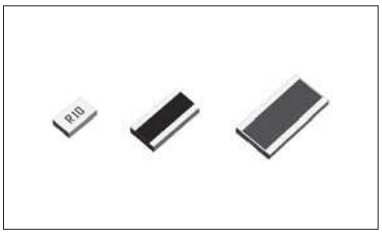
High Power Low Ohmic Chip Resistors <Wide Terminal type>

LTR Series

●Features

1) Chip Resistors for current detection : 10mΩ ~
2) High joint reliability with long side terminations.
3) Improvement of rated power enables to displace smaller size of resistors, and it contributes space savings in your set.
4) ROHM resistors have obtained ISO9001 / ISO / TS16949 certification.
5) Corresponds to AEC-Q200. (LTR10)



●Products List

Part No.	Size (mm)	Size (inch)	Rated Power (70°C) (W)	Resistance Tolerance (%)	Temperature Coefficient (ppm / °C)	Resistance Range	Series	Operating Temperature Range (°C)
LTR10	2012	0805	0.5	J(±5%)	±150	47mΩ to 9.1Ω	E24	–55 to +155
				F(±1%)				
LTR18	3216	1206	1	J(±5%) F(±1%)	0 to 300	10mΩ to 18mΩ		
					0 to 200	20mΩ to 47mΩ		
					0 to 150	51mΩ to 470mΩ		
					±100	510mΩ to 1Ω		
LTR100	6432	2512	2	J(±5%)	±200	100mΩ to 910mΩ		
				F(±1%)	0 to 150			

∗Design and specifications are subject to change without notice.
Carefully check the specification sheet supplied with the product before using or ordering it.

●Part Number Description

L T R	1 0	E V H	J	L	1 R 0
Part No.	**Size** (mm [inch])	**Packaging Specifications Code**	**Resistance Tolerance**	**Special part code**	**Nominal Resistance**
LTR (High Power Chip resistor <Wide Terminal type>)	10 (2012 [0805]) 18 (3216 [1206]) 100 (6432 [2512])		F (±1%) J (±5%)	U : 10mΩ S : 11mΩ to 91mΩ L : 100mΩ to	Resistance code, 3 or 4 digits.

Packaging Specifications Code

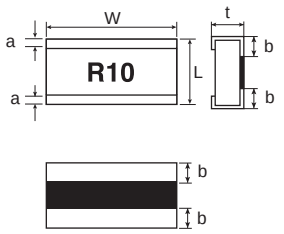
Part No.	Code	Packaging specifications	Quantity /Reel
LTR10	EVH	Paper tape (4mm Pitch)	5,000
LTR18	EZP	Paper tape (4mm Pitch)	5,000
LTR100	JZP	Embossed tape (4mm Pitch)	4,000

Nominal Resistance

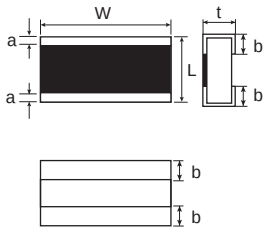
Resistance tolerance + Special code	Resistance code
FU, FS, FL, JS	: 4 digits
JU, JL	: 3 digits

●Chip Resistor Dimensions and Markings

■ **LTR10**



■ **LTR18 / 100**

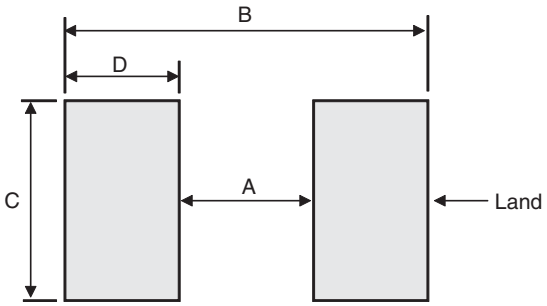


<Marking method>
There are three or four digits used for the calculation number according to IEC code and “R”is used for the decimal point.
Ex.) 4digits……62mΩ = R062, 100mΩ = R100
3digits……100mΩ = R10, 1Ω = 1R0

(Unit : mm)

