

# Metal Alloy Low-Ohmic Current Sensing Resistor



MLR Series

MERITEK

## Feature

- Ideal for all types of current sensing, voltage division and pulse applications.
- Proprietary processing technique
- Extremely low Resistance values.
- High-temperature performance (up to +275°C)
- Very low inductance 0.5nH to 5nH
- Excellent frequency response
- Low thermal EMF (>1uV/°C)

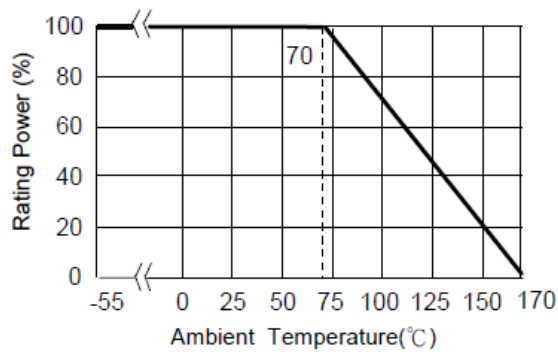


## PART NUMBERING SYSTEM

Meritek Series		MLR		1206		330		R001		J	
Size											
1206		2010		2512		2725		2728		4527	
Rating (Watts)											
Code	C	1	A	2	3	B	4	5			
	0.5W	1W	1.5W	2W	3W	3.5W	4W	5W			
Resistance											
4 ~ 6 Digit						EX. R100 = 100mΩ R010 = 10mΩ R001 = 1mΩ R00025 = 0.25mΩ					
Tolerance											
Code	Tolerance		Code	Tolerance							
D	±0.5%		G	±2%							
F	±1%		J	±5%							

## Power Derating Curve:

Operating Temperature Range: -55°C ~ +170°C



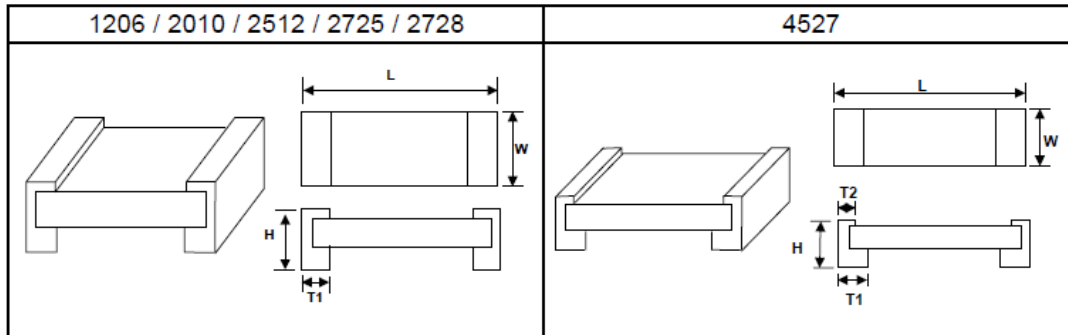
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## Dimensions



Type	Power Rating (W)	Resistance Range (mΩ)	Dimensions (mm)				
			L	W	H	T1	T2
MLR1206	0.5	1 ~ 50	3.20 ± 0.254	1.60 ± 0.254	0.645 ± 0.254	0.508 ± 0.254	
	1						
MLR2010	1	1.0 ~ 3	5.08 ± 0.254	2.54 ± 0.254	0.787 ± 0.254	1.295 ± 0.254	
		3.1 ~ 100			0.645 ± 0.254	0.787 ± 0.254	
MLR2512	1 & 1.5	0.5 ~ 4	6.248 ± 0.254	3.302 ± 0.254	0.787 ± 0.254		
		4.1 ~ 75			0.645 ± 0.254		
		75.1 ~ 100			0.645 ± 0.254		
		0.5 ~ 4			0.787 ± 0.254		
	2	4.1 ~ 75			0.645 ± 0.254		
		0.5			0.787 ± 0.254	1.880 ± 0.254	
	3	0.6 ~ 2.9			0.787 ± 0.254	1.118 ± 0.254	
		4.1 ~ 10					
		3 ~ 4					
					1.676 ± 0.254		
MLR2725	4	0.25 / 0.5	6.807 ± 0.254	6.452 ± 0.254	0.991 ± 0.254	2.159 ± 0.254	
		1			1.092 ± 0.254		
		1.5			0.991 ± 0.254		
		2			0.889 ± 0.254	1.803 ± 0.254	
		2.5				1.654 ± 0.254	
		3				1.295 ± 0.254	
MLR2728	3	4 ~ 100	6.706 ± 0.254	7.188 ± 0.254	0.991 ± 0.254	1.143 ± 0.254	
	3.5						
	4						
MLR4527	3 & 5	0.5	11.430 ± 0.254	6.850 ± 0.254	1.500 ± 0.254	3.215 ± 0.254	3.215 ± 0.254
		0.6 ~ 5.0				1.815 ± 0.254	0.965 ± 0.254
		5.1 ~ 120					

