

# Melf & Mini-Melf - Carbon Film Resistor

## CM, CML Type

### Specifications Per

IEC 115-1 115-2

JIS C 52021

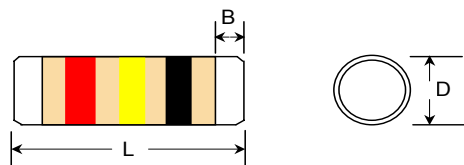
MIL-R-226848

### Features

※ SMD enabled structure

※ Conformal Multi-layer Coating Against Humidity

※ Excellent Solderability Termination



Body Color : Ivory

Marking: Color code (3 bands)

## Dimensions

Type	Body Length (L)	Body Diameter (D)	Soldering spot (B)
CM204	3.5mm±0.2mm	1.4±0.15mm	0.6mm Min.
CML204	3.5mm±0.2mm	1.4±0.15mm	0.6mm Min.
CM207	5.9mm±0.2mm	2.2±0.1mm	1.0mm Min.
CML207	5.9mm±0.2mm	2.2±0.1mm	1.0mm Min.

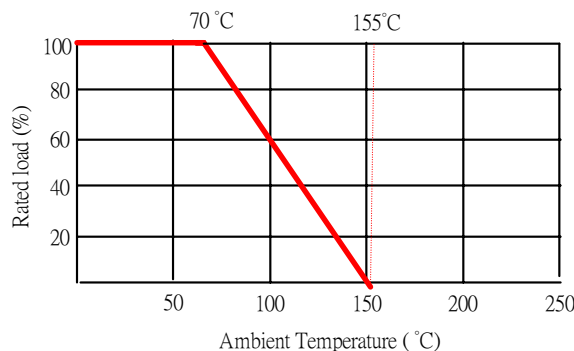
## General Specifications

Type	Power Rating (at 70°C)	Max. Working Voltage	Max. Overload Voltage	Resistance Range Min.	Resistance Range Max.	Resistance Tolerance	Standard Resistance Value
CM204	1/8W	200V	300V	0 & 0.1Ω	1MΩ	± 5%	E-24
CML204	1/4W	200V	300V	0 & 0.1Ω	1MΩ	± 5%	E-24
CM207	1/4W	300V	500V	0 & 0.1Ω	10MΩ	± 5%	E-24
CML207	1/2W	300V	500V	0 & 0.1Ω	10MΩ	± 5%	E-24

For zero-ohm jumper, resistance value is under 20 mΩ. Rated current is 2A for CM204 & CML204, 4A for CM207 and CML207.

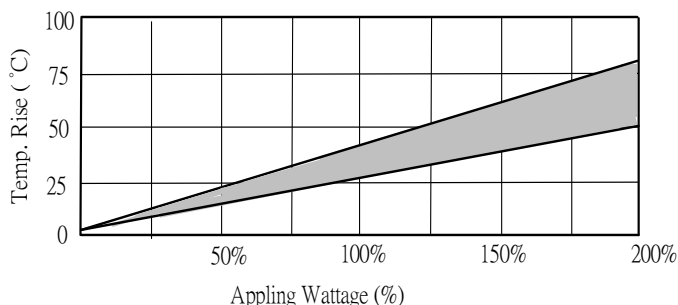
Please consult factory for special value and/or tolerance

## Derating Curve



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## Temperature Rise



## Technical Summary

Characteristics	Limits			
Dielectric Withstanding Voltage, VAC or DC	CM204, CML204: 200VAC			
	CM207, CML207: 500VAC			
Temperature Coefficient, PPM/°C	CM204 & CML204:		CM207 & CML207	
	1R - 33K	±300	1R - 33K	±300
	34K - 330K	-500	34K - 330K	-500
	331K - 470K	-700	331K - 470K	-700
	471K - 910K	-1000	471K - 1M	-1000
> 910K	-1500	> 1M	-1500	
Operating Temperature Range, °C	-55 ~ +155			
Voltage Coefficient, PPM/V	< 25			
Insulation Resistance, MΩ	> 10 <sup>4</sup>			

## Performance Specifications

Characteristics of Tests	Limits
Short Time Overload	±(1%+0.05R)
Temperature Cycling	±(1%+0.05R)
Humidity	±(3%+0.05R)
Load Life In Humidity	±(5%+0.05R)
Load Life 1,000 hours (at 70°C)	±(3%+0.05R)
Resistance To Soldering Heat	±(1%+0.05R)
Solderability	95% Min.
Vibration	±(1%+0.1R)
Terminal Strength	±(1%+0.05R)
Thermal Shock	±(1%+0.05R)

## How to Order

<b>CM204</b>	<b>J</b>	-	<b>10K</b>
Type	Tolerance		Ohm -Value
CM204	J= ±5%		0R5 = 0.5Ω
CML204	G=±2%		0R = 0Ω
CM207			1K2 = 1.2KΩ
CML207			1M = 1MΩ

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