



CMEC Metal Element Current Sense

Resistive Alloy, Milliohm Technology, SMD

**RoHS
Compliant**

NiCu or MnCu Resistive Alloy
Material TCR +/-10ppm/K

Marking
Epoxy UL-94-V0 Conformal

Flame-Retardant Epoxy Protective Coat
(UL-94-V0)

96% Alumina Substrate
Thermo Dissipation Protective Layer

Cu Terminal Electrode
Pb Free Termination



FEATURES

- Ultra Low Resistance Value (Range 0.005Ω ~ 0.050Ω), Long Side Electrode Specifications Available For Satisfy The Highest Demand Of Current Sensing Applications.
- Precision Resistance Alloy (NiCr20AlSi, Or CuMnNi) Material Selected For Low Temperature Coefficient (<50ppm/°C), Superior Overload As Well As Surge, Pulse Durability Characteristics.
- Superior Temperature Coefficient Characteristics TCR. Materials' Resistance Vs. Temperature Change Form 25°C ~ 125°C Within 10ppm/°C ~ 50ppm/°C
- Low Inductance, Low Thermo EMF (<50 μV/°C)
- Customized Specification OEM / ODM Manufacturing Model Available Upon Request.

APPLICATIONS

- Industrial Electronics, Power Electronics – Power supply, DC/DC-Converter, AC/DC-Converter, Motor Controller, Automotive Electronics...Applications
- Battery Charger, PC, PDA, 3C Products, Tele-Communication, Instrument, White Goods...

ELECTRICAL SPECIFICATION

Model : CMEC		1632	3216L	2037	3720L	3264	6432L
Power P _w *	Watts	1W	1.5W	1W	2W	2W	3W
Standard Resistance* TCR* (x10 ⁶ /K)	5mΩ	< 200ppm	< 200ppm	—	< 220ppm	< 200ppm	< 200ppm
	10mΩ	< 70ppm	< 70ppm	< 120ppm	< 120ppm	< 70ppm	< 70ppm
	15mΩ	< 40ppm	< 40ppm	< 80ppm	< 80ppm	< 40ppm	< 40ppm
	20mΩ	< 40ppm	< 40ppm	< 80ppm	< 80ppm	< 40ppm	< 40ppm
	25mΩ	< 40ppm	< 40ppm	< 80ppm	< 80ppm	< 40ppm	< 40ppm
	30mΩ	< 40ppm	—	—	—	< 40ppm	< 40ppm
	40mΩ	< 40ppm	—	—	—	< 40ppm	< 40ppm
	50mΩ	< 40ppm	—	—	—	< 40ppm	< 40ppm
Tolerance	%	1% , 3% , 5%					
Rated Voltage	Volts	(P x R) ^{1/2}					

Test Condition / Remark :

P_w*= Power rating at 70°C, Resistance* Customized resistance between upper and lower limit available. TCR*= Two standard series of test temperature, 25°C, 0°C, -15°C, -55°C and 25°C, 50°C, 75°C, 125°C, 150°C. temperature tolerance ±3°C. TCR= (R₂-R₁) / R₁(T₂-T₁) x 10⁶.

Consult with our R&D team for special purpose use of components.

PART NUMBER

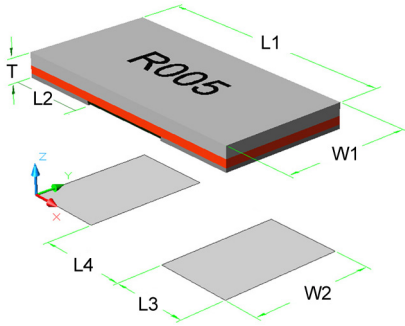
CMEC - □□□□ - □□ - □□□□ - □ - □□

Model	Size Inch	Power Watts	Resistance	Tolerance	Packaging
C = Current Sense	1632/3216		R = Decimal,	D = +0.5%	Bk = Bulk
M = Metal Element	2037/3720		Example	F = +1.0%	TR = Tape/Reel
E = Etching Technology	3264/6432		R005 = 0.005Ohm	G = +2.0%	
C = Chip			R050 = 0.050Ohm	J = +5.0%	

