

Version:  
January 12, 2017



# **(RFM) Non-Inductive High Frequency Melf Resistors**

**Token Electronics Industry Co., Ltd.**

**Taiwan: No.137, Sec. 1, Zhongxing Rd., Wugu District,  
New Taipei City, Taiwan, R.O.C. 24872  
Tel: +886 2981 0109 Fax: +886 2988 7487**

**China: 12F, Zhong Xing Industry Bld., Chuang Ye Road,  
Nan Shan District, Shen Zhen City,  
Guang Dong, China 518054  
Tel: +86 755 26055363; Fax: +86 755 26055365**

**Web: [www.token.com.tw](http://www.token.com.tw)**

**Email: [rfq@token.com.tw](mailto:rfq@token.com.tw)**



**▶ Product Introduction****Non-Inductance MELF Resistors offer greater choice for high frequency applications.****Features :**

- Low-inductance non-helical trimmed product.
- Power dissipation rating at 70°C up to 0.75W.
- Speciality high frequency product for RF applications.
- Suitable for more than GHz operation; Excellent overall stability: Class 0.5.
- Tolerance range:  $\pm 0.5\%$  to  $\pm 5.0\%$ ; Resistance range: 25 $\Omega$  to 200 $\Omega$ .
- Special metal film technology, DIN: 0102, 0204, 0207.
- Lead (Pb)-free and RoHS compliant.

**Applications :**

- Medical Equipment.
- Industrial electronics.
- Automatic Equipment Controller.
- HF and pulse loading applications.
- Testing & Measurement Equipment.
- Consumer Product, Printer Equipment.
- Communication Device, Cell phone, GPS, PDA.

The high frequency RFM specialty series of non-inductance MELF resistor from Token Electronics has been extended to offer more than GHz operation, making the devices more suitable for high frequency RF applications.

They are the perfect choice in high frequency circuit designs where the parasitic inductance of regular, helical trimmed resistors cannot be accepted, but where also pulse energies apply. Typical applications are in the fields of telecommunication equipment and industrial electronics.

These high stability, non-inductance MELF resistors have a footprint very close to comparable chip resistors but maintain their tolerance and deliver higher stability over a wider temperature range. Sizes range from 5.7 × 2.1mm for the RFM74 MELF-0207, through 3.45 × 1.3mm for the RFM73 MELF-0204 down to 2.2 × 1.3mm for the RFM72 MELF-0102.

Production is strictly controlled and follows an extensive set of instructions established for reproducibility. The groove on the metal alloy film of high grade ceramic rod is specially designed to achieve non inductance. The resistor elements are covered by a protective coating designed for mechanical, electrical and climatic protection.

The terminations are covered with final pure tin plating for keeping perfect solder ability. Four or five color code rings designate the resistance value and tolerance in accordance with IEC 60062.

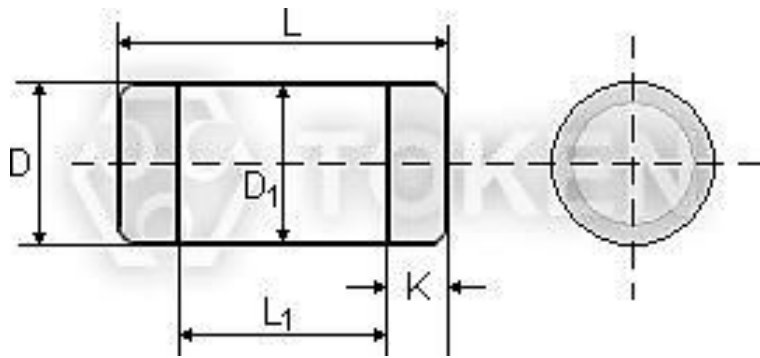
Token's RFM MELF standard series can be a replacement for Vishay, IRC, EBG, KAO, and Panasonic Precision Devices with more competitive price and short lead time. Contact us with your specific needs. Please link to Token official website "[Melf Resistors](http://www.token.com.tw)" for more information.



