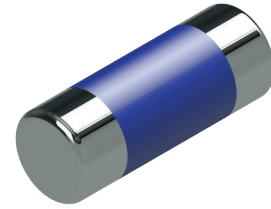


MELF - Series, MELF0207

Precision Metal Film Resistors

FEATURES

- Resistance from 1Ω
- Temperature Coefficients to 3ppm/°C
- Low Inductance
- Inductance minimised Types (option)
- Gold plated terminals
- RoHS compliant



RATED VALUES (IEC 60115-1)

Resistance Range	Ω	1Ω to 1MΩ (any non E-series resistance value)
Resistance Tolerance	%	±0,05%; ±0,1%; ±0,25%; ±0,5%; ±1%
Temperature Coefficient	ppm/°C	±50ppm/°C; ±25ppm/°C; ±15ppm/°C; ±10ppm/°C; ±5ppm/°C; (±3ppm/°C*)
Power P ₇₀	(W)	0,4Watt; (Power P ₄₀ : 0,6 Watt)
Working Voltage (U _{max})	V	300V or √(P x R)
Insulation Resistance (R _{ins})	Ω	>10GΩ
Operating Temperature Range (T)	°C	TK ≥ 25ppm/°C von -25°C bis 125°C; TK < 25ppm/°C von -10°C bis 85°C
Voltage Coefficient	ppm/V	< 1ppm/V

*±3ppm/°C: upon request

RANGES

TCR*	Tolerance- / Resistance Ranges				
	±0,05% / Ω	±0,1% / Ω	±0,25% / Ω	±0,5% / Ω	±1,0% / Ω
±5ppm/°C	100R0 - 250K	100R0 - 500K	100R0 - 500K	10R0 - 500K	-
±10ppm/°C	100R0 - 510K	100R0 - 1M00	100R0 - 1M00	5R00 - 1M00	-
±15ppm/°C	100R0 - 510K	100R0 - 1M00	100R0 - 1M00	5R00 - 1M00	1R00 - 1M00
±25ppm/°C	100R0 - 510K	100R0 - 1M00	100R0 - 1M00	2R00 - 1M00	1R00 - 1M00
±50ppm/°C	100R0 - 510K	100R0 - 1M00	100R0 - 1M00	2R00 - 1M00	1R00 - 1M00

*TCR= Temperature coefficient
Resistance values out of ranges as shown above on request.

CONSTRUCTION

Resistor Material	NiCr - Alloy
Substrate	Alumina
Coating	Epoxy, Cleaning with ethanol, isopropanol, methanol, water-based cleansing agents*
Leads	Tin plated Nickel-Silver alloy

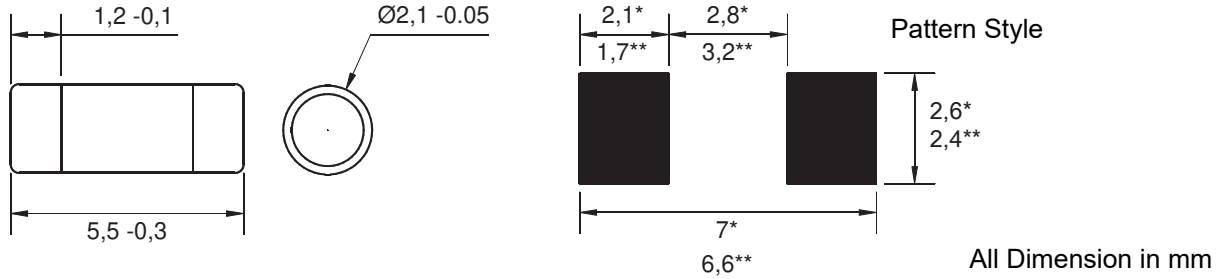
Pay attention to the different impact times of cleaners.

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MELF - Series, MELF0207

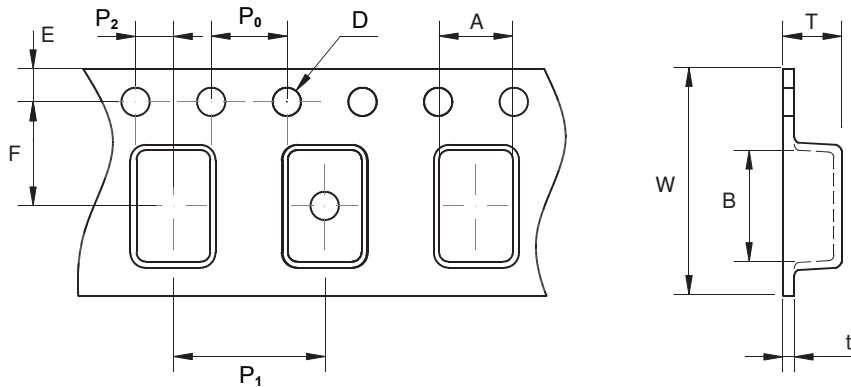
Precision Metal Film Resistors

DIMENSIONS



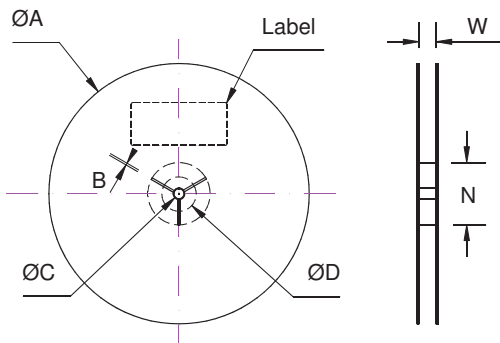
To ensure "self - centering" of the MELF, observe the recommended solder pad dimensions.
* Wave soldering; ** Reflow - soldering

