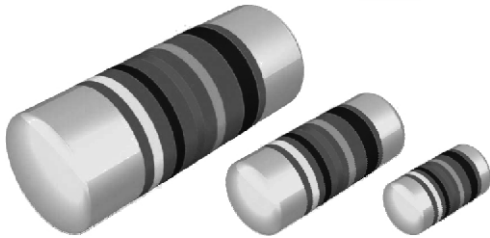


MELF Resistors with Established Reliability



MELF 0102 VG03, MELF 0204 VG03 and MELF 0207 VG03 thin film MELF resistors with established reliability are the perfect choice for all high-reliability applications typically found in military, aircraft and spacecraft electronics. These versions supplement the families of professional and precision MELF resistors MELF 0102, MELF 0204 and MELF 0207.

FEATURES

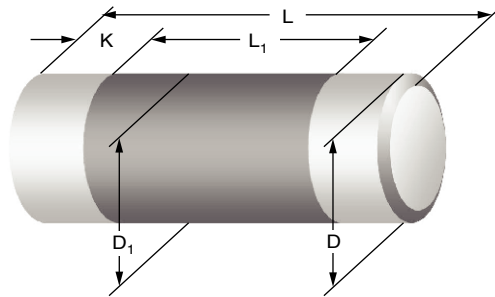
- Advanced thin film technology
- Pure matte Sn termination on Ni barrier layer

APPLICATIONS

- Medical
- Military
- Aerospace

TECHNICAL SPECIFICATIONS			
DESCRIPTION	MELF 0102 VG03	MELF 0204 VG0	MELF 0207 VG03
Resistance range	100 Ω to 2.21 MΩ; 0 Ω	1 Ω to 5.11 MΩ; 0 Ω	1 Ω to 10 MΩ; 0 Ω
Resistance tolerance	± 1 % ; ± 0.5 % ; ± 0.1 %		
Temperature coefficient	± 50 ppm/K ; ± 25 ppm/K ; ± 15 ppm/K ; ± 10 ppm/K		
Rated dissipation, P_{70}	0.2 W	0.25 W	0.4 W
Operating voltage, U_{max} AC/DC	150 V	200 V	300 V
Permissible film temperature, $\vartheta_{F max}$.	125 °C		
Operating temperature range	- 55 °C to 125 °C		
Max. resistance change at P_{70} for resistance range, $ \Delta R/R $ after:	100 Ω to 221 kΩ	1 Ω to 332 kΩ	1 Ω to 1 MΩ
1000 h	≤ 0.15 %		
8000 h	≤ 0.3 %		
225 000 h	≤ 1 %		
Permissible voltage against ambient (insulation):			
1 min; U_{ins}	200 V	300 V	500 V
Continuous	75 V	75 V	75 V

DIMENSIONS

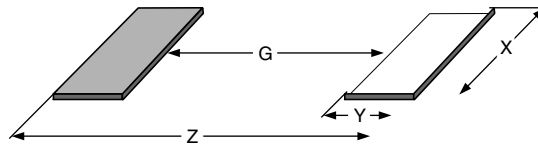


DIMENSIONS AND MASS						
TYPE	L (mm)	D (mm)	L ₁ min. (mm)	D ₁ (mm)	K (mm)	MASS (mg)
MELF 0102 VG03	2.2 + 0/- 0.1	1.1 + 0/- 0.1	1.2	D + 0/- 0.1	0.4 ± 0.05	8
MELF 0204 VG03	3.6 + 0/- 0.2	1.4 + 0/- 0.1	1.8	D + 0/- 0.15	0.8 ± 0.1	22
MELF 0207 VG03	5.8 + 0/- 0.15	2.2 + 0/- 0.2	3.2	D + 0/- 0.2	1.15 ± 0.1	80

Note

- Color code marking is applied according to E192 in five bands. Each color band appears as a single solid line, voids are permissible if at least 2/3 angle of view. 1st Figure, 2nd Figure, 3rd Figure, 4th Multiplier, 5th Tolerance.