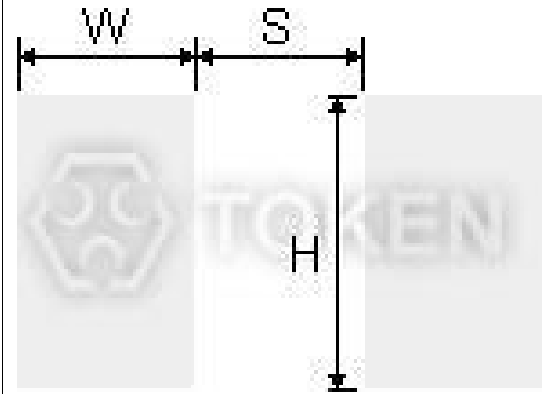
## ► Dimensions

### Dimensions & Recommended Soldering Bath Dimensions (RFM)

Type		RFM72	RFM73	RFM74	RFM75
<b>Metric sizes</b>		DIN: 0102	DIN: 0204	DIN: 0207	DIN: 0207
<b>Dimension (Unit: mm)</b>	L±0.2	2.2	3.45	5.7	6.0
	L1±0.2	1.2	1.6	3.0	3.3
	D±0.2	1.3	1.3	2.1	2.1
	K±0.1	0.4	0.8 min	1.2 min	1.2 min
	D1±0.1	D+0/D-0.15	D+0/D-0.25	D+0/D-0.3	D+0/D-0.3
<b>Recommended Soldering Bath Dimension (Unit: mm)</b>	S	1.0	1.6	2.6	2.8
	W	2.0	2.0	2.5	2.5
	H	2.0	2.5	2.5	2.5



High Frequency MELF Resistor (RFM) Dimensions



Recommended Soldering Bath (RFM) Dimensions

## Characteristics

### Characteristics (RFM)

Type	RFM72	RFM73	RFM74	RFM75
Metric sizes	DIN: 0102	DIN: 0204	DIN: 0207	DIN: 0207
Resistance range	25Ω ~ 200Ω			
Operating Temperature range	-55°C ~ 125°C			
Resistance Tolerance (%)	D(±0.5); F(±1.0); J(±5.0)			
Temperature coefficient (PPM/°C)	C1(±100); C2(±50); C3(±25); C5(±15); C6(±10)			
Rated dissipation (W) P70	0.125	0.25	0.5	0.75
Operating mode	standard	standard	standard	power
Climatic category (LCT/UCT/days)	55/125/56	55/125/56	55/155/56	55/155/56
Endurance, Max, resistance change at P70, ΔR/R max., after 1000h	≤0.5% for Tol.=±1% & ≤1% for Tol.=±5%			
Derating	standard type linear from 70°C to 125°C			
Insulation voltage	500V			
Insulation resistance	>1GΩ			

## Order Codes

### Order Codes (RFM)

RFM73	100R	F	C3	TR				
Part Number	Resistance Value (Ω)		Temperature coefficient (PPM/°C)		Package			
RFM72	100R	100	D	±0.5	C1	±100	P	Bulk
RFM73							TR	Taping Reel
RFM74			F	±1.0	C2	±50		
RFM75			J	±5.0	C3	±25		
					C5	±15		
					C6	±10		

## ► General Information

### Token MELF Offers Designer a Greater Choice

Token Electronics is now offering the complete range of MELF products, comprising DIN-0411, DIN-0309, DIN-0207, DIN-0204 and DIN-0102. This high stability, close-tolerance MELF resistors have a footprint very close to comparable chip resistors but maintain their tolerance and deliver higher stability over a wider temperature range.

Where applications require even tighter tolerance, Token offer Ultra Precision range in the RJM package, with values from  $0.1\Omega \sim 22M\Omega$ , tolerance from  $\pm 5\%$  down to as low as  $\pm 0.05\%$  and TC from  $\pm 50\text{ppm}/^\circ\text{C}$  to  $\pm 5\text{ppm}/^\circ\text{C}$ .

For high pulse load and high-frequency applications, Token Electronics offer specialized MELF resistor. The high pulse load resistors are metal glaze film RGM, available in values from  $50K\Omega \sim 22M\Omega$  and  $\pm 0.5\%$  precision tolerance, for  $0.125\text{ W} \sim 3\text{ W}$  applications.

High-frequency RFM resistors are available for RF microwave applications where impedance change due to the parasitic inductance of regular resistors is not acceptable.

### Chip Resistor Alternatives

In very low resistance values, between  $0.1\Omega$  and  $475\Omega$ , not usually offered by conventional chip resistors, these are available in RJM72P 0102, RJM73P 0204, RJM74P 0207 and standard RJM18M 0411 MELF precision packages.

All MELF-type resistors are available on blister tape for automated placement and maintain their high stability, high precision characteristics when exposed to soldering temperatures and operating stresses including moisture, vibration, humidity and temperature variation within the specified range.

This makes them suitable for a wide range of applications, from laboratory and prototyping work to installation in hostile environments such as airframe or under-bonnet areas, exposed parts of vehicles, or other places where electronic sensing and controls must be installed.

