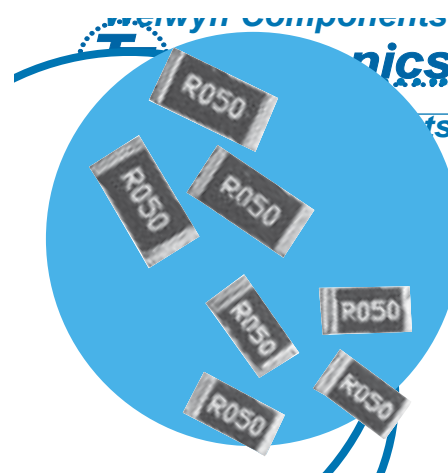


Low Value Flat Chip Resistor

LR Series

- Standard 2512, 2010 and 1206 sizes
- Resistance values down to 0.003 ohms
- Leach resistant solder-plated copper wrap-around termination
- AEC-Q200 Qualified
- RoHS compliant and SnPb variants



All parts are Pb-free and comply with EU Directive 2011/65/EU (RoHS2)

Electrical

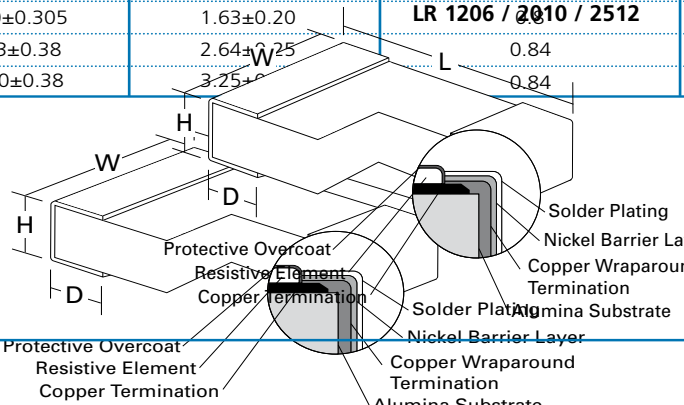
		LR1206	LR2010	LR2512
Power rating at 70°C	watts	0.5	1.0	1.5/2.0*
Resistance range	ohms	0R010 to 1R	0R003 to 1R	0R003 to 1
Dielectric withstanding voltage	volts	200	200	200
TCR	ppm/°C	±100 (Contact factory for value below 0.050 ohms)		
Resistance tolerance	%	≤R005 5%, >R005 1, 2, 5%		
Temperature rise at rated power	°C	40	80	90
Pad and trace area for max power rating @ 70°C	mm²	30	30	100
Ambient temperature range	°C	-55 to +150		
Values		2 Watts with total solder pad and trace size of 300 mm²		
Temperature rise at rated power	°C	40	80	90
Pad / trace area³	mm²	30	100	300

Note 1: Contact factory for values. Note 3: Recommended

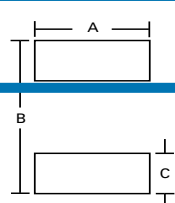
Physical

Dimensions (mm)				
Size	L	W	H(max)	D
LR1206	3.20±0.305	1.63±0.20	0.8	0.48±0.25
LR2010	5.23±0.38	2.64±0.25	0.84	0.48±0.25
LR2512	6.50±0.38	3.25±0.25	0.84	0.48±0.25

Dimensions (mm)				
Size	L	W	H(max)	D
LR1206	3.20±0.305	1.63±0.20	0.8	0.48±0.25
LR2010	5.23±0.38	2.64±0.25	0.84	0.48±0.25
LR2512	6.50±0.38	3.25±0.25	0.84	0.48±0.25



Recommended Solder Pad Dimensions (mm)			
	A	B	C
LR1206	2.0	4.0	1.25
LR2010	3.0	6.5	1.5
LR2512	3.7	7.75	1.5



General Note

Welwyn Components reserves the right to make changes in product specification without notice or liability. All information is subject to Welwyn's own data and is considered accurate at time of going to print.