PATTERN STYLES FOR MELF RESISTORS



RECOMMENDED SOLDER PAD DIMENSIONS								
TYPE	WAVE SOLDERING				REFLOW SOLDERING			
	G (mm)	Y (mm)	X (mm)	Z (mm)	G (mm)	Y (mm)	X (mm)	Z (mm)
MELF 0102 VG03	0.7	1.2	1.5	3.1	1.1	0.8	1.3	2.7
MELF 0204 VG03	1.5	1.5	1.8	4.5	1.7	1.2	1.6	4.1
MELF 0207 VG03	2.8	2.1	2.6	7.0	3.2	1.7	2.4	6.6

PART NUMBER AND PRODUCT DESCRIPTION

Part Number: MELF0204WC4999FB300
 Part Number: MELF0204WZ0000ZB300

M	E	L	F	0	2	0	4	W	C	4	9	9	9	F	B	3	0	0
M	E	L	F	0	2	0	4	W	Z	0	0	0	0	Z	B	3	0	0

TYPE/SIZE MELF 0102 MELF 0204 MELF 0207	VERSION W = EN 140401-803, "Version E"; failure rate level E6	TCR C = ± 50 ppm/K D = ± 25 ppm/K E = ± 15 ppm/K F = ± 10 ppm/K Z = Jumper	RESISTANCE 3 digit value 1 digit multiplier MULTIPLIER 8 = *10 ⁻² 9 = *10 ⁻¹ 0 = *10 ⁰ 1 = *10 ¹ 2 = *10 ² 3 = *10 ³ 4 = *10 ⁴ 5 = *10 ⁵ 0000 = Jumper	TOLERANCE F = ± 1 % D = ± 0.5 % C = ± 0.25 % B = ± 0.1 % Z = Jumper	PACKAGING B1 B3 B0 B2 B7
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Product Description: MELF 0204-50 1 % VG03 BL 49R9
 Product Description: MELF 0204 VG03 BL 0R0

MELF 0204	-50	1 %	VG03	BL	49R9
MELF 0204	-	-	VG03	BL	0R0
TYPE/SIZE MELF 0102 MELF 0204 MELF 0207	TCR ± 50 ppm/K ± 25 ppm/K ± 15 ppm/K ± 10 ppm/K	TOLERANCE ± 1 % ± 0.5 % ± 0.25 % ± 0.1 %	VERSION VG03 = EN 140401-803, "Version E"; failure rate level E6	PACKAGING B1 BL B0 B2 B7	RESISTANCE 49R9 = 49.9 Ω 4K64 = 4.64 kΩ 0R0 = Jumper

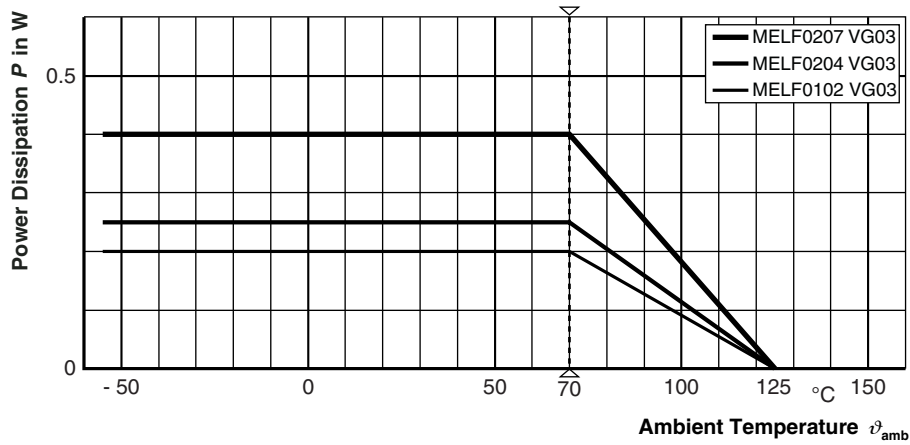
PACKAGING

TYPE	CODE	QUANTITY	CARRIER TAPE	WIDTH	PITCH	REEL DIAMETER
MELF 0102 VG03	B1	1000	Antistatic blister tape acc. IEC 60286-3 Type II	8 mm	4 mm	180 mm/7"
	B3 = BL	3000				330 mm/13"
	B0	10 000				
MELF 0204 VG03	B1	1000	Antistatic blister tape acc. IEC 60286-3 Type II	8 mm	4 mm	180 mm/7"
	B3 = BL	3000				330 mm/13"
	B0	10 000				
MELF 0207 VG03	B1	1000	Antistatic blister tape acc. IEC 60286-3 Type II	12 mm	4 mm	180 mm/7"
	B2	2000				330 mm/13"
	B7	7000				

