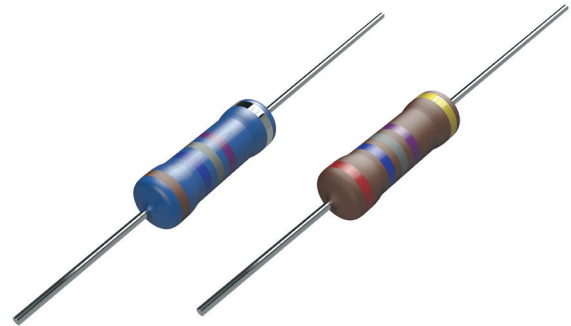


## LMG - Series

## High Ohmic / High Voltage Metal Glaze Leaded Resistors

### FEATURES

- Resistance to 1GΩ
- Operating Voltage up to 10KV
- Power Rating to 3 Watts
- Good High Pulse Loading Capability
- Silicone Coating, Option Flame Proof
- RoHS - compliant



### RATED VALUES (IEC 60115-1)

Resistance Range	Ω	1KΩ to 1GΩ (see Tolerance- / Resistance Range)
Resistance Tolerance	%	±1%; ±2%; ±5%
Temperature Coefficient	ppm/°C	±100ppm/°C ≤ 100MΩ ±200ppm/°C > 100MΩ
Operating Voltage (U <sub>max</sub> )	V	10.000V or √(P x R)
Insulation Resistance (R <sub>ins</sub> )	Ω	>1GΩ
Operating Temperature Range (T)	°C	-55°C to 175°C

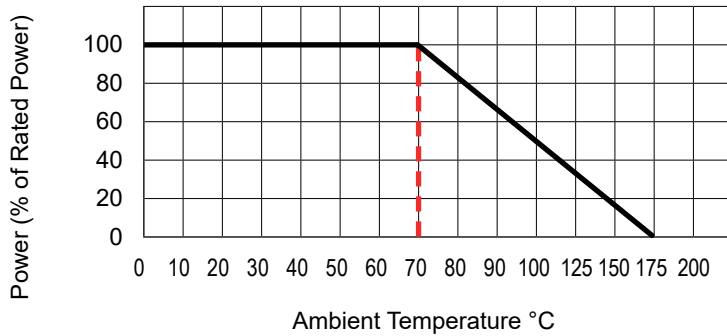
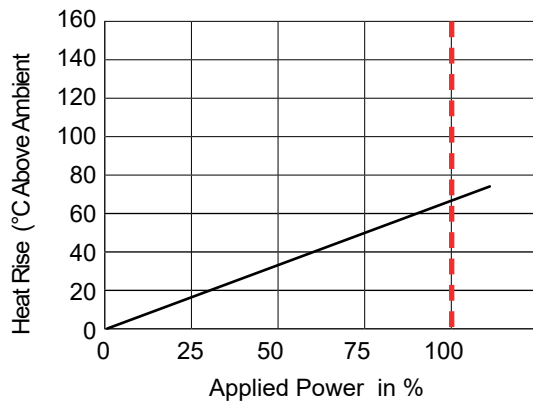
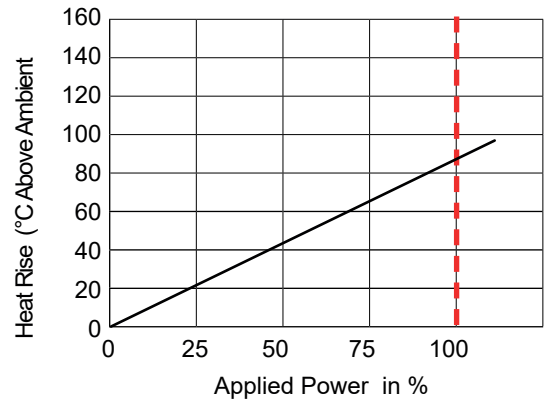
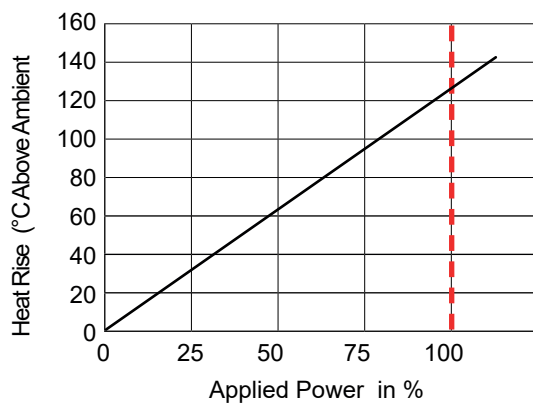
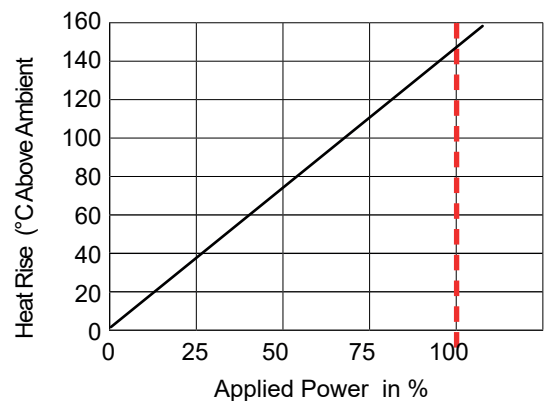
Type	U <sub>max</sub> (V <sub>DC</sub> )	U <sub>overload</sub> (V)	U <sub>ins</sub> (V), Epoxy	U <sub>ins</sub> (V), Silicone	Power P <sub>70</sub> (W)	Tolerance- / Resistance Range*		
LMG0206	1700	2500	400V	500V	0,50	±5,0% / Ω	±2,0% / Ω	±1,0% / Ω
LMG0309	4000	4500	500V	700V	1,00	10K0 - 1G0	10K0 - 1G0	10K0 - 1G0
LMG0411	5000	10000	700V	1200V	2,00	10K0 - 1G0	10K0 - 1G0	10K0 - 1G0
LMG0515	10000	14000	700V	1200V	3,00	10K0 - 1G0	10K0 - 1G0	10K0 - 1G0