Part No.	(mm)	(inch)	L	W	t	a	b	Marking existence
LTR10	2102	0805	1.2±0.1	2.0±0.1	0.55±0.1	0.3±0.2	0.35±0.2	Yes
LTR18	3216	1206	1.6±0.1	3.2±0.1	0.58±0.1	0.5±0.2	0.5±0.2	No
LTR100	6432	2512	3.2±0.15	6.4±0.15	0.55±0.15	0.4±0.25	1.13±0.25	No

●Land pattern Example



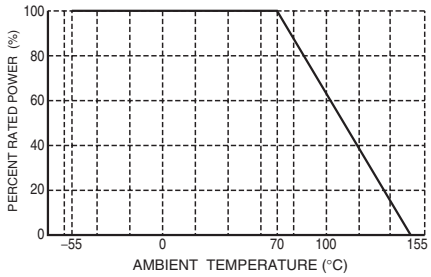
(Unit : mm)

Dimensions / Part No.	A	B	C	D
LTR10	0.50	1.98	2.20	0.74
LTR18	0.55	2.90	3.20	1.18
LTR100	0.83	3.69	6.40	1.43

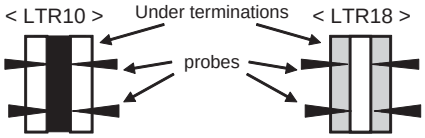
●Derating Curve

When the ambient temperature exceeds 70°C, power dissipation must be adjusted according to the derating curves below.

■ LTR10 / 18 / 100



●Characteristics

Test Items	Guaranteed Value Resistor Type	Test Conditions
Resistance	See P.1	20°C Measuring method : Measure under terminations by 4 probes. 
Variation of resistance with temperature	See P.1	Measurement : +20 / –55 / +20 / +125°C
Overload	± (2.0%+0.0005Ω)	Rated voltage (current) ×2.5, 2s
Solderability	A new uniform coating of minimum of 95% of the surface being immersed and no soldering damage.	Rosin·Ethanol : 25% (Weight) Soldering condition : 235±5°C Duration of immersion : 2.0±0.5s
Resistance to soldering heat	± (1.0%+0.005Ω) No remarkable abnormality on the appearance.	Soldering condition : 260±5°C Duration of immersion : 10±1s
Rapid change of temperature	± (1.0%+0.0005Ω)	Test temp. : –55°C to +125°C 5cycle
Damp heat, steady state	± (3.0%+0.0005Ω)	40°C, 93%RH (Relative Humidity) Test time : 1,000h to 1,048h
Endurance at 70°C	± (3.0%+0.0005Ω)	70°C Rated voltage (current) 1.5h : ON – 0.5h : OFF Test time : 1,000h to 1,048h
Endurance	± (3.0%+0.0005Ω)	155°C Test time : 1,000h to 1,048h
Resistance to solvent	± (0.5%+0.0005Ω)	23±5°C, Immersion cleaning, 5±0.5min Solvent : 2–propanol
Bend strength of the end face plating	Without mechanical damage such as breaks.	–

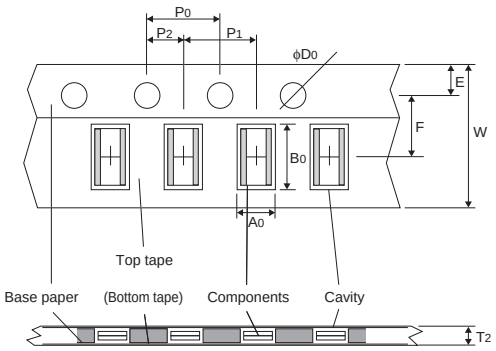
Compliance Standard(s) : IEC60115–8
JISC 5201–8

●Chip weight (typical value)