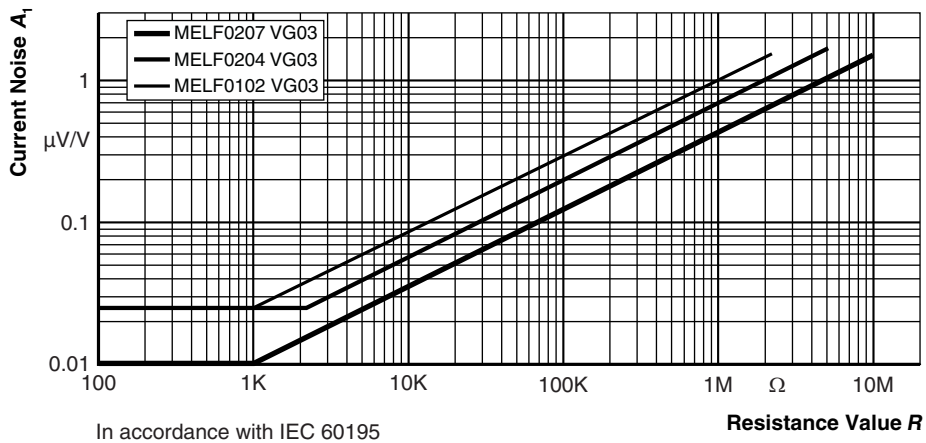
TEMPERATURE COEFFICIENT AND RESISTANCE RANGE

DESCRIPTION		RESISTANCE		
TCR	TOLERANC	MELF 0102 VG03	MELF 0204 VG03	MELF 0207 VG03
± 50 ppm/K; ± 25 ppm/K	± 1 % ; ± 0.5 %	100 Ω to 2.21 MΩ	1 Ω to 5.11 MΩ	1 Ω to 10 MΩ
± 15 ppm/K; ± 10 ppm/K	± 0.1 %	100 Ω to 100 kΩ	75 Ω to 100 kΩ	75 Ω to 499 kΩ
Jumper		≤ 10 mΩ; I _{max.} = 2 A	≤ 10 mΩ; I _{max.} = 3 A	≤ 10 mΩ; I _{max.} = 5 A

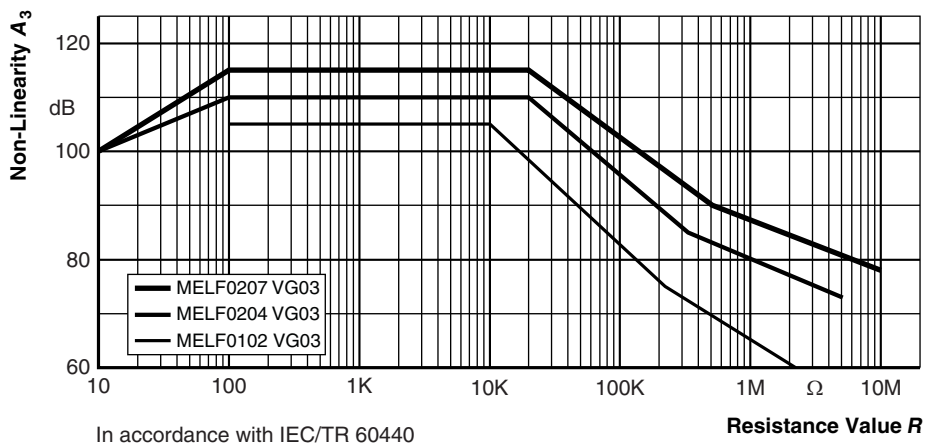
FUNCTIONAL PERFORMANCE



Derating



Current Noise - A_1



Non-Linearity - A_3