

Power Resistors Cooled by Auxiliary Heatsink (Not Supplied) Thick Film Technology



FEATURES

- Technology: thick film deposited on ceramic
- Cold system without external radiation
- High power / volume ratio
- Non-inductive
- Easy assembly, self calibrated pressure (400 N)

STANDARD ELECTRICAL SPECIFICATIONS

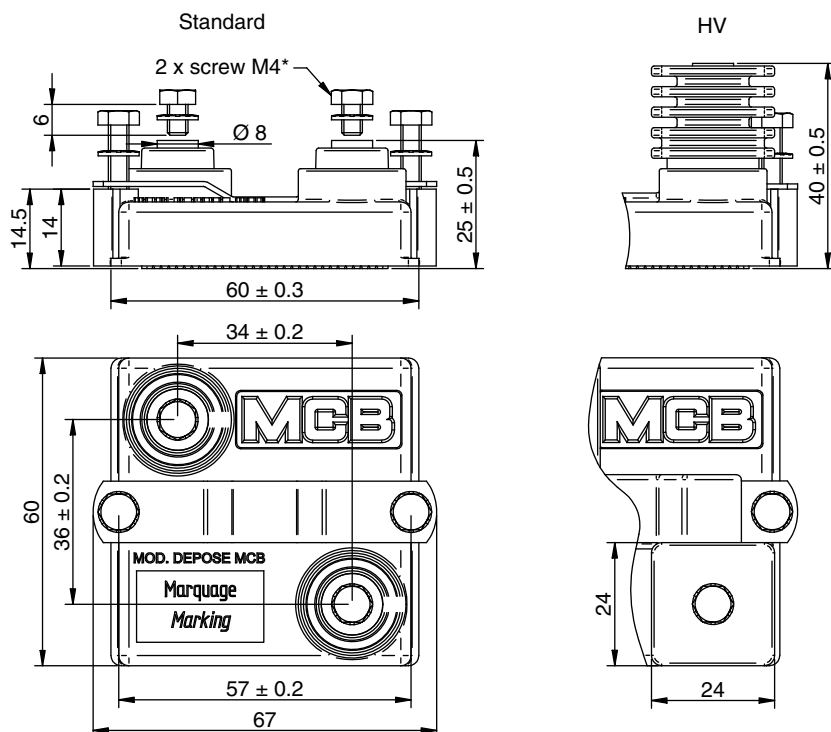
MODEL	RESISTANCE RANGE Ω	MAX. RATED POWER $P_{75^\circ\text{C}}$ W	TOLERANCE $\pm \%$	TEMPERATURE COEFFICIENT $\pm \text{ppm}/^\circ\text{C}$	E-SERIES OHMIC VALUES
RCEC 750	1 to 1M	750	10, 5	150 (typical)	E 12

MECHANICAL SPECIFICATIONS

UL 94 flame classifications	Material complies with the standard UL 94 V-0
Resistive element	Cermet
Substrate	Alumina
Encapsulation	Resin filled case

TECHNICAL SPECIFICATIONS

PARAMETER	750	750HV
Operating temperature range	-55°C to $+150^\circ\text{C}$	
Maximum operating voltage	5000 V	
Dielectric strength V_{RMS} (50 Hz / 1 min)	7000 V	12 000 V
Creepage distance	42 mm	75 mm
Clearance distance	12 mm	30 mm
Capacitance: ground	120 pF	
Capacitance: parallel	40 pF	
Partial discharge	$\leq 500 \text{ pC}$ at 7000 V_{eff} $\leq 10 \text{ pC}$ at 5000 V_{eff} Other cases: consult us	
Inductance	$\leq 40 \text{ nH}$	
Insulation resistance	$10^5 \text{ M}\Omega$ at 500 V_{CC}	
Weight (max.)	120 g	

DIMENSIONS in millimeters

PERFORMANCES

TESTS	CONDITIONS	REQUIREMENTS	TYPICAL VALUES
Momentary overload	1200 W / 10 s $\theta = 70^{\circ}\text{C}$	2 %	0.2 %
Humidity (steady state)	56 days, 40 °C, 95 % HR	2 % or 0.05 Ω ⁽¹⁾ insul. > 10 ³ M Ω	0.2 %
VRT	-55 °C to +125 °C 5 cycles	2 % or 0.05 Ω ⁽¹⁾	0.2 %
Mechanical shock	CEI 61373 cat 1 class B Half sinus 50 m/s ² / 30 ms 6 per axis (3 negative and 3 positive)	0.5 % or 0.05 Ω ⁽¹⁾	0.25 %
Vibration	CEI 61373Cat 1 class B random 5 Hz to 150 Hz 7.9 m/s ² 5 h per axis	0.5 % or 0.05 Ω ⁽¹⁾	0.25 %
Terminals strength	200 Ncm / 200 N	1 % or 0.05 Ω ⁽¹⁾	0.1 %
Endurance	2000 cycles P _n 30 min / 30 min	5 %	0.2 %