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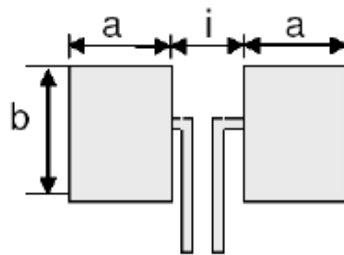
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## Product Specifications

Type	Number of Terminals	Rated Power at 70°C	Max. Rated Current	Max. Overload Current	T.C.R (ppm / °C)	Resistance Range		Operating Temperature Range
						D (±0.5%)	F (±1%), G (±2%), J (±5%)	
MLR1206	2	0.5W	22.36A	44.72A	1 ~ 4 mΩ±50 4.1 ~ 15 mΩ±25 15.1 ~ 50 mΩ±15	7 ~ 50 mΩ	1 ~ 50 Ωm	-55°C ~ +170°C
		1W	31.62A	63.25A		7 ~ 50 mΩ	1 ~ 50 Ωm	
MLR2010	2	1W	31.62A	63.25A	1 ~ 3 mΩ±50 3.1 ~ 6.9 mΩ±25 7 ~ 100 mΩ±15	7 ~ 100 mΩ	1 ~ 100 mΩ	
MLR2512	2	1W	44.72A	100.00A	0.5 ~ 3 mΩ±50 3.1 ~ 6.9 mΩ±25 7 ~ 100 mΩ±15	7 ~ 100 mΩ	0.5 ~ 100mΩ	
		1.5W	54.77A	122.48A				
		2W	63.25A	141.42A	0.5 ~ 3 mΩ±50 3.1 ~ 6.9 mΩ±25 7 ~ 75 mΩ±15	7 ~ 75 mΩ	0.5 ~ 75mΩ	
		3W	77.46A	134.16A	0.5 ~ 2.5 mΩ±50 2.6 ~ 10 mΩ±25	7 ~ 10 mΩ	0.5 ~ 10mΩ	
MLR2725	2	4W	126.49A	252.95A	±50	--	0.25 ~ 3mΩ	
MLR2728	2	3W	27.39A	47.43A	4 ~ 7 mΩ±25	4 ~ 100 mΩ		
		3.5W	29.58A	51.23A	7.1 ~ 100 mΩ±15			
		4W	31.62A	63.25A	4 ~ 7 mΩ±25 7.1 ~ 50 mΩ±15	4 ~ 50 mΩ		
MLR4527	2	3W	77.5A	134A	±50	7 ~ 120 mΩ	0.5 ~ 120 mΩ	
		5W	100A	173A				

## Recommend Land Pattern



Unit: mm

Type	Maximum Power Rating (Watts)	Land Pattern Dimensions			
		Resistance Range (mΩ)	a	b	i
MLR1206	0.5 & 1.0	1.0 ~ 50.0	1.60	2.18	1.00
MLR2010	1.0	1.0 ~ 3.0	2.89	2.92	1.22
		3.1 ~ 100.0	2.29	2.92	2.41
MLR2512	1.0 & 1.5	0.5 ~ 4.0	3.05	3.68	1.27
		4.1 ~ 100.0	2.11	3.68	3.18
MLR2512	2.0	0.5 ~ 4.0	3.05	3.68	1.27
		4.1 ~ 75.0	2.11	3.68	3.18
MLR2512	3.0	0.50	3.05	3.68	1.27
		0.6 ~ 2.9 & 4.1 ~ 10.0	2.19	3.68	3.00
		3.0 ~ 4.0	2.79	3.68	1.80
MLR2725	4.0	0.25 ~ 3.0	3.18	6.86	1.32
MLR2728	3.0 & 3.5 & 4.0	4.0 ~ 100.0	2.75	7.82	3.51
MLR4527	3.0 & 5.0	0.5 ~ 5.0	4.80	8.74	5.51
		5.1 ~ 120	3.40	8.74	8.31