\*E24 and E96, other values on request

### CONSTRUCTION

Resistance Material	Metal Glaze (Metal Compound, Borosilicate)
Carrier Material	High Purity Ceramic (Alumina)
Coating (blue)	Epoxy*
Coating (brown)	Silicone, flame proof (UL94V)*
Lead Wires	Tin Plated Copper Wire
Marking	Colour Ring - Coding in accordance with IEC 60062

\*Cleaning with ethanol, isopropanol, methanol, water-based cleansing agents.  
Pay attention to the different impact times of cleaners.

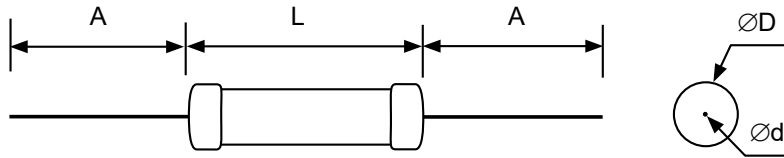
**LMG - Series**
**High Ohmic / High Voltage Metal Glaze Leaded Resistors**
**POWER DERATING CURVE**

**HOT-SPOT TEMPERATURE LMG0206**

**HOT-SPOT TEMPERATURE LMG0309**

**HOT-SPOT TEMPERATURE LMG0411**

**HOT-SPOT TEMPERATURE LMG0515**


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## LMG - Series

## High Ohmic / High Voltage Metal Glaze Led Resistors

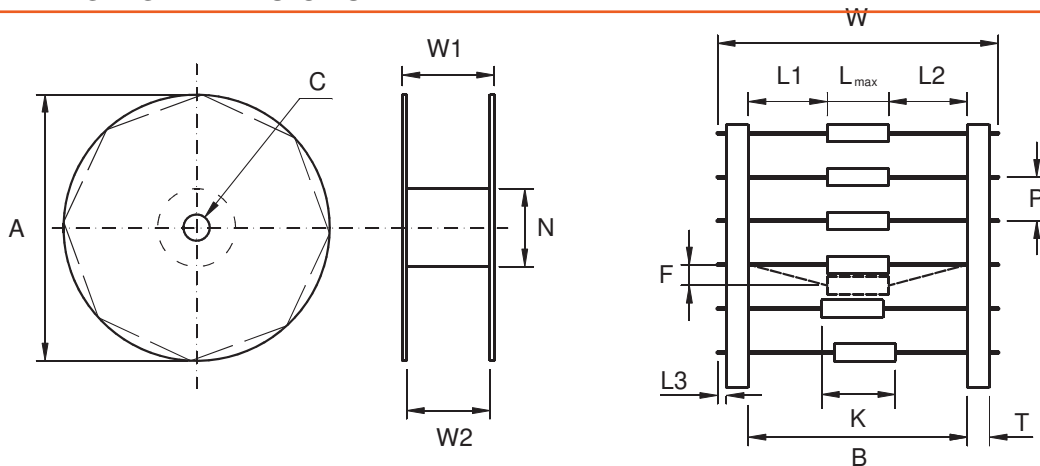
### DIMENSIONS



	D	L	d	A
LMG0206	2,3 ±0,5	6,3 ±0,5	0,55 ±0,05	min. 26,0
LMG0309	3,2 ±0,5	9,0 ±0,5	0,65 ±0,05	min. 24,0
LMG0411	4,5 ±0,5	11,5 ±1,0	0,78 ±0,05	min. 35,0
LMG0515	5,0 ±0,5	15,5 ±1,0	0,78 ±0,05	min. 32,0

All Dimension in mm

### TAPING & PACKAGING DIMENSIONS



Reel	A	C	N	W1	W2
12"	305,0 ±1,5	15,0 ±1,0	51,0 ±1,0	W2 +5...+8	B +1,5 ... +8

Tape	
Lead Extension (L3)	0,5 max.
Centring Tolerance (K)	±1,5
Tape (T)	5,0...6,5
Deflection (F)	1,2 max.
L1 = (B - L <sub>max</sub> + L2) ±1,5	
L2 = (B - L <sub>max</sub> + L1) ±1,5	

