POSITIVE T.C.R. CHIP THERMISTORS

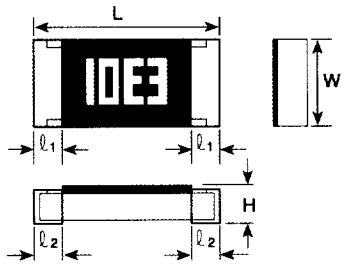
LTC 10, 18

The Kamaya LTC thermistor offers a wide range of thermal sensing characteristics in a small SMD package. This component has a positive temperature coefficient and is useful in applications requiring temperature compensation, temperature sensing or circuit protection. The LTC thermistor can be mounted directly on to a circuit board or similar substrate. It can also be packaged independently for external temperature sensing.

● FEATURES

1. Available in industry standard 0805 and 1206 size packages.
2. T.C.R. available from 500 to 4500 ppm/°C.
3. Excellent solderability with both flow and reflow soldering operations.
4. Resistance and T.C.R. value marked on the chip.

● DIMENSIONS



Unit = mm

Dimension \ Type (Size)	FCR 10 (0805)	FCR 18 (1206)
L	2.0 ± 0.15	3.1 ± 0.1
W	$1.25 \pm {}^{0.1}_{0.05}$	1.55 ± 0.1
H	0.6 ± 0.1	0.6 ± 0.1
ℓ_1	0.4 ± 0.2	0.45 ± 0.2
ℓ_2	$0.3 \pm {}^{0.2}_{0.1}$	$0.3 \pm {}^{0.2}_{0.1}$
Unit Weight	5 mg	9 mg

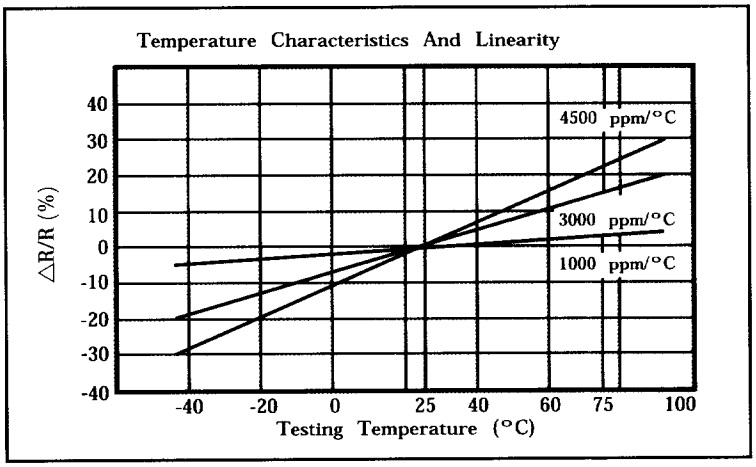
● RATINGS

Type (Size)	Maximum Working Voltage V	Operating Temperature Range
LTC 10 (0805)	50	-40°C to 125°C
LTC 18 (1206)	100	

● PERFORMANCE CHARACTERISTICS

DESCRIPTION	PERFORMANCE
Resistance Temperature Coefficient	As specified in table
Short-time Overload	± 0.5% maximum
Terminal Strength	± 0.5% maximum
Solder-Heat Resistance	± 1.0% maximum
Solderability	95% minimum coverage
Temperature Cycle	± 0.5% maximum
Load Life in Moisture	± 2.0% maximum
Load Life	± 2.0% maximum

Test methods per EIA 460 and JIS C5202



● RESISTANCE VALUE AND RESISTANCE TEMPERATURE COEFFICIENT

Resistance Value			Resistance Temperature Coefficient		
Range R_{25} Series		Tolerance	Symbol	Nominal Value (ppm/°C)	Tolerance
LTC 10	LTC 18				
100 Ω to 5.1 KΩ	100 Ω to 10KΩ	± 5% (J)	05	500	± 100 ppm
100 Ω to 5.1 KΩ	100 Ω to 10 KΩ		08	800	± 150 ppm
100 Ω to 5.1 KΩ	100 Ω to 10 KΩ		10	1000	± 15%
100 Ω to 3.3 KΩ	100 Ω to 4.7 KΩ		15	1500	
100 Ω to 3.3 KΩ	100 Ω to 4.7 KΩ		20	2000	+ 10%
100 Ω to 1.6 KΩ	100 Ω to 2.2 KΩ		24	2400	
100 Ω to 3.3 KΩ	100 Ω to 3.6 KΩ		28	2800	
100 Ω to 3.3 KΩ	100 Ω to 3.6 KΩ		30	3000	
100 Ω to 3.3 KΩ	100 Ω to 3.6 KΩ		33	3300	
51 Ω to 910 Ω	51 Ω to 1.2 KΩ		36	3600	
51 Ω to 560 Ω	51 Ω to 910 Ω		39	3900	
33 Ω to 360 Ω	33 Ω to 470 Ω		42	4200	
33 Ω to 100 Ω	33 Ω to 180 Ω		45	4500	

● PART NUMBER SYSTEM

LTC 18 - 30 XXX J T

Product Type
LTC = Linear Positive
T.C.R. Chip Thermistor

Packaging
B = Bulk (straight leads)
T = Tape and Reel (paper)

Wattage (size)
10 = 1/10 watt (0805)
18 = 1/8 watt (1206)

Tolerance
J = ±5%

T.C.R.
05 = 500 ppm/°C
08 = 800 ppm/°C
10 = 1000 ppm/°C
15 = 1500 ppm/°C
20 = 2000 ppm/°C
24 = 2400 ppm/°C
28 = 2800 ppm/°C
30 = 3000 ppm/°C
33 = 3300 ppm/°C
36 = 3600 ppm/°C
39 = 3900 ppm/°C
42 = 4200 ppm/°C
45 = 4500 ppm/°C

Resistance Value
2 significant digits plus multiplier
102 = 1.0 KΩ
362 = 3.6 KΩ

● MARKINGS

Four digit markings. The first two indicate T.C.R. The third and fourth digits indicate resistance value.

10 E 3 **Example:**

See T.C.R. Table
10 = 1000 ppm/°C
24 = 2400 ppm/°C

Multiplier
1 = x 10
2 = x 100
3 = x 1000

2 Significant Digits

A = 1.0	J = 2.2	S = 4.7
B = 1.1	K = 2.4	T = 5.1
C = 1.2	L = 2.7	U = 5.6
D = 1.3	M = 3.0	V = 6.2
E = 1.5	N = 3.3	W = 6.8
F = 1.6	P = 3.6	X = 7.5
G = 1.8	Q = 3.9	Y = 8.2
H = 2.0	R = 4.3	Z = 9.1