PACKAGING (STANDARD: TAPED AT QTY. 100PIECES)



	W	A	B	T	P ₀	P ₁	P ₂	E	F	t	D
MELF 0207	12,0 ±0,2	2,40 ±0,1	6,15 ±0,1	2,70 ±0,1	4,00 ±0,1	4,00 ±0,1	2,0 ±0,1	1,75 ±0,1	5,50 ±0,1	0,6 max.	1,5 +0,1/-0,0
(IEC 60286-3, EIA 481 conformity) All Dimension in mm											

REEL DIMENSIONS



Reel	A	B	C	D	N	W
178,0 (7")	178 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	60,0 +1,0	12,0 +0,5
All Dimension in mm						

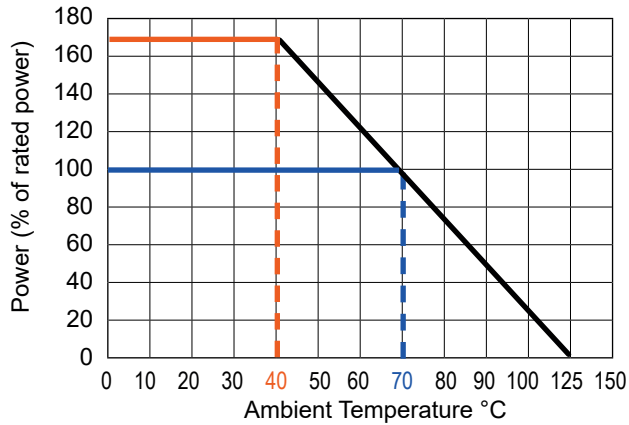
PACKAGING QUANTITIES

Bulk Packaging	Plastic Bag
Tape on Reel	max. 2000 pieces

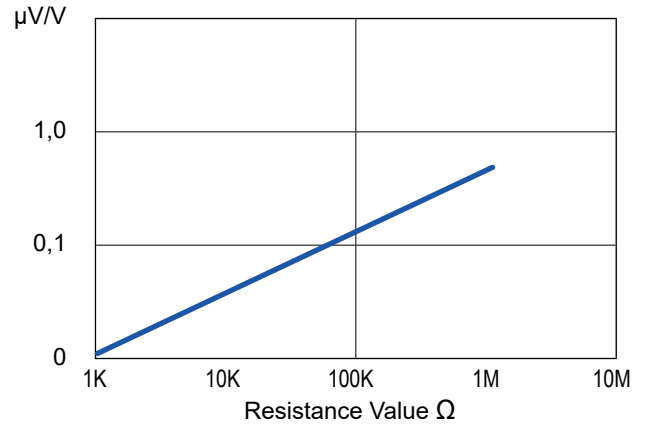
MELF - Series, MELF0207

Precision Metal Film Resistors

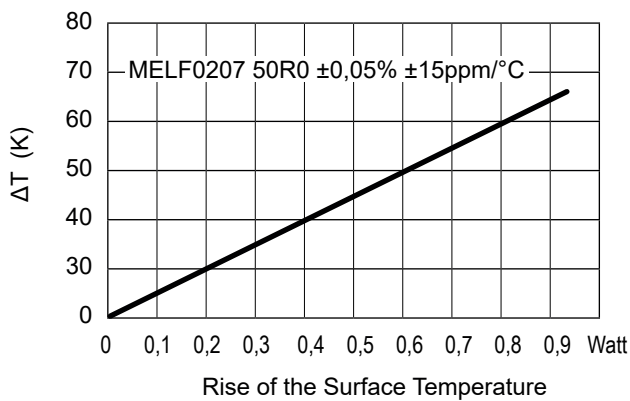
POWER DERATING CURVE



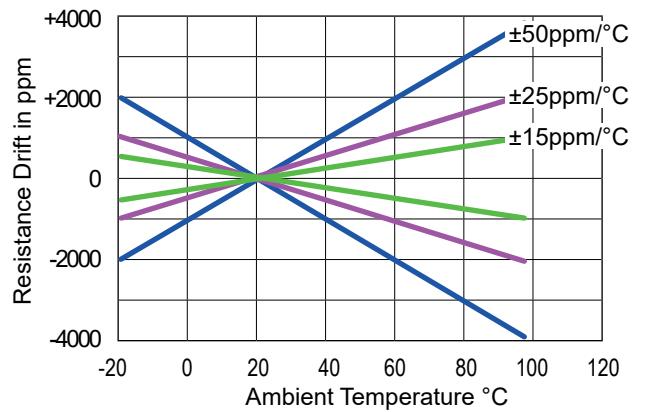
CURRENT NOISE



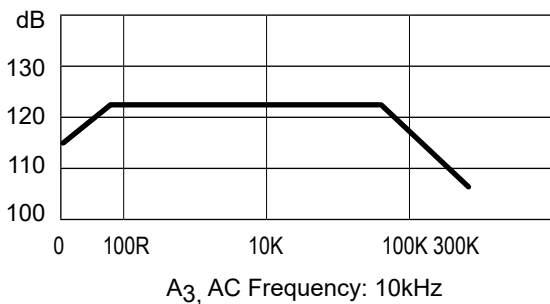
TEMPERATURE RISE



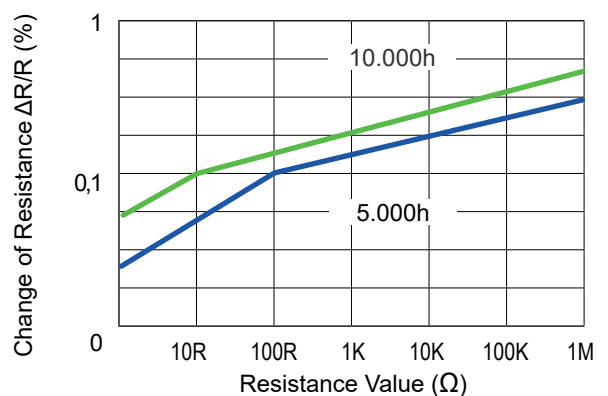
TEMPERATURE COEFFICIENT VARIATION



NON - LINEARITY (SINUS U_{AC})



STABILITY (P₇₀ = 0,4Watt)



PERFORMANCE

IEC 60115-1	Test	Conditions of Test	Specification (ΔR)
4.13	Short Time Overload	2,5 x rated Power or $2 \times U_{max}$, 5s	$\pm(0,1\% R + 0,01\Omega)$
4.17	Solderability	260°C, max. 2s	95% Covered Contacts
4.18	Soldering Resistance	260°C $\pm 5^\circ\text{C}$, max. 10s	$\pm(0,1\% R + 0,01\Omega)$
4.19	Thermal Shock	-65°C 30 Minutes, +155°C 30 Minutes, 5 Cycles	$\pm(0,1\% R + 0,01\Omega)$
4.23	Climatic Sequences		$\pm(0,5\% R + 0,05)$ No Visible Damages
4.23.2	Dry Heat	125 °C; 16 h	
4.23.3	Damp Heat	55 °C; 24 h; 90 % to 100 % RH; 1 cycle	
4.23.4	Low Temperature	- 55 °C; 2 h	
4.23.5	Low Air Pressure	8.5 kPa; 2 h; 15 °C to 35 °C	
4.24	Moisture Resistance	+40°C, 93% RH, Rated Voltage, 56 Days	$\pm(0,5\% R + 0,05)$
4.25	Endurance	70°C, (U_{rated}) or (U_{max}), 1000h,	$\pm(0,5\% R + 0,05\Omega)$
	Endurance	70°C, (U_{rated}) or (U_{max}), 8000h,	$\pm(1,0\% R + 0,05\Omega)$