Diameter of Resistor Body - Spacing		
Diameter of the Resistor Body (D)	≤ 5,0 ±0,5	> 5,0 ±0,5
Distance between Resistors (P)	5,0 ±0,5	10,0 ±0,5

Tape Spacing				
Type	LMG0206	LMG0309	LMG0411	LMG0515
Type Spacing (B)	52,0	52,0	73,0	73,0

All Dimension in mm

### PACKAGING UNITS

Type	LMG0206	LMG0309	LMG0411	LMG0515
Quantity: Ammo Pack / T&R	5000/5000	1000/2500	1000/2000	1000/1000

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## LMG - Series

## High Ohmic / High Voltage Metal Glaze Led Resistors

### PERFORMANCE

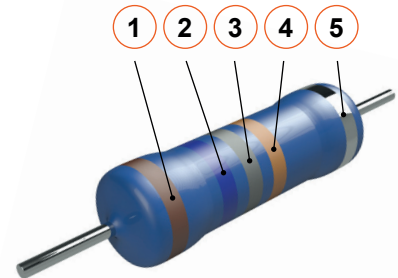
IEC 60115-1	TEST	Conditions of Test	Specification $\Delta R$
4.13	Short Time Overload	2,5 x Rated Operating Voltage $U_{max}$ , 5s	$\pm(1,0\% R + 0,05\Omega)$
4.16	Terminal Strength	2,5 kg (Pull Test), max. 10 Sec.	$\pm(0,5\% R)$
4.17	Solderability	245°C, max. 2 Seconds	95% Kontaktabdeckung
4.18	Soldering Resistance	260 $\pm$ 5°C, max. 2,5 Seconds	$\pm(1,0\% R + 0,05\Omega)$
4.23.2	Damp Heat	40 $\pm$ 2°C; 90% - 100% r.F.; 1,5h „ON“ und 0,5h "OFF", 1000h	$\pm(5,0\% R + 0,05\Omega)$
4.24	Moisture Resistance	40 $\pm$ 2°C, 90-95% r.F., Rated Power, 1000h (Silicone Type)	$\pm(1,5\% R + 0,05\Omega)$
4.24	Moisture Resistance	40 $\pm$ 2°C, 90-95% r.F., Rated Power, 1000h (Epoxy Type)	$\pm(5,0\% R + 0,05\Omega)$
4.25	Endurance	+70°C, $U_{max}$ 1,5h „ON“ and 0,5h "OFF", 1000h	$\pm(3,0\% R + 0,05\Omega)$
4.39	Pulse Load	2,5 Sek. „ON“ / 2,5Sek. "OFF, 10 Cycles (0,01 $\mu$ F Discharge Capacitor) DC 3KV LMG0206; DC 10KV LMG0309, LMG0411, LMG0515	$\pm(10,0\% R + 0,05\Omega)$
4.6	Insulation Strength	$U_{ins}$ see Page 1	
	Storage cConditions	25 $\pm$ 2°C, maximum 80% r.F.	

### OPTIONENS

Lead Wires	Pre-made/Custom-made Leads (on Request)
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### MARKING

Ring	5 Ring Marking			4 Ring Marking		
	1 - 3	4	5	1 - 2	3	4
Silver		$\times 10^{-2}$	$\pm 10,0\%$		$\times 10^{-2}$	$\pm 10,0\%$
Gold		$\times 10^{-1}$	$\pm 5,0\%$		$\times 10^{-1}$	$\pm 5,0\%$
Black	0	$\times 10^0$		0	$\times 10^0$	
Brown	1	$\times 10^1$	$\pm 1,0\%$	1	$\times 10^1$	$\pm 1,0\%$
Red	2	$\times 10^2$	$\pm 2,0\%$	2	$\times 10^2$	$\pm 2,0\%$
Orange	3	$\times 10^3$		3	$\times 10^3$	
Yellow	4	$\times 10^4$		4	$\times 10^4$	
Green	5	$\times 10^5$	$\pm 0,50\%$	5	$\times 10^5$	
Blue	6	$\times 10^6$	$\pm 0,25\%$	6	$\times 10^6$	
Violet	7	$\times 10^7$	$\pm 0,10\%$	7	$\times 10^7$	
Grey	8	$\times 10^8$		8	$\times 10^8$	
White	9	$\times 10^9$		9	$\times 10^9$	



Example: 168KOhm  $\pm 10\%$

### ORDERING INFORMATION

**LMG0206 100M00 1% TK100 E T** (LMG0206 100M $\Omega$ ;  $\pm 1\%$ ;  $\pm 100\text{ppm}^\circ\text{C}$ ; Epoxy; Tape on Reel)

Type	Special	Resistance Value	Tolerance	Temperat. Coefficient	Power	Options	Packaging
<b>LMG0206</b>	-	1K0000 100M00 1G0000	1% 2% 5%	TK100 TK200	-	E - (Epoxy) S - (Silicone)	T - (T&R) A - Ammo Pack

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