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**(RJM) Metal Film  
Ultra Precision  
Melf Resistors**

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**► Product Introduction**

**Token Precision Metal-Film Melf Resistors (RJM) offer more design options.**

**Features :**

- DIN: 0102, 0204, 0207, 0411.
- Pure Sn termination on Ni barrier layer.
- Very high ratio of performance to price.
- High precision tolerance down to  $\pm 0.05\%$ .
- Force fitted steel caps, tin plated on nickel barrier.
- Superior overall stability, most advanced thin film technology.
- TCR down to  $\pm 5\text{ppm}/^\circ\text{C}$ , wide resistance range:  $0.1\Omega$  to  $22\text{M}\Omega$ .
- Compatible with lead (Pb)-free and lead containing soldering processes.

**Applications :**

- Measuring and calibration equipment.
- Industrial process control systems.
- Space and aircraft electronics.
- Test and measurement.
- Medical electronics.
- Telecom.

(RJM) professional thin film MELF resistors (Cylindrical Resistors) are the perfect choice for most fields of modern professional electronics where reliability and stability is of major concern.

(RJM) resistors combine the proven reliability of professional MELF products with a most advanced level of precision and stability first achieved with axial thin film high precision resistors.



This unique combination makes the product perfectly suited for all applications with outstanding requirements towards reliable precision and stability. The typical applications in the fields of telecommunication, automotive and medical equipment reflect the outstanding level of proven reliability.

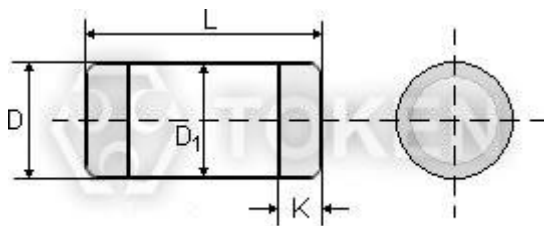
Token's (RJM) equate Vishay, Ohmite, Caddock, IRC, EBG, KOA, Panasonic Precision MELF with more competitive price and fast delivery. Contact us with your specific needs. Please link to Token official website "[Melf Resistors](http://www.token.com.tw)" for more information.



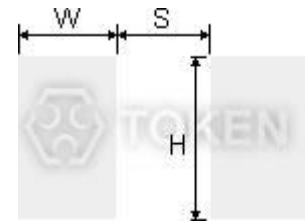
► **Dimensions**

**Dimensions & Recommended Soldering Bath Dimensions (RJM)**

Type		RJM72P	RJM73P	RJM74S	RJM74P	RJM16M	RJM17M	RJM18M
Metric type		DIN: 0102	DIN: 0204	DIN: 0207			DIN: 0309	DIN: 0411
Dimension (Unit: mm)	L(±0.3)	2.0	3.5	5.7		6.0	8.7	11.8
	D(±0.3)	1.25	1.3	2.1		2.1	3.1	3.6
	K(±0.2)	≥0.4	≥0.6	≥0.6		≥0.6	≥1.0	≥1.0
	D1(±0.1)	≥D-0.1	≥D-0.2	≥D-0.3		≥D-0.3	≥D-0.4	≥D-0.4
Recommended Soldering Bath Dimensions (Unit: mm)	S	1.3	1.5	2.8		3.2	5.6	8.2
	W	2.0	1.6	3.0		3.5	4.0	5.0
	H	1.3	1.6	3.0		3.5	4.0	5.0



Precision Melf (RJM) Dimensions



Recommended Soldering Bath (RJM) Dimensions

## Characteristics

### Characteristics (RJM)

Type	RJM72P	RJM73P	RJM74S	RJM74P	RJM16M	RJM17M	RJM18M
Metric type	DIN: 0102	DIN: 0204	DIN: 0207			DIN: 0309	DIN: 0411
Rated dissipation P70	0.125W	0.25W	0.25W	0.50W	1.0W	2.0W	3.0W
Resistance range ( $\Omega$ )	10 ~ 1M	10 ~ 10M					
Resistance tolerance (%)	J ( $\pm 5$ ); F ( $\pm 1$ ); D ( $\pm 0.5$ ); C ( $\pm 0.25$ ); B ( $\pm 0.10$ ); A5 ( $\pm 0.05$ )						
Temperature coefficient (ppm/ $^{\circ}$ C)	C1 ( $\pm 100$ ); C2 ( $\pm 50$ ); C3 ( $\pm 25$ ); C5 ( $\pm 15$ ); C6 ( $\pm 10$ ); C7 ( $\pm 5$ )						
Climatic category (LCT/UCT/days)	55 / 125 / 56						
Operating voltage Umax	150V	200V	250V	300V	350V	400V	450V
Temperature range	-55 $^{\circ}$ C to 125 $^{\circ}$ C						
Insulation voltage (V)	300	500	500	600	700	800	900
Insulation resistance	>1G $\Omega$						

● Notice: Resistance out of range, tolerance and temperature coefficient match are under request.

## Order Codes

### Order Codes (RJM)

RJM74P	10R		D		C6		P	
Part Number	Resistance Value ( $\Omega$ )		Resistance Tolerance (%)		Temperature coefficient (PPM/ $^{\circ}$ C)		Package	
RJM72P							P	Bulk
RJM73S	0R1	0.1 $\Omega$	J	$\pm 5\%$	C1	$\pm 100\text{ppm}/^{\circ}\text{C}$	TR	Taping Reel
RJM73P	10R	10 $\Omega$	F	$\pm 1\%$	C2	$\pm 50\text{ppm}/^{\circ}\text{C}$		
RJM74S	100R	100 $\Omega$	D	$\pm 0.5\%$	C3	$\pm 25\text{ppm}/^{\circ}\text{C}$		
RJM74P	1K	1K $\Omega$	C	$\pm 0.25\%$	C5	$\pm 15\text{ppm}/^{\circ}\text{C}$		
RJM16M	10K	10K $\Omega$	B	$\pm 0.10\%$	C6	$\pm 10\text{ppm}/^{\circ}\text{C}$		
RJM17M	100K	100K $\Omega$	A5	$\pm 0.05\%$	C7	$\pm 5\text{ppm}/^{\circ}\text{C}$		
RJM18M	1M	1M $\Omega$						
	10M	10M $\Omega$						

## ► 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.

