

Metal Oxide Resistors, High Power

FEATURES



- Rugged metal oxide film
- High power dissipation in small size
- High temperature coating, non-inflammable

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	SIZE	POWER RATING $P_{70^{\circ}\text{C}}$ W	LIMITING ELEMENT VOLTAGE MAX. $V_{\cong}$	TEMPERATURE COEFFICIENT ppm/K	TOL. %	RESISTANCE RANGE Ω	E-SERIES
WK2	0207	1.0	500	50	1	4R7 - 1M0	96
WK2	0207	1.0	500	100	2 5	1R0 - 1M0 R18 - 10M	48 24
WK2	0207	1.0	500	200	5	0R18 - 10M	24
WR4	0414	2.0	500	200	2 5	1R0 - 1M0 R18 - 10M	48 24
WR5	0617	3.0	750	200	2 5	1R0 - 100K R22 - 560K	48 24
WK8	0922	4.0	750	200	2 5	1R0 - 68K R22 - 100K	48 24

- Coating: green
- Marking: WR4 has colour code marking and does not have a T.C.band. WR5 and WK8 are print marked. For further information see appropriate catalog or web page.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	WK2	WR4	WR5	WK8
Rated Dissipation at 70°C	W	1.0	2.0	3.0	4.0
Limiting Element Voltage ¹⁾	$V_{\cong}$	500	500	750	750
Insulation Voltage (1 min)	V_{eff}	> 500	> 500	> 500	> 500
Thermal Resistance (max)	K/W	≤ 140	≤ 100	≤ 70	≤ 60
Insulation Resistance	Ω	> 10 ⁹			
Voltage Coefficient	1/V	< 10 ⁻⁷			
Thermal Time Constant	s	14	20	35	70
Category Temperature Range ²⁾	°C	- 55 / + 200			
Terminal Strength, axial	N	> 60	> 80	> 80	> 80
Failure Rate	10 ⁻⁸ /h	< 1			
Weight	g	0.2	0.7	1.5	3.5

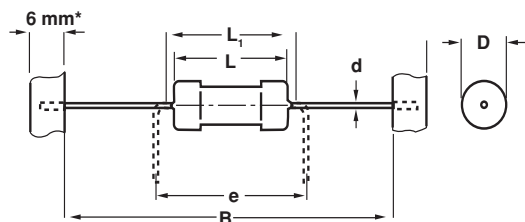
¹⁾ Rated Voltage $\sqrt{P \times R}$

²⁾ For values < 10R the upper limiting temperature is 155°C. The power rating is correspondingly lower and can be calculated by R_{th}

ORDERING INFORMATION

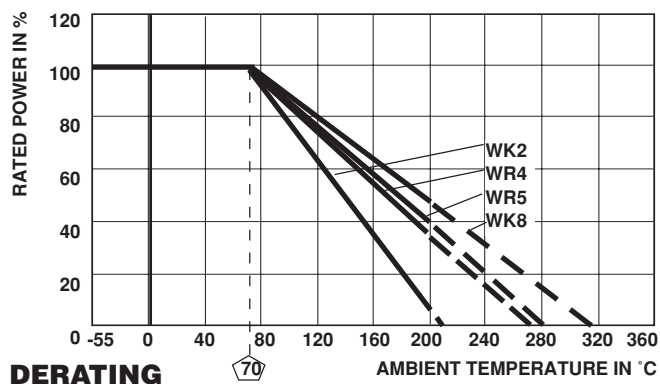
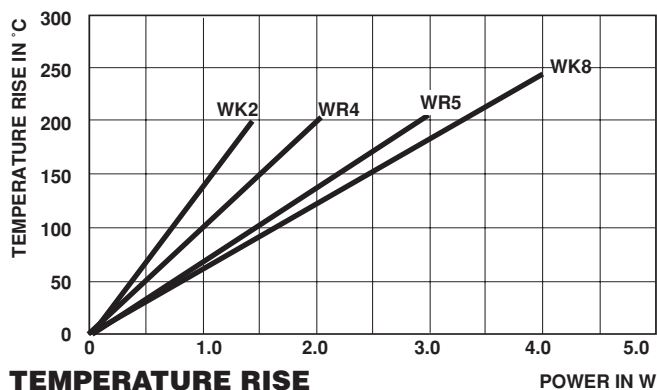
WK2 MODEL	100 TC ppm/K	1K0 RESISTANCE VALUE Ω	5% TOLERANCE ± %	A5 PACKAGING A2 Ammopack -2000 pcs
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DIMENSIONS



