	8.3	11.4	60	18	44± 0.1	6.6	2x45° (3Place)	5x45° (1Place)
18	UEB15W R0001 (5520)	R0001	±3, ±5, ±10%	2.2	3	10	18.2	55	20	40± 0.1	8.25		
19	UEB50W R00005 (5520)	R00005	±3, ±5, ±10%	2	3	4.55	6.7	55	20	40± 0.1	6.3		
20	UEB15W R0001 (5216)	R0001	±3, ±5, ±10%	2.2	3	8.1	11.2	52	16	33.7± 0.1	6.6	2x45° (3Place)	3x45° (1Place)
21	UEB15W R00005 (5216)	R00005	±3, ±5, ±10%	2.2	3	4.6	6.8	52	16	35± 0.1	6.8	2x45° (3Place)	5x45° (1Place)

*) Lower tolerance available on request

Note

- Alignment pins can be provided to align the resistor with PCB. This also helps prevent the resistor from moving during wave soldering process.
- For electrical connections separate pins can be provided on request.

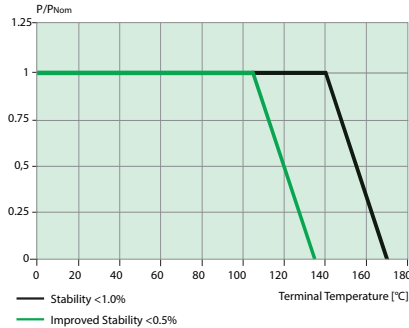


UEB SERIES

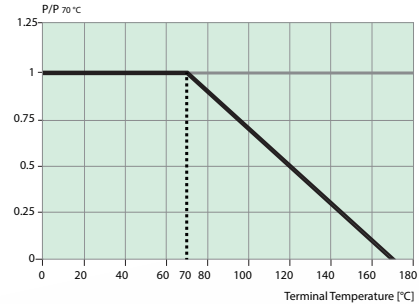
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AEC-Q200 • RoHS

TYPICAL POWER DERATING CURVE FOR RESISTOR WHEN FULL POWER IS AT 105 °C & 140 °C

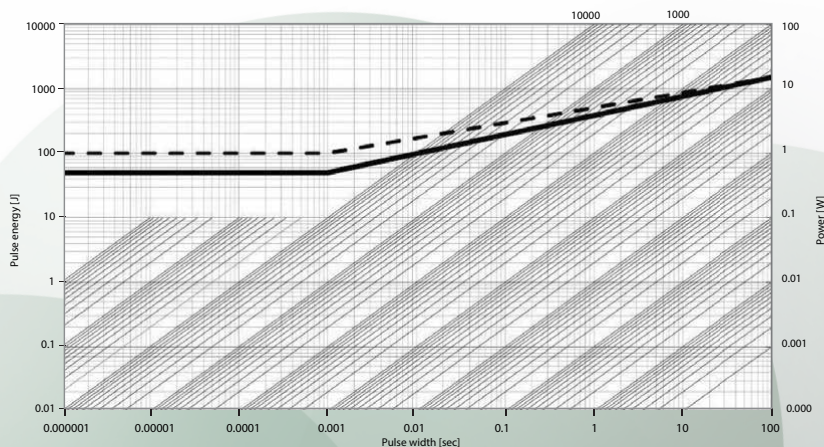


TYPICAL POWER DERATING CURVE FOR RESISTOR WHEN FULL POWER IS AT 70 °C



In case the Design Engineer requires a specific graph of a particular component it can be supplied on request.

MAXIMUM PULSE ENERGY WITH RESPECT TO PULSE POWER FOR PERMANANT OPERATION



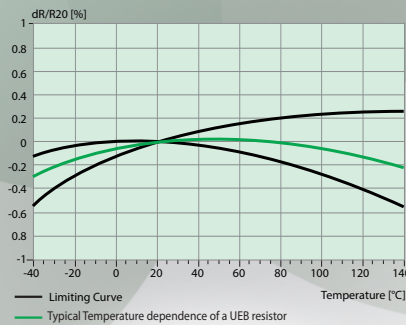
— Single pulse - - - Pulse power for continuous operation

This curve is only valid for the resistance value R0001.

