

Fixed Thick Film Low Ohmic Chip Resistors For Current Detection

UCR18 (3216(1206) size : 1 / 2W)

●Features

- 1) Chip resistors ideal for current detection. (11mΩ to 100mΩ)
- 2) Unique chip and terminal configuration reduces resistance shifting during the mounting process.
- 3) Superior rated power.
- 4) ROHM resistors have approved ISO9001- / ISO/TS 16949- certification

●Ratings

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

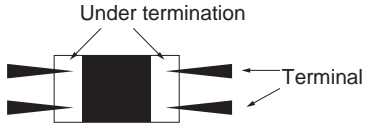
Item	Conditions	Specifications
Rated power	<p>Power must be derated according to the power derating curve in Figure 1 when ambient temperature exceeds 70°C.</p> <p style="text-align: center;">Fig.1</p>	0.5W (1 / 2W) at 70°C
Rated voltage	<p>The voltage rating is calculated by the following equation.</p> $E = \sqrt{P \times R}$ <p>E: Rated voltage (V) P: Rated power (W) R: Nominal resistance (Ω)</p>	
Nominal resistance	See Table 1.	
Operating temperature		-55°C to + 155°C

Table 1

Resistance range (Ω)	Resistance tolerance	Special specification	Resistance temperature coefficient (ppm/°C)
0.011 to 0.018 (E24)	F (±1%) J (±5%)	S	0 to 350
0.020 to 0.039 (E24)			0 to 200
0.043 to 0.091 (E24)			0 to 150
0.1		L	0 to 150

●Before using components in circuits where they will be exposed to transients such as pulse loads (short-duration, high-level loads), be certain to evaluate the component in the mounted state. In addition, the reliability and performance of this component cannot be guaranteed if it is used with a steady state voltage that is greater than its rated voltage.

●Characteristics

Item	Guaranteed value	Test conditions (JIS C 5201-1)
	Resistor type	
Resistance	F : $\pm 1\%$ J : $\pm 5\%$	JIS C 5201-1 4.5 Measuring method : Measure under termination 
Variation of resistance with temperature	See Table.1	JIS C 5201-1 4.8 Measurement : $-55 / +25 / +125^{\circ}\text{C}$
Overload	$\pm (2.0\%+0.005\Omega)$	JIS C 5201-1 4.13 Rated voltage (current) $\times 2.5$, 2s.
Solderability	A new uniform coating of minimum of 95% of the surface being immersed and no soldering damage.	JIS C 5201-1 4.17 Rosin-Ethanol (25%WT) Soldering condition : $235\pm 5^{\circ}\text{C}$ Duration of immersion : $2.0\pm 0.5\text{s}$.
Resistance to soldering heat	$\pm (1.0\%+0.005\Omega)$ No remarkable abnormality on the appearance.	JIS C 5201-1 4.18 Soldering condition : $260\pm 5^{\circ}\text{C}$ Duration of immersion : $10\pm 1\text{s}$.
Rapid change of temperature	$\pm (1.0\%+0.005\Omega)$	JIS C 5201-1 4.19 Test temp. : -55°C to $+125^{\circ}\text{C}$ 5cyc
Damp heat, steady state	$\pm (3.0\%+0.005\Omega)$	JIS C 5201-1 4.24 40°C , 93%RH Test time : 56 days
Endurance at 70°C	$\pm (3.0\%+0.005\Omega)$	JIS C 5201-1 4.25.1 Rated voltage (current), 70°C 1.5h : ON – 0.5h : OFF Test time : 1,000h
Endurance	$\pm (3.0\%+0.005\Omega)$	JIS C 5201-1 4.25.3 155°C Test time : 1,000h to 1,048h
Resistance to solvent	$\pm (0.5\%+0.005\Omega)$	JIS C 5201-1 4.29 $23\pm 5^{\circ}\text{C}$ Solvent : 2-propanol
Bend strength of the end face plating	Without open.	JIS C 5201-1 4.33

●Dimensions (Unit : mm)

No.	Material
①	Resistive element (Oxide metal thick film)
②	Silver thick film electrode
③	Nickel electrode
④	Sn electrode
⑤	Alumina substrate
⑥	Overcoating (Resin)
⑦	Mark side

●Packaging

Reel

EIAJ ET-7200B compliant

(Unit: mm)

A	B	C	D
$\phi 180 \begin{smallmatrix} 0 \\ -1.5 \end{smallmatrix}$	$\phi 60 \begin{smallmatrix} +1 \\ 0 \end{smallmatrix}$	$9 \begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$	$\phi 13 \pm 0.2$

Taping

(Unit: mm)

W	F	E	A0	B0
8.0 ± 0.3	3.5 ± 0.05	1.75 ± 0.1	$1.95 \begin{smallmatrix} +0.1 \\ -0.05 \end{smallmatrix}$	$3.5 \begin{smallmatrix} +0.15 \\ -0.05 \end{smallmatrix}$
D0	P0	P1	P2	T2
$\phi 1.5 \begin{smallmatrix} +0.1 \\ 0 \end{smallmatrix}$	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	Max. 1.1

●Part No. Explanation

UCR18	EVH	JS											
Part No.	Resistance tolerance	Special part number	Nominal resistance										
	<table border="1"> <tr><td>F</td><td>±1%</td></tr> <tr><td>J</td><td>±5%</td></tr> </table>	F	±1%	J	±5%	<table border="1"> <tr><td>S</td><td>0.011 to 0.091Ω</td></tr> <tr><td>L</td><td>0.1Ω</td></tr> </table>	S	0.011 to 0.091Ω	L	0.1Ω	Resistance code, 3 or 4 digits. 000 denotes jumper type.		
F	±1%												
J	±5%												
S	0.011 to 0.091Ω												
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			<table border="1"> <thead> <tr> <th>Resistance tolerance</th> <th>Resistance code</th> </tr> </thead> <tbody> <tr> <td>FL, FS, JS</td> <td>: 4 digits</td> </tr> <tr> <td>JL</td> <td>: 3 digits</td> </tr> </tbody> </table>			Resistance tolerance	Resistance code	FL, FS, JS	: 4 digits	JL	: 3 digits		
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FL, FS, JS	: 4 digits												
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Packaging Specifications Code

Part No.	Code	Resistance tolerance		Packaging specifications	Reel	Basic ordering unit(pcs)
		J(±5%)	F(±1%)			
UCR18	EVH	⊙	⊙	Paper tape (4mm Pitch)	φ180mm (7in.)	5,000

Reel (φ180mm) : Compatible with JEITA standard "EIAJ ET-7200B"
 ⊙ : Standard product

Notes

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