

# 0201

## Thick Film Chip Resistor

**multicomp** PRO

**RoHS  
Compliant**



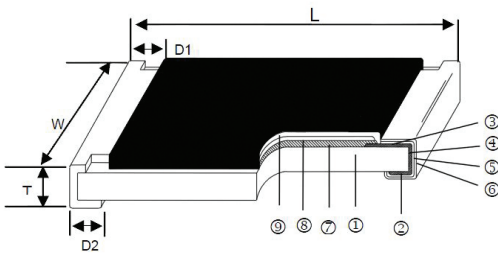
### Features:

- Small size and light weight
- Highly reliable multilayer electrode construction
- Compatible with all soldering process

### Applications:

- Telecommunication Equipments
- Radio and Tape Recorders, TV Tuners
- Digital Cameras, Watches, Pocket Calculators
- Automotive Industry
- Computers, Instruments
- Medical and Military Equipment

### Construction:



1	Alumina Substrate	4	Edge Electrode (NiCr)	7	Resistor Layer (RuO <sub>2</sub> /Ag)
2	Bottom Electrode (Ag)	5	Barrier Layer (Ni)	8	Primary Overcoat (Glass)
3	Top Electrode (Ag-Pd)	6	External Electrode (Sn)	9	Secondary Overcoat (Epoxy)

### Dimensions

Unit: mm

Size (Inch)	L	W	T	D1	D2	Weight (g) (1,000pcs)
0201	0.60±0.03	0.30±0.03	0.23±0.03	0.15±0.05	0.15±0.05	0.150

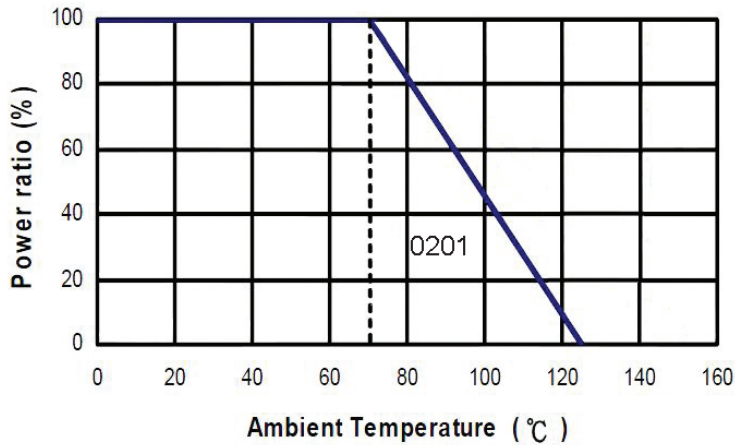
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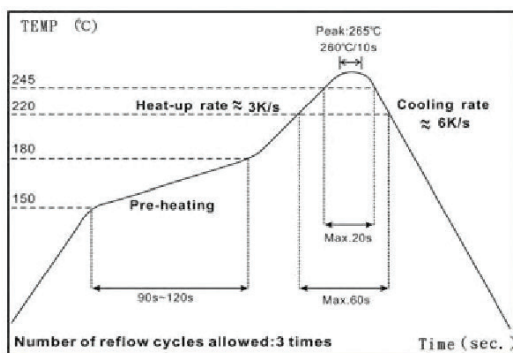
## Derating Curve



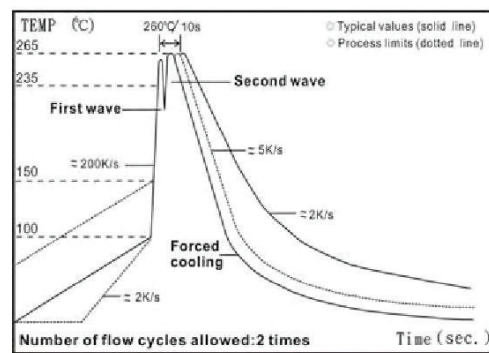
## Standard Electrical Specifications

Item Type	Power Rating at 70°C Jumper Rated Current	Operating Temp. Range	Max. Operating Voltage	Max. Overload Voltage	Resistance Range		TCR (PPM/°C)
					±1%	±5%	
0201	1/20W	-55 ~ +125°C	25V	50V	1Ω - 10MΩ		±200
Jumper	1A				0Ω (<50mΩ)		-

## Soldering Condition



IR Reflow Soldering



Wave Soldering (Flow Soldering)

- (1) Time of IR reflow soldering at maximum temperature point 260°C : 10s
- (2) Time of wave soldering at maximum temperature point 260°C : 10s
- (3) Time of soldering iron at maximum temperature point 410°C : 5s

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### Environmental Characteristics