Note
⁽¹⁾ The higher of either value

ENERGY ABSORPTION
R < 390 Ω

Repetitive operation: 8 J/t = 50 μs

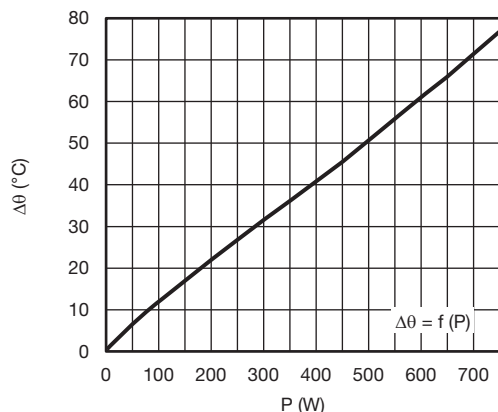
Accidental operation: 20 J/t = 50 μs / 120 impulsions max.

R > 390 Ω

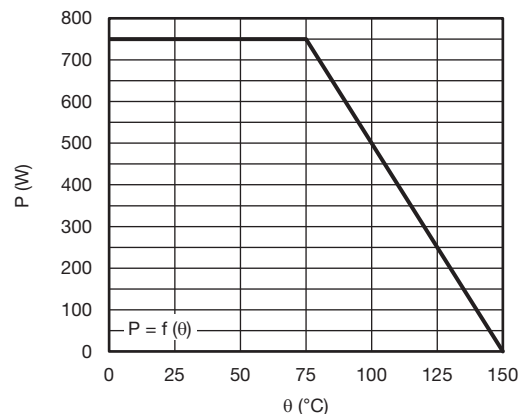
Repetitive operation: 4 J/t = 50 μs

Other t values: consult us

DISSIPATION

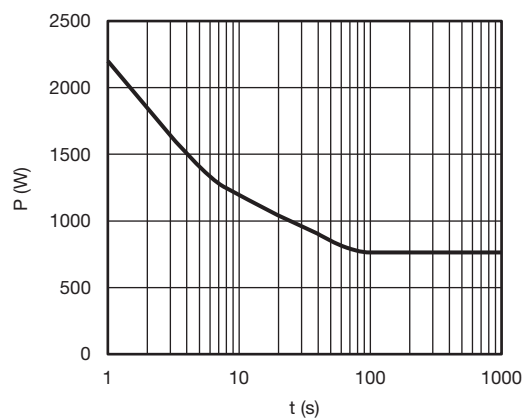


Temperature Rise as a Function of the Power Applied
Overall Thermal Resistance 0.10 °C/W (See Assembly)



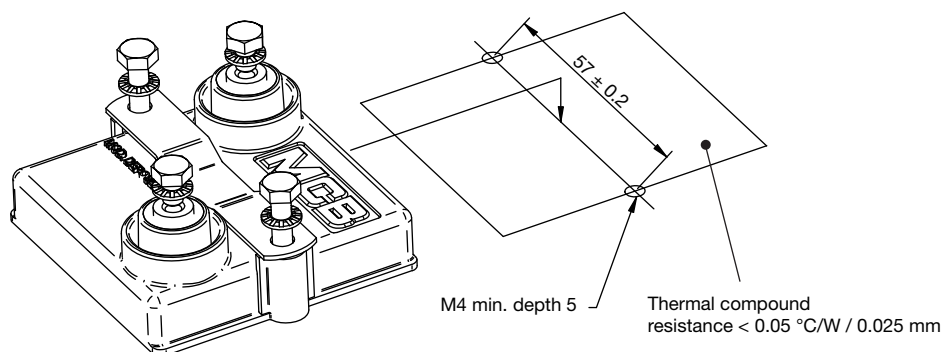
Permanent Applicable Power as a Function
of Heatsink Temperature

OVERLOAD



Intermittent Overload (Exceptional Operation)
Heatsink Temperature 70 °C

ASSEMBLY



Screws and bolts supplied.

Maximum tightening torque:

200 Ncm, mechanical mounting

200 Ncm, electrical connections



COOLING

The temperature of the heatsink may be maintained at the specified values with:

- Forced air ventilation
- Internal circulation of a liquid cooling
- Heatsink contact surface: Ra 6.3 μm
- Evenness defect: 0.05 mm max.
- Surface temperature gradient (isotherm): 20 °C max.
- Thermal compound not supplied (resistance < 0.05 °C/W / 0.025 mm)

The user must select the thermal resistance of the heatsink according to the power applied.

TERMINAL OPTIONS

- Electrical terminals M5
- Other terminal size
- Output cable

ORDERING INFORMATION			
RCEC	750 HV	10 Ω	10 %
MODEL	TYPE	RESISTANCE VALUE (SEE STANDARD ELECTRICAL SPECIFICATIONS)	TOLERANCE ($\pm 5\%$ or $\pm 10\%$)



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