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General Note

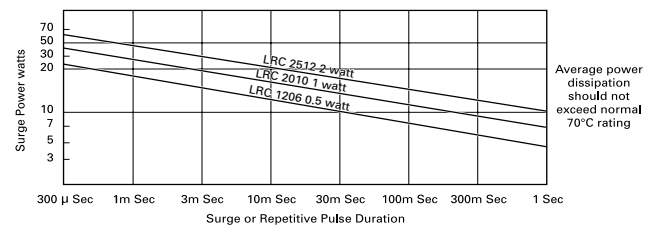
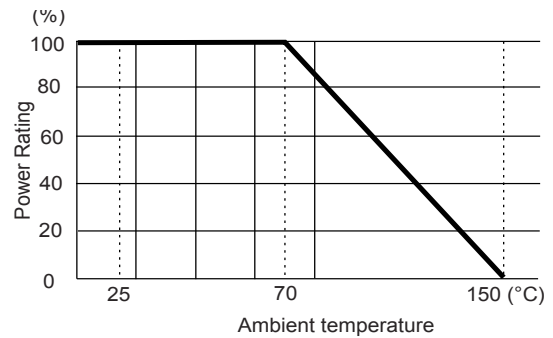
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BI Technologies IRC Welwyn

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LR Series

AEC-Q200 Table 7		Method	Max. (add R05)	Typ. (@1R0)
ref	Test			
3	High Temp. Exposure	MIL-STD-202 Method 108	$\Delta R\%$ 0.5	0.2
4	Temperature Cycling	JESD22 Method JA-104	$\Delta R\%$ 0.25	0.1
6	Moisture Resistance	MIL-STD-202 Method 106	$\Delta R\%$ 0.5	0.2
7	Biased Humidity	MIL-STD-202 Method 103	$\Delta R\%$ 0.5	0.2
8	Operational Life (Cyclic Load)	MIL-STD-202 Method 108	$\Delta R\%$ 1	0.5
14	Vibration	MIL-STD-202 Method 204	$\Delta R\%$ 0.5	0.05
15	Resistance to Soldering Heat	MIL-STD-202 Method 210	$\Delta R\%$ 0.25	0.05
16	Thermal Shock	MIL-STD-202 Method 107	$\Delta R\%$ 0.25	0.1
18	Solderability	J-STD-002	>95% coverage	
21	Board Flex	AEC-Q200-005	$\Delta R\%$ 0.5	0.2
22	Terminal Strength	AEC-Q200-006	$\Delta R\%$ 0.25	0.1
	Short Term Overload	6.25 x Pr for 2s	$\Delta R\%$ 0.5	
	Low Temperature Storage	-65°C for 100 hours	$\Delta R\%$ 0.5	
	Leach Resistance	Solder dip at 250°C	90s minimum	



Note:

- Although 2010 and 2512 sizes have passed temperature cycling and thermal shock, it is in general not recommended that ceramic chips this large be used on FR4 in a severe temperature cycle environment due to the possibility of solder joint fatigue.
- Full AEC-Q200 qualification applies only to European Part Numbers at ohmic values $\geq R01$.

Ordering Procedure

This product has two valid part numbers:

European (Welwyn) Part Number: LRF1206-R02FW (1206, 20 milliohms $\pm 1\%$, Pb-free)

L	R	F	1	2	0	6	-	R	0	2	F	W
1	2	3	4	5								

1 Type	2 Size	3 Value	4 Tolerance	5 Termination & Packing
LR = Conventional orientation (values $\geq R025$)	1206	E24 = 3/4 characters	F = $\pm 1\%$	W Pb-free, standard packing
	2010	R = ohms	G = $\pm 2\%$	T1 Pb-free, 1000/reel (non-standard)
LRF = Flip-chip orientation (values $\leq R025$)	2512		J = $\pm 5\%$	PB SnPb finish, standard packing
				Standard packing is tape & reel
				1206 & 2010 3000/reel
				2512 1800/reel

USA (IRC) Part Number: LRC-LRF1206LF-01-R020-F (1206, 20 milliohms $\pm 1\%$, Pb-free)

L	R	C	-	L	R	F	1	2	0	6	L	F	-	0	1	-	R	0	2	0	-	F
1	2	3	4	5	6	7																

1 Family	2 Model	3 Size	4 Termination	5 TCR	6 Value	7 Tolerance	Packing		
LRC	LR = Conventional orientation (values $\geq R025$)	1206	Omit for SnPb	01 = standard ($\pm 100\text{ppm}/^\circ\text{C}$ values $\geq R05$)	4 characters R = ohms	F = $\pm 1\%$	Standard packing is tape & reel		
		2010	LF = Pb-free			G = $\pm 2\%$			
	LRF = Flip-chip orientation (values $\leq R025$)	2512				J = $\pm 5\%$	All sizes	1000/reel	Standard
							1206 & 2010	3000/reel	Non-standard
							2512	1800/reel	

General Note

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Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

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