

### Features:

- 4-terminal Kelvin J-lead terminations
- Resistance range 0.5mΩ and 1mΩ
- 3 and 5W rating in compact footprint
- Robust welded construction
- Low inductance
- AEC-Q200 Qualified



All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

### Electrical Data

			LRMAP1216	
Resistance value	mΩ		0.5	1.0
Power rating, $P_{130}$	W		5	3
Alloy			E	A
TCR (resistive alloy)	ppm/°C		±10	±15
TCR (resistor)	ppm/°C		±50	
Resistance tolerance	%		±0.5, ±1, ±3, ±5	
Inductance	nH		<3	
Ambient temperature range	°C		-65 to +170	

### Physical Data

Dimensions in mm and weight in mg									
Value	Alloy	W ±0.2	H ±0.2	B ±0.3	D ±0.1	C ±0.2	P ±0.1	T ±0.1	Wt. nom.
L50	E								
		3	1.8	0.95	0.3	4	0.7	0.5	
1L0	A								

### Marking

The component is marked with ohmic value (using R to indicate decimal position in ohms).

### Solvent Resistance

The component is resistant to all normal industrial cleaning solvents suitable for printed circuits.

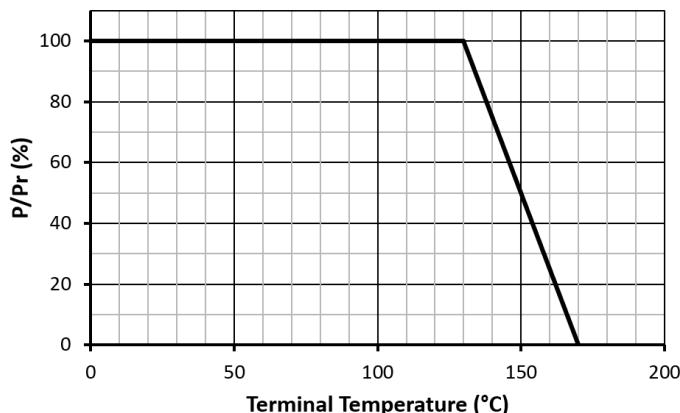
### Construction

The component is formed from a continuous band of E-beam welded precision resistive strip. Different resistance alloys are used based on the resistance value. The component is supplied without plating.

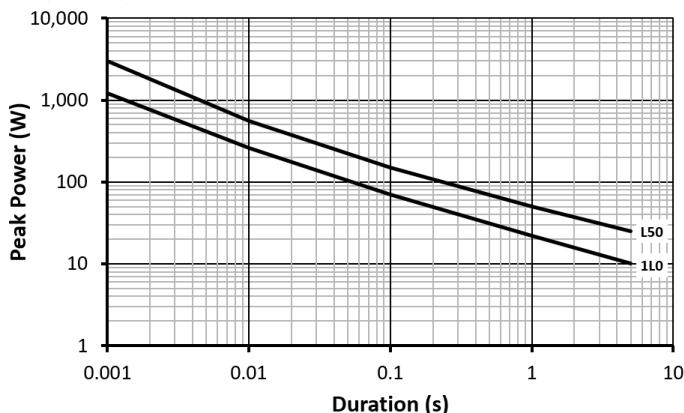
### Performance Data

Test	Methods	Reference	ΔR
Load life	1000 hours, cyclic load at $T_{Term} = 130^\circ\text{C}$ , $P_{r130}$	MIL-STD-202 Method 108	±1%
Short Term Overload	$5 \times P_{r130}$ for 5 s	--	±0.5%
High Temperature Exposure	2000 hours, $T_A = 170^\circ\text{C}$ , unpowered	MIL-STD-202 Method 108	±1%
Low Temperature Storage	-65°C for 250hrs	--	±0.1%
Temperature Cycle	1000 cycles, -55°C to 150°C, 30 minutes dwell	JESD22 Method JA-104	±0.5%
Biased Humidity	1000 hours, 85°C/85%RH, 10% of $P_{r130}$	MIL-STD-202 Method 103	±0.5%
Vibration	10 - 2000Hz, 5g, 20min, 12 cycles/axis x 3 axes	MIL-STD-202 Method 204	±0.2%
Mechanical Shock	100g, 6ms, half-sine	MIL-STD-202 Method 213	±0.2%
Resistance to Solder Heat	$260 \pm 5^\circ\text{C}$ , 10 ± 1s	MIL-STD-202 Method 210	±0.5%
Solderability	$245 \pm 5^\circ\text{C}$ , 5 ± 0.5s	J-STD-002	>95% coverage
Resistance to Solvents	Clean with aqueous chemical	MIL-STD-202 Method 215	No damage

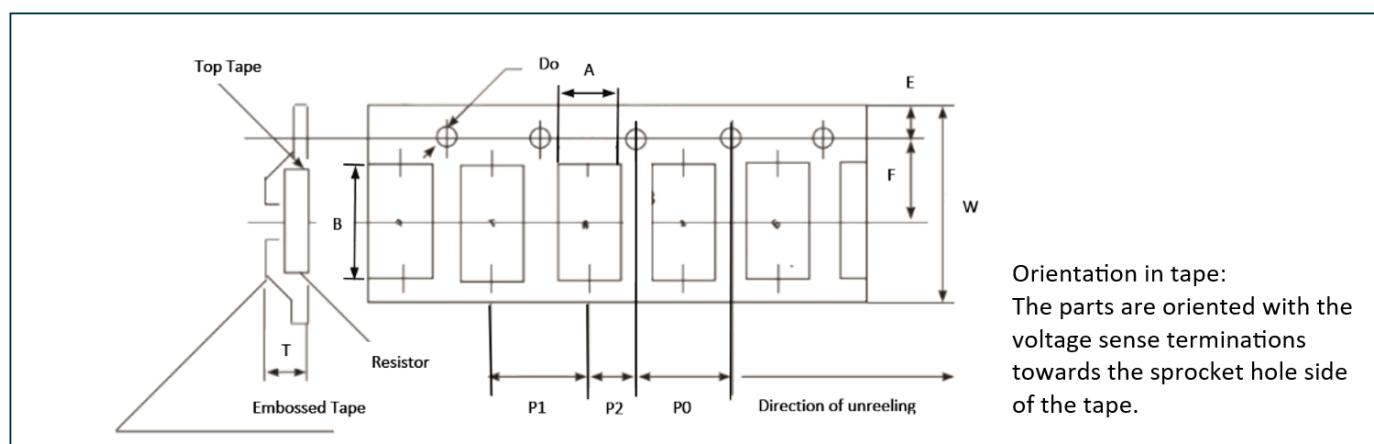
### Temperature Derating



### Single Pulse Performance



### Packaging



All dimensions in mm (tolerances are ±0.1 unless otherwise stated)

Size	A	B	W	E	F	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	D <sub>0</sub>	T	Reel dia.
1216	3.4	4.2	16±0.3	1.75	7.5	4	8	2	1.5	2.2	178



### Ordering Procedure

Example: LRMAP1216A-1L0JT3 (1 milliohm  $\pm 5\%$ , Pb-free)



1 Type	2 Alloy	3 Value	4 Tolerance	5 Packing
LRMAP1216	A	3 characters L = milliohms	D = $\pm 0.5\%$	T3 = plastic tape, 3000/reel
	E		F = $\pm 1\%$ H = $\pm 3\%$ J = $\pm 5\%$	