



VISHAY INTERTECHNOLOGY, INC.




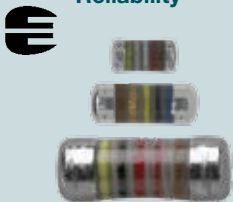


THIN FILM MELF RESISTORS

Vishay Beyschlag

FEATURES


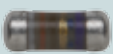

- Industry standard sizes:
0102 (RC 2211 M)
0204 (RC 3715 M)
0207 (RC 6123 M)
- TCR down to ± 5 ppm/K
- Tight tolerance down to $\pm 0.02\%$
- Superior load life stability down to 200 ppm
- Excellent stability under pulse load up to 1000 W
- Carbon film pulse type, suitable up to 10000 V
- High frequency types, suitable for > 10 GHz
- 0 Ω Jumper
- Lead-free construction and pure Sn plating
- Proven whisker immunity
- CECC approved

Product	Model	Power (W)	Resistance Range	TC (ppm/K)	Tolerance (%)
MELF Professional 	MMU 0102	0.2 / 0.3	0.22 Ω ... 2.21 M Ω	$\pm 25 / \pm 50$	$\pm 0.5 / \pm 1 / \pm 2 / \pm 5$
	MMA 0204	0.25 / 0.4	0.22 Ω ... 10 M Ω	$\pm 25 / \pm 50$	$\pm 0.5 / \pm 1 / \pm 5$
	MMB 0207	0.4 / 1.0	0.1 Ω ... 15 M Ω	$\pm 25 / \pm 50 / \pm 100$	$\pm 0.5 / \pm 1 / \pm 2 / \pm 5$
MELF Precision 	MMU 0102	0.06 / 0.2	22 Ω ... 332 k Ω	$\pm 15 / \pm 25$	$\pm 0.1 / \pm 0.25 / \pm 0.5$
	MMA 0204	0.07 / 0.25	10 Ω ... 511 k Ω	$\pm 15 / \pm 25$	$\pm 0.1 / \pm 0.25 / \pm 0.5$
	MMB 0207	0.11 / 0.4	15 Ω ... 1 M Ω	$\pm 15 / \pm 25$	$\pm 0.1 / \pm 0.25$
MELF Ultra Precision 	UMA 0204	0.07 / 0.25	22 Ω ... 332 k Ω	$\pm 05 / \pm 10 / \pm 15$	$\pm 0.02 / \pm 0.05 / \pm 0.1 / \pm 0.25$
MELF Established Reliability¹ 	MMU 0102 VG03	0.2	100 Ω ... 2.21 M Ω 100 Ω ... 100 k Ω	± 50 ± 15	± 1 ± 0.1
	MMA 0204 VG03	0.25	1 Ω ... 5,11 M Ω 75 Ω ... 100 k Ω	± 50 ± 15	± 1 ± 0.1
	MMB 0207 VG03	0.4	1 Ω ... 10 M Ω 75 Ω ... 499 k Ω	± 50 ± 15	± 1 ± 0.1

¹ Established failure rate level E6 (= MIL Level P)

Product	Model	Power (W)	Resistance Range	TC (ppm/K)	Tolerance (%)
MELF High Pulse Load  	CMA 0204	0.25 / 0.4	10 Ω ... 100 kΩ	- 250 ... - 300	± 2
	CMB 0207	0.4 / 1.0	2.2 Ω ... 1.5 MΩ	- 250 ... - 500	± 2 / ± 5
MELF High Frequency 	MMU 0102 HF	0.2 / 0.3	6.8 Ω ... 470 Ω	± 50	± 2
	MMA 0204 HF	0.25 / 0.4	1.5 Ω ... 475 Ω	± 50	± 1
	MMB 0207 HF	0.4 / 1.0	6.8 Ω ... 470 Ω	± 50	± 2
MELF High Frequency High Pulse Load 	CMA 0204 HF	0.25 / 0.4	47 Ω ... 300 Ω	- 250 ... - 300	± 2
MELF Jumper 	MMU 0102 0R0	$I \leq 2 \text{ A}$	$R \leq 10 \text{ m}\Omega$	—	—
	MMA 0204 0R0	$I \leq 3 \text{ A}$	$R \leq 10 \text{ m}\Omega$	—	—
	MMB 0207 0R0	$I \leq 5 \text{ A}$	$R \leq 10 \text{ m}\Omega$	—	—

Technology – MM_, UM_: Metal Film Products; CM_: Carbon Film Products

Product	Size	Length	Diameter	Size Code
	0102 MICRO-MELF	2.2 mm	1.1 mm	RC 2211 M
	0204 MINI-MELF	3.6 mm	1.4 mm	RC 3715 M
	0207 MELF	5.8 mm	2.2 mm	RC 6123 M

For technical questions, contact ff3bresistors@vishay.com

APPLICATIONS

Telecommunication:

- Microwave radio links
- Transmission systems
- Switching
- Digital services access
- Subscriber line cards
- Base stations
- Cell phones

Industrial:

- Building control systems
- Programmable controllers
- Sensors
- Motor drives
- Mains installations
- Safety switches
- Power meters
- Lighting
- Power supplies

Automotive:

- Engine management
- Ignition
- Driver assistance
- Dashboard
- Electronic gearboxes
- ABS & traction
- X by wire systems
- Passenger safety
- Car body electronics
- Suspension controls
- Lighting
- Comfort electronics
- Climate control

Measurement:

- Measuring equipment
- Measuring transducers
- Calibrating equipment
- Precision scales
- RF amplifiers

Medical:

- X-ray equipment
- Monitoring systems
- Re-animation
- Dialysis

Space/Aircraft:

- Positioning systems
- Flight controls
- Fly by wire systems
- Engine management
- Pressure controls



SEMICONDUCTORS:

Rectifiers • High-Power Diodes and Thyristors • Small-Signal Diodes • Zener and Suppressor Diodes
• FETs • RF Transistors • Optoelectronics • ICs • Modules and Assemblies

PASSIVE COMPONENTS:

Resistive Products • Magnetics • Capacitors • Strain Gage Transducers and Stress Analysis Systems

**One of the World's Largest
Manufacturers**
of Discrete Semiconductors and Passive Components

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