



MELF RESISTOR

CMB 0207



High Pulse Load MELF Resistor

Vishay Beyschlag

KEY BENEFITS

- Approved to the safety requirements of IEC 60065, 14.1.a* (= VDE 0860, 14.1.a), VDE-REG.-Nr. B583
- Special carbon film technology
- Up to 10 kV or 17 kW single pulse capability
- ESD capability: 16 kV, Human Body Model
- Lead (Pb)-free and RoHS compliant

APPLICATIONS

- Automotive
- Telecommunication
- Industrial
- Medical equipment

Datasheet is available on our web site at www.vishay.com for CMB 0207 - <http://www.vishay.com/doc?28755>

High Pulse Load MELF Resistor

FEATURES

- Approved to the safety requirements of IEC 60065, 14.1.a¹⁾ (= VDE 0880, 14.1.a) VDE-REG.-Nr. B583
- Special carbon film technology
- Up to 10 kV or 17 kW single pulse capability
- Up to tbi. continuous pulse load capability
- ESD capability: 16 kV, Human Body Model
- Compatible with lead (Pb)-free and lead containing soldering processes
- Lead (Pb)-free and RoHS compliant

APPLICATIONS

- Automotive
- Telecommunication
- Industrial
- Medical equipment



CMB 0207 speciality MELF resistors with advanced pulse load capability are the perfect choice for the protection of circuitry with signal and mains input lines from surge pulses. The resistors are also suitable for circuits exposed to high levels of electromagnetic interference or electro-static discharge. The applications are in all fields of automotive, telecommunication, industrial and medical equipment.

| METRIC SIZE | |
|-------------|----------|
| DIN: | 0207 |
| CECC: | RC 6123M |

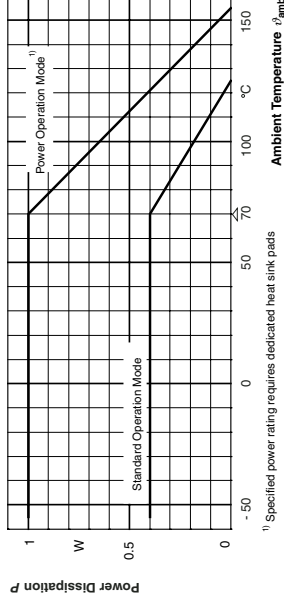
TECHNICAL SPECIFICATIONS

| CMB 0207 | |
|---|---------------------------|
| CECC size | RC 6123M |
| Resistance range | 2.2 Ω to 1.5 MΩ |
| Resistance tolerance | ± 5 %; ± 2 % |
| Temperature coefficient | see TCR graph |
| Operation mode | power |
| Climatic category (LC/TUCT/days) | 55/125/56 |
| Rated dissipation, P ₇₀ ¹⁾ | 0.4 W |
| Operating voltage, U _{max} , ACDC | 500 V |
| Film temperature ²⁾ | 125 °C |
| Max. resistance change at P ₇₀ for resistance range, ΔR/R after: | 2.2 Ω to 10 kΩ |
| 1000 h | ≤ 1 % |
| 8000 h | ≤ 2 % |
| 225 000 h | t.b.f. |
| Permissible voltage against ambient (insulation): | |
| 1 minute, U _{ins} | 750 V |
| continuous | 75 V |
| Failure rate | ≤ 1 × 10 ⁻⁹ /h |

Notes

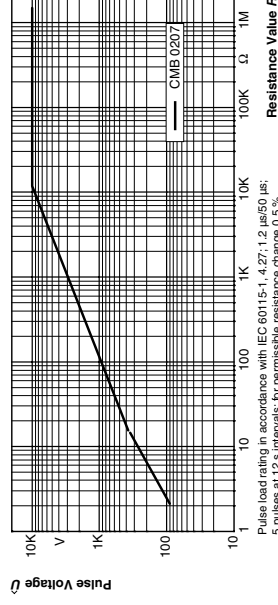
- These resistors do not feature a limited lifetime when operated within the permissible limits. However, resistance value drift increasing over operating time may result in exceeding a limit acceptable to the specific application, thereby establishing a functional lifetime. The power dissipation on the resistor generates a temperature rise against the local ambient, depending on the heatflow support of the printed-circuit board (thermal resistance). The rated dissipation applies only if the permitted film temperature is not exceeded. Furthermore, a high level of ambient temperature or of power dissipation may raise the temperature of the solder joint, hence special solder alloys or board materials may be required to maintain the reliability of the assembly.
- Specified power rating requires dedicated heat-sink pads.
- Film temperatures above the specified range may be permissible, e.g. 175 °C. Please contact the factory for details.

FUNCTIONAL PERFORMANCE



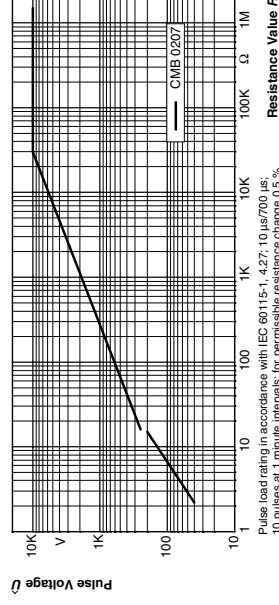
¹⁾ Specified power rating requires dedicated heat sink pads

Derating



Pulse load rating in accordance with IEC 60115-1, 4.27; 1.2 μs/50 μs; 5 pulses at 12 s intervals; for permissible resistance change 0.5 %

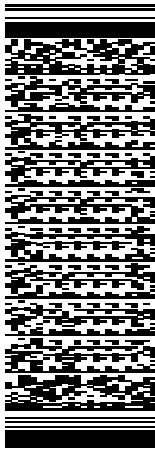
1.250 Pulse



Pulse load rating in accordance with IEC 60115-1, 4.27; 10 μs/700 μs; 10 pulses at 1 minute intervals; for permissible resistance change 0.5 %

10/700 Pulse

Revision 31-Oct-08



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