

# Resistors & Potentiometers

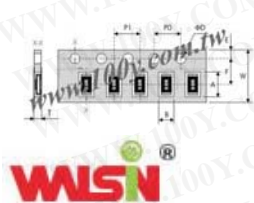
## 0402 Chip Resistors -(1/16W)

Detailed product specifications are available on: [us.100y.com.tw](http://us.100y.com.tw)

### CHARACTERISTICS

TEST ITEM	DESCRIPTION	TEST METHODS
Resistance to Soldering Heat	Test Temp: 260°C±5 °C For 10secs Requirement: (1.0%±0.05Ω)Max	JIS C 5202.....clause 6.4 Test temperature : 260±5°C Dip time : 10 secs
Temp cycling	-55°C(30mins)→+25°C(10~15mins) +125°C(30mins)→+25°C(10~15mins)5cycles Requirement:±(1.0%±0.05Ω)Max	JIS C 5202.....clause 7.4 Resistance change after continuous five cycles for duty cycle specified below
Humidity (stead state)	Temp:40°C±2°C R.H:90~95% Continuors 1000hrs Requirement:±(3.0%±0.1Ω)Max	JIS C 5202.....clause 7.5 Temporary resistance change after 1000hours exercise in a humidity test chamber controlled at 40±2°C and 90% to 95% relative humidity.
Loading Life in Moisture	Temp: 40°C±2°C R.H:90~95% (WV) =√WR on-1.5hrs OFF+0.5hrs Continuors 1000hrs Requirement:±(3.0%±0.1Ω)Max	JIS C 5202.....clause 7.9 Resistance change after 1000hours (1.5h "on"0.5h"off")at RCWV or max. less in a humidity chamber controlled at 40±2°C and 90%to95% relative humidity.
Load Life	Temp: 70°C±2°C (WV) = √WR Continuors 1000hrs ON-1.5hrs OFF-0.5hr Requirement:±(3.0%±0.1Ω)Max	JIS C 5202.....clause 7.10 Resistance change after 1000hours operating at RCWV or msx. RCWV, which less with duty cycle of 1.5h "on"at 70±2°C ambient

Part No.	Product No.	Manufacturer	Description	Resistance data(Ω)	Tolerance(±)	Package
21114	RP040E00JR	LIKET	0402 Chip Resistors-Thick Film	0 OHM	+/-5 %	10,000pcs/R



### FEATURE

- Small size and light weight
- High reliability and stability
- Reduced size of final equipment
- Lower assembly costs
- Higher component and equipment reliability
- Lead free product is available

### DESCRIPTION

The resistors are constructed in a high grade ceramic body (aluminum oxide). Internal metal electrodes are added at each end and connected by a resistive paste that is applied to the top surface of the substrate. The composition of the paste is adjusted to give the approximate resistance required and the value is trimmed to nominated value within tolerance which controlled by laser trimming of this resistive layer.

The resistive layer is covered with a protective coat. Finally, the two external end terminations are added. For ease of soldering the outer layer of these end terminations is a Lead-tin or Tin (Lead free) allow.

### APPLICATION

- Mobile phone
- PDA
- Camcorders
- Pagers
- Palmtop computers

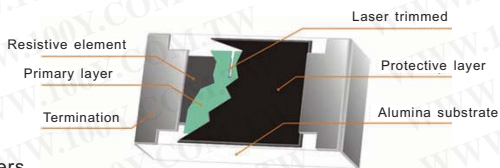
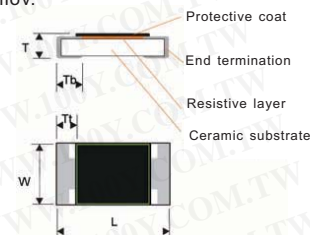


Fig 1. Construction of Chip-R Wr04

	WR04X
L	1.00 ± 0.05
W	0.50 ± 0.05
T	0.35 ± 0.05
Tb	0.25 ± 0.10
Tt	0.20 ± 0.10



### TEST AND REQUIREMENTS

TEST	PROCEDURE	REQUIREMENT	
		Resistor	Jumper
DC resistance	DC resistance values measured at the test voltages specified below : <10Ω@0.1V, <100Ω@0.3V, <1KΩ@1.0V, <10KΩ@3V, <100KΩ@10V, <1MΩ@25V, <10MΩ@30V	Within the specified tolerance	< 50mΩ
Temperature Coefficient of Resistance (TCR)	Natural resistance change per change in degree centigrade. $\frac{R_2 - R_1}{R_1 (t_2 - t_1)} \times 10^6$ (ppm/°C) R1 : Resistance at reference temperature R2 : Resistance at test temperature t1 : 25°C	Test temperature -55~+155°C ≥1MΩ, -300~+500ppm/°C ≥10Ω, ≤±200ppm/°C <10Ω -300~+500ppm/°C	N/a
Short time overload (STOL)	Permanent resistance change after a 5second application of a voltage 2.5 times RCWV or the maximum overload voltage specified in the above list, whichever is less.	ΔR/R max. ±(2%+0.10Ω)	< 50mΩ
Resistance to soldering heat	Unmounted chips 10±1 seconds, 270±5°C	no visible damage Δ R/R max. ±(1%+0.10Ω)	no visible damage, < 50mΩ
Solderability	Termination SnPb base : Unmounted chips completely immersed for 2±0.5 sec. in a solder bath at 230±5°C Termination Sn base (lead free) : Unmounted chip completely immersed in a lead free solder bath, 245°C±5°C, 3±1 sec	good tinning (>95% covered) no visible damage	
Temperature cycling	1. 30 minutes at -55°C±3°C, 2. 2~3 minutes at room temperature, 3. 30 minutes at +155°C±3°C, 4. 2~3 minutes at room temperature, Total 5 continuous cycles	no visible damage ΔR/R max. ±(1%+0.10Ω)	no visible damage, < 50mΩ