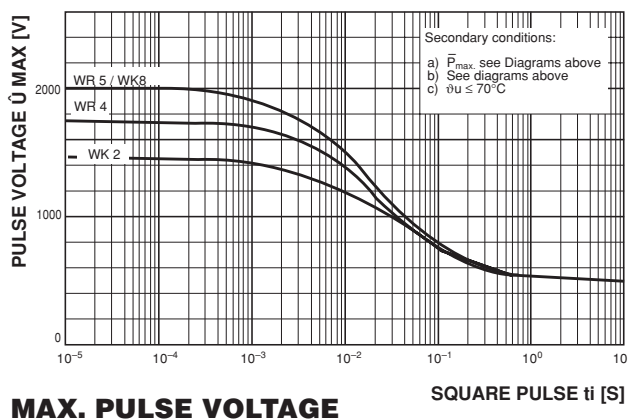
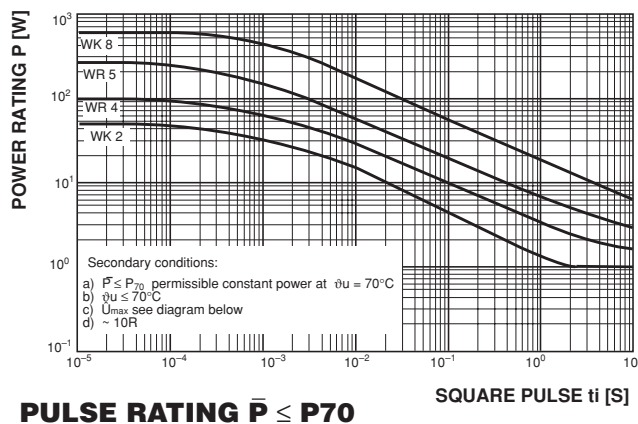
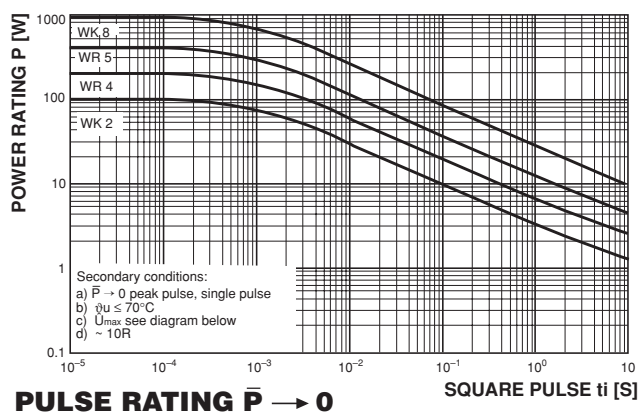
- Taping in acc. with IEC60286-1
- D and L measured in acc. with IEC60294
- d according to IEC60301
- * 9mm for WR5/WK8