Item	Requirement			Test Method
	±1% and Below	±5%	Jumper	
Temperature Coefficient of Resistance (T.C.R.)	As Spec.			JIS-C-5201-1 4.8 IEC-60115-1 4.8 -55°C~+125°C, 25°C is the reference temperature
Short Time Overload	±(1.0%+0.05Ω)	±(2.0%+0.05Ω)	<50mΩ	JIS-C-5201-1 4.13 IEC-60115-1 4.13 RCWV*2.5 or Max. overload voltage for 5 seconds, 2 seconds for high power series
Insulation Resistance	≥10G			JIS-C-5201-1 4.6 IEC-60115-1 4.6 Max. overload voltage for 1 minute
Endurance	±(1.0%+0.10Ω)	±(2.0%+0.10Ω)	<100mΩ	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1 70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	±(1.0%+0.10Ω)	±(2.0%+0.10Ω)	<100mΩ	JIS-C-5201-1 4.24 40±2°C, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Dry Heat	±(1.0%+0.05Ω)	±(1.5%+0.10Ω)	<50mΩ	JIS-C-5201-1 4.23 IEC-60115-1 2.23.2 at +125/+155°C for 1000 hrs
Bending Strength	±(1.0%+0.05Ω)	±(1.0%+0.05Ω)	<50mΩ	JIS-C-5201-1 4.33 IEC-60115-1 4.33 Bending once for 5 seconds 2010, 2512 sizes : 2mm Other sizes : 3mm
Solderability	95% min. coverage			JIS-C-5201-1 4.17 IEC-60115-1 4.17 245 ±5°C for 3 seconds
Resistance to Soldering Heat	±(0.5%+0.05Ω)	±(1.0%+0.05Ω)	<50mΩ	JIS-C-5201-1 4.18 IEC-60115-1 4.18 260 ±5°C for 10 seconds
Voltage Proof	No breakdown or flashover			JIS-C-5201-1 4.7 IEC-60115-1 4.7 1.42 times RCWV (RMS) for 1 minute
Leaching	Individual leaching area ≤ 5% Total leaching area ≤ 10%			JIS-C-5201-1 4.18 IEC-60068-2-58 8.2.1 260 ±5°C for 30 seconds
Rapid Change of Temperature	±(0.5%+0.05Ω)	±(1.0%+0.05Ω)	<50mΩ	JIS-C-5201-1 4.18 IEC-60115-1 4.18 -55°C to +125/+155°C, 5 cycles

**Storage Temperature: 25±3°C; Humidity < 80%RH**

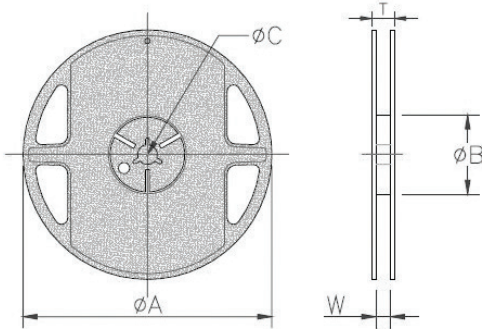
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### Packaging

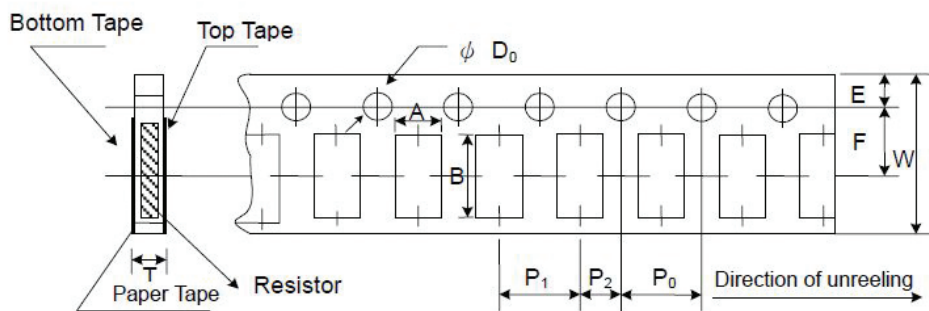
Reel Specifications & Packaging Quantity



Unit: mm

Type	Packaging Quantity	Tape Width	Reel Diameter	$\Phi A$	$\Phi B$	$\Phi C$	W	T	
0201	Paper	15K to 20K	8mm	7 inch	$178.5 \pm 1.5$	$60^{+1/-0}$	$13.0 \pm 0.2$	$9.0 \pm 0.5$	$12.5 \pm 0.5$

Paper Tape Specifications



Unit: mm

Type	A	B	W	E	F	$P_0$	$P_1$	$P_2$	$\Phi D_0$	T
0201	$0.38 \pm 0.05$	$0.68 \pm 0.05$	$8 \pm 0.2$	$1.75 \pm 0.1$	$3.5 \pm 0.05$	$4 \pm 0.1$	$2 \pm 0.05$	$2 \pm 0.05$	$1.5 + 0.1, -0$	$0.42 \pm 0.2$

### Part Number Table

Description	Part Number
Resistor, 0201, 10M0, 1%	MCRE000262
Resistor, 0201, 9M10, 1%	MCRE000261
Resistor, 0201, 8M20, 1%	MCRE000260
Resistor, 0201, 7M50, 1%	MCRE000259
Resistor, 0201, 6M80, 1%	MCRE000258
Resistor, 0201, 6M20, 1%	MCRE000257
Resistor, 0201, 5M60, 1%	MCRE000256

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Description	Part Number
Resistor, 0201, 5M10, 1%	MCRE000255
Resistor, 0201, 4M70, 1%	MCRE000254
Resistor, 0201, 4M30, 1%	MCRE000253
Resistor, 0201, 3M90, 1%	MCRE000252
Resistor, 0201, 3M60, 1%	MCRE000251
Resistor, 0201, 3M30, 1%	MCRE000250
Resistor, 0201, 3M00, 1%	MCRE000249
Resistor, 0201, 2M70, 1%	MCRE000248
Resistor, 0201, 2M40, 1%	MCRE000247
Resistor, 0201, 2M20, 1%	MCRE000246
Resistor, 0201, 2M00, 1%	MCRE000245
Resistor, 0201, 1M80, 1%	MCRE000244
Resistor, 0201, 