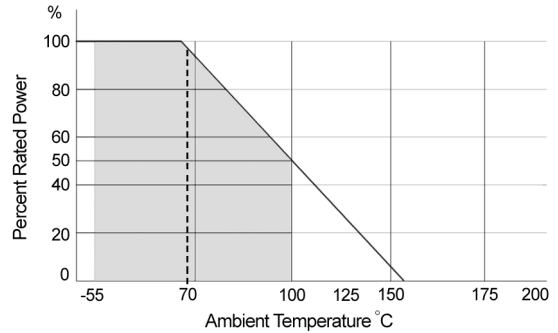
DIMENSIONS Inches / Millimeters+-mm

Model	L1 ^{+0.02}	W1 ^{+0.02}	T ^{+0.02}	L2 ^{+0.02}	L3 ^{+0.02}	L4 ^{+0.02}	W2 ^{+0.02}	T _{μM} / Watt**
1236	0.126/3.20	0.063/1.60	0.024/0.60	0.020/0.50	0.059/1.50	0.039/1.00	0.079/2.00	35/0.5 , 105 /1.0
3216L*	0.063/1.60	0.126/3.20	0.024/0.60	0.014/0.35	0.043/1.10	0.020/0.50	0.157/4.00	35/1.0 , 105 /1.5
2037	0.146/3.70	0.079/2.00	0.024/0.60	0.020/0.50	0.059/1.50	0.079/2.00	0.106/2.70	35/1.0 , 105 /2.0
3720L	0.079/2.00	0.146/3.70	0.024/0.60	0.020/0.50	0.055/1.40	0.031/0.80	0.173/4.40	35/1.0 , 105 /2.0
3264	0.252/6.40	0.126/3.20	0.024/0.60	0.040/1.00	0.079/2.00	0.165/4.20	0.150/3.80	35/1.0 , 105 /2.0
6432L	0.252/6.40	0.126/3.20	0.024/0.60	0.040/1.00	0.063/1.60	0.063/1.60	0.295/7.50	35/2.0 , 105 /3.0

*L = Long Side Electrode, **T_{μM}/Watt : Solder Thickness μM / Watt



DERATING



PERFORMANCE CHARACTERISTICS

Parameter	Conditions	Performance
Short Time Over Load JIS C 5201 4.13	Voltage : equal to 2.5 times rated voltage, Duration of test voltage application : 5 second.	±(0.5%+0.0005Ω)
High Temp. Exposure JIS C 5202 7.11	Test Chamber temperature maintaining within 155±3°C, Duration : 1000+48/-0h.	±(0.5%+0.0005Ω)
Low Temp. Storage JIS C 5202 7.1	Test Chamber temperature maintaining within -55±3°C, Duration of test : 96±4h.	±(0.5%+0.0005Ω)
Endurance Under Damp and Load JIS C 5202 7.9	Temperature 60±2°C, Relative Humidity 90% to 95%, Rated DC voltage application of 1h 30min on and 30min off, Dduration 1000+48/-0h.	±(0.5%+0.0005Ω)
Thermal Shock JIS C 5202 7.4	Temperature / Duration : -55±3°C / 30min. To Room Temp. / 2~3min. To +150±2°C / 30min. To Room Temp. 2~3min. 100 cycles.	±(0.5%+0.0005Ω)
Load Life JIS C 5202 7.10	Temperature 70±2°C, Rated DC voltage application of 1h 30min on and 30min off, Dduration 1000+48/-0h.	±(1%+0.0005Ω)
Solderability JIS C 5202 6.5	Temperature of solder : 235±5°C,Duration of immersion : 2±0.5sec.	New solder min. 90% of Terminal
Resistance to Solder Heat JIS C 5202 6.4	Temperature of solder : 260±5°C,Duration of immersion : 10±1sec.	±(0.5%+0.0005Ω)
Mechanical Shock JIS C 5202 6.2	The middle of specimen shall be pressurized, Load 10N (1.02kgf) for 10±1sec.	±(0.5%+0.0005Ω)
Insulation Resistance JIS C 5202 5.6	DC of 100±15V, The voltage shall be applied for 1 min.	>10 ² MΩ

PACKAGING Inches / Millimeters

Model	Tape Width	Reel Diameter	Pc / Reel	Weight gm	Parts No.
CMEC1632	0.315/ 8.00 ^{±0.30}	7.00/178.0 ^{±0.50}	5000	131 ⁺¹⁰	T5
CMEC3216L	0.315/ 8.00 ^{±0.30}	7.00/178.0 ^{±0.50}	5000	134 ⁺¹⁰	T5
CMEC2037	0.472/12.00 ^{±0.30}	7.00/178.0 ^{±0.30}	4000	164 ⁺¹⁰	T4
CMEC3720L	0.472/12.00 ^{±0.30}	7.00/178.0 ^{±0.30}	4000	161 ⁺¹⁰	T4
CMEC3264	0.472/12.00 ^{±0.30}	7.00/178.0 ^{±0.30}	4000	291 ⁺¹⁰	T4
CMEC6432L	0.472/12.00 ^{±0.30}	7.00/178.0 ^{±0.30}	4000	265 ⁺¹⁰	T4

Emboss Carrier Tape Standard : EIA