Note: The above tests and test conditions refer to specifications according to IEC 60115-1 and IEC 60068-2. Further details regarding electrical specifications and temperature behaviour are based on nominal values under typical conditions of use. Resistors with a nominal value less than 100 ohms or resistance tolerances $\leq \pm 0.1\%$ should be measured by using a 4-wire method to reduce measurement errors.

OPTIONS

Inductance minimised Type (N)	$\pm 0,5\%$, Range 2R - 1K (only $\pm 50\text{ppm}^\circ\text{C}$); $\pm 1\%$, Range 1R - 1K2
Improved Stability (V)	Pre - aged for better long term stability (all types $\geq 5\text{ppm}^\circ\text{C}$)
Matched Sets (on Request)	Resistor sets, matched (selected) by same TCR and tolerance tracking

- **Induction-minimized Version (option N):** For high-frequency applications, the self-inductance of the resistors can be reduced by special trimming methods. Due to the construction, this option is offered in a resistance range from 1Ohm to 1.2kOhm. If the resistance values are outside this range, the capacitive reactance predominates, effects of reducing the inductive reactance are not significant or measurable.
- **Stability-improved Version (V):** If there are higher requirements for the stability of a resistor in analogue circuits (long-term stability), the stability behaviour can be improved by proven aging methods.

ORDERING INFORMATION

MELF0207 100R00 0,1% TK25 (MELF0207 100 Ω ; $\pm 0,1\%$; $\pm 25\text{ppm}^\circ\text{C}$)

Type	Special	Resistance	Tolerance	Temperature Coefficient	Power	Option	Packaging
MELF0207	- XXX	0R1000	0,05%	(TK3)	-	V	T(Tape & Reel) B(Bulk)
		100R00	0,1%	TK5		N	
		10K000	0,25%	TK10			
		1M0000	0,5%	TK15			
			1,0%	TK25			
				TK50			

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