Parameter	Unit	LTR10	LTR18	LTR100
Weight	mg/pc	5.49	12.14	38.15

●Tape Dimensions

■ Paper Tape

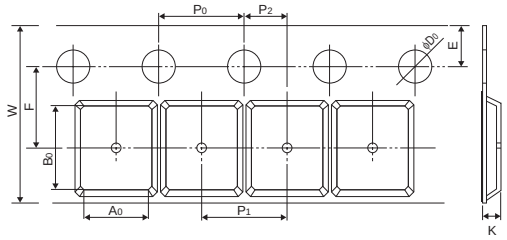


(Unit : mm)

Part No.	W	F	E	A0	B0
LTR10	8.0±0.3	3.5±0.05	1.75±0.1	1.45±0.1	2.3±0.1
LTR18	8.0±0.3	3.5±0.05	1.75±0.1	$1.95^{+0.1}_{-0.05}$	$3.5^{+0.15}_{-0.05}$

Part No.	D0	P0	P1	P2	T2
LTR10	$\phi1.5^{+0.1}_{0}$	4.0±0.1	4.0±0.1	2.0±0.05	Max 1.1
LTR18	$\phi1.5^{+0.1}_{0}$	4.0±0.1	4.0±0.1	2.0±0.05	Max 1.1

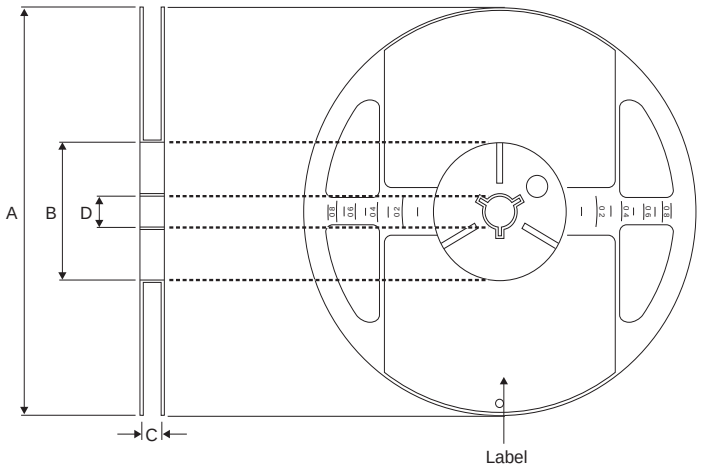
■ Embossed Tape



(Unit : mm)

Part No.	W	F	E	A0	B0
LTR100	12.0±0.3	5.5±0.05	1.75±0.1	3.5±0.2	6.7±0.2
	D0	P0	P1	P2	T2
	$\phi1.5^{+0.1}_{0}$	4.0±0.1	4.0±0.1	2.0±0.05	Max 1.1

●Reel Dimensions



ACCORDING TO EIAJ ET-7200B

(Unit : mm)

Part No.	A	B	C	D
LTR10	$\phi180^{0}_{-1.5}$	$\phi60^{+1.0}_{0}$	$9^{+1.0}_{0}$	φ13±0.2
LTR18				
LTR100			$13^{+1.0}_{0}$	

Notes

1) The information contained herein is subject to change without notice.

2) Before you use our Products, please contact our sales representative and verify the latest specifications :

3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Poducts beyond the rating specified by ROHM.

4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.

6) The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communication, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.

7) The Products specified in this document are not designed to be radiation tolerant.

8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.

9) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.

10) ROHM shall have no responsibility for any damages or injury arising from non-compliance with the recommended usage conditions and specifications contained herein.

11) ROHM has used reasonable care to ensur the accuracy of the information contained in this document. However, ROHM does not warrants that such information is error-free, and ROHM shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.

12) Please use the Products in accordance with any applicable environmental laws and regulations, such as the RoHS Directive. For more details, including RoHS compatibility, please contact a ROHM sales office. ROHM shall have no responsibility for any damages or losses resulting non-compliance with any applicable laws or regulations.

13) When providing our Products and technologies contained in this document to other countries, you must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the US Export Administration Regulations and the Foreign Exchange and Foreign Trade Act.

14) This document, in part or in whole, may not be reprinted or reproduced without prior consent of ROHM.

ROHM SEMICONDUCTOR

Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available, please contact us.

ROHM Customer Support System

http://www.rohm.com/contact/