The shape of the curve in the range below 0.1 sec will be different for other resistance values.

In case the Design Engineer requires a specific graph of a particular component it can be supplied on request.

TYPICAL TEMPERATURE DEPENDENCE OF THE ELECTRICAL RESISTANCE



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PACKAGING

No.	HTR ype	Pieces Per Inner Box	Inner Box Dimension (LxWxH)
1	UEB36W R00005 (8518)	100	162mm x 104mm x 37mm
2	UEB36W R000125 (8518)	100	162mm x 104mm x 37mm
3	UEB36W R00025 (8518)	100	162mm x 104mm x 37mm
4	UEB15W R0001 (8518)	100	162mm x 104mm x 37mm
5	UEB8W R0002 (8518)	100	162mm x 104mm x 37mm
6	UEB7W R0005 (8518)	100	162mm x 104mm x 37mm
7	UEB36W R000035 (8420)	100	162mm x 104mm x 37mm
8	UEB36W R00005 (8420)	100	162mm x 104mm x 37mm
9	UEB36W R00025 (8420)	100	162mm x 104mm x 37mm
10	UEB15W R0001 (8420)	100	162mm x 104mm x 37mm
11	UEB8W R0002 (8420)	100	162mm x 104mm x 37mm
12	UEB7W R0005 (8420)	100	162mm x 104mm x 37mm
13	UEB6W R001 (8420)	100	162mm x 104mm x 37mm
14	UEB50W R00005 (7036)	100	162mm x 104mm x 37mm
15	UEB36W R00005 (6918)	100	162mm x 104mm x 37mm
16	UEB36W R000075 (6315)	100	162mm x 104mm x 37mm
17	UEB15W R0001 (6018)	100	162mm x 104mm x 37mm
18	UEB15W R0001 (5520)	100	162mm x 104mm x 37mm
19	UEB50W R00005 (5520)	100	162mm x 104mm x 37mm
20	UEB15W R0001 (5216)	100	162mm x 104mm x 37mm
21	UEB15W R00005 (5216)	100	162mm x 104mm x 37mm

Note

Resistor can be packed on trays to mount with Pick and Place machine or Robotic arm. Please contact HTR for more information.

STORAGE CONDITIONS

Shelf Life (Packed): Temp 25°C to 35°C, Humidity 30 to 80% RH, Shelf life-12 months.

Floor Life for organically treated pieces (Unpacked): Temp 25°C to 35°C, Humidity 30 to 80% RH, Floor life - 15 days.

Floor Life for plated pieces (Unpacked): Temp 25°C to 35°C, Humidity 30 to 80% RH, Floor life - 6 months.

ORDERING INFORMATION

SERIES	PART N.	TYPE	RESISTANCE VALUE	TOLERANCE	MARKING ON RESISTOR
UEB	UEB15W R0001 (5520) $\pm 5\%$	UEB15W (5520) UEB15W-T (5520)	R0001	$\pm 5\%$	URT R0001 5% DATECODE
UEB	UEB8W R0002 (8518) $\pm 3\%$	UEB8W (8518) UEB8W-T (8518)	R0002	$\pm 3\%$	URT R0002 3% DATECODE
UEB	UEB36W R00025 (8420) $\pm 10\%$	UEB36 (8420) UEB36W-T (8420)	R00025	$\pm 5\%$	URT R00025 10% DATECODE

For without tinning:

Part no of UEB15W (5520), with resistance value R0001 and 5% tolerance, URT part no will be UEB15W (5520) R0001 $\pm 5\%$

For Tinned terminals-T:

Part no of UEB15W-T (5520), with resistance value R0001 and 5% tolerance, URT part no will be UEB15WT (5520) R0001 $\pm 5\%$.