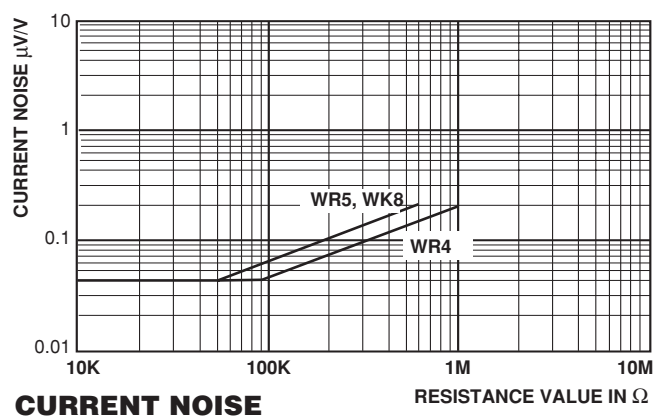
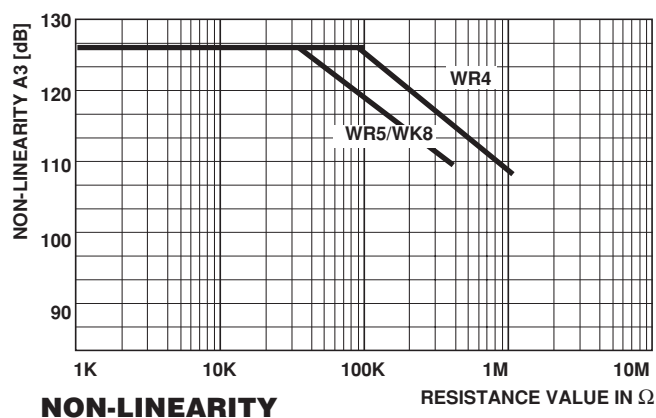
MODEL	DIMENSIONS [in millimeters]					
	D	L	L _{1max}	B	d	e
WK2	2.5 _{-0.5}	6.3 _{-0.5}	8.0	53 ±1	0.6	7.5
WR4	4.1 _{-0.5}	12.0 _{-1.5}	16.0	73 ±1	0.8	15.0
WR5	6.0 _{-0.5}	16.5 _{-1.5}	20.0	77 ±1	0.8	17.5
WK8	9.0 _{-0.5}	20.0 _{-1.5}	24.0	77 ±1	0.8	22.5



PACKAGING

MODEL	REEL			BOX		
	PIECES / REEL	CODE	MIN. ORDER QTY PACKAGING UNITS	PIECES / BOX	CODE	MIN. ORDER QTY PACKAGING UNITS
WK2	5000	R5	1	5000 2000	A5 A2	1 1
WR4	2500	RE	2	1000	A1	2
WR5	1500	RP	2	1000	A1	2
WK8	1000	R1	2	500	AC	2





PERFORMANCE		
TEST	CONDITIONS OF TEST	REQUIREMENTS*
Rated Dissipation at 70°C IEC 60115-1 4.25.1	1000 hours at 70°C 1.5 hours "ON", 0.5 hours "OFF"	WK2 = ± 1.5% WK4/8 = ± 2.0% WR4/5 = ± 5.0%
Endurance at UCT IEC 60115-1 4.25.3	1000 hours at 155°C without load	≤ ± 1%
Overload Test IEC 60115-1 4.13	Short time overload 5 seconds at 2.5 x rated voltage or ≤ ± twice the limiting element voltage	≤ ± 0.25%
Thermal Shock IEC 60115-1 4.19, IEC 60068-2-14	Rapid change between upper and lower category temperature	≤ ± 0.25%
Climatic Sequence IEC 60115-1 4.23	Dry heat, damp heat cycle, cold, low air pressure	≤ ± 0.5%
Damp Heat Steady State IEC 60115-1 4.24, IEC 60068-2-3	56 days at 40°C and 93% relative humidity	≤ ± 1.5%
Resistance to Soldering Heat IEC 60115-1 4.18, IEC 60068-2-20	10 seconds at 260°C solder bath temperature	≤ ± 0.25%
Robustness of Terminations IEC 60115-1 4.16	Tensile, bending and torsion	≤ ± 0.25%
Vibration IEC 60115-1 4.22	0.75mm or 10g, 10Hz - 500Hz 6 hours	≤ ± 0.25%

* Limits for change of resistance at test

APPLICABLE SPECIFICATIONS
• CECC 40000 • EN 140000 IEC 60115 - 1