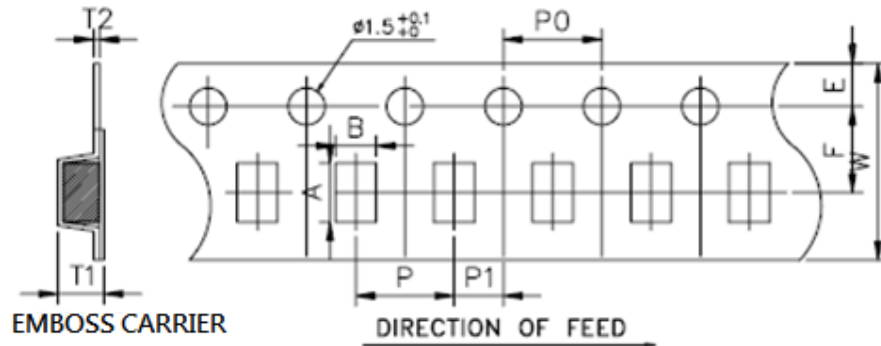
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## Tape Dimensions



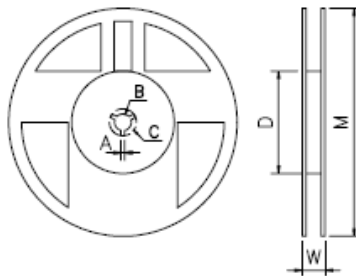
Unit: mm

Type	A	B	W	E	F	T1	T2	P	P0	10 X P0	P1
MLR1206	3.48±0.10	1.83±0.10	8.0±0.15	1.75±0.10	3.5±0.10	0.90±0.10	0.20±0.05	4.0±0.10	4.0±0.10	40.0±0.20	2.0±0.10
MLR2010	5.45±0.10	2.90±0.10	12.0±0.15	1.75±0.10	5.5±0.10	1.10±0.10	0.23±0.05	4.0±0.10	4.0±0.10	40.0±0.20	2.0±0.10
MLR2512	6.74±0.10	3.90±0.10	12.0±0.15	1.75±0.10	5.5±0.10	1.08±0.10	0.24±0.05	8.0±0.10	4.0±0.10	40.0±0.20	2.0±0.10
MLR2725	7.15±0.10	6.75±0.10	12.0±0.15	1.75±0.10	5.5±0.10	1.70±0.10	0.25±0.05	8.0±0.10	4.0±0.10	40.0±0.20	2.0±0.10
MLR2728	7.15±0.10	7.70±0.10	12.0±0.15	1.75±0.10	5.5±0.10	1.20±0.10	0.25±0.05	12.0±0.10	4.0±0.10	40.0±0.20	2.0±0.10
MLR4527	11.80±0.10	7.20±0.10	24.0±0.15	1.75±0.10	11.5±0.10	1.70±0.10	0.30±0.10	12.0±0.10	4.0±0.10	40.0±0.20	2.0±0.10

## Packaging Quantity

Type	Tape Width	Packaging Quantity (pcs / reel)		
		Emboss Plastic Type		
		4 mm Pitch	8 mm Pitch	12 mm Pitch
MLR1206	8 mm	4000 pcs		
MLR2010	12 mm	2000 pcs		
MLR2512	12 mm		2000 pcs	
MLR2725	12 mm		1000 pcs	
MLR2728	12 mm			1000 pcs
MLR4527	24 mm			500 pcs

## Reel Dimensions



Unit: mm

Reel Type/ Tape	W	M	A	B	C	D
7" reel for 8 mm tape	12.0 ± 0.5	178 ± 1.0	2.0 ± 0.5	13.2 ± 0.5	17.7 ± 0.5	60.0 ± 0.5
7" reel for 12 mm tape	16.2 ± 0.5		2.5 ± 0.5	13.5 ± 0.5		60.0 ± 0.5
7" reel for 24 mm tape	24.4 + 2/-0		2.0 ± 0.5	13.2 ± 0.5		60.0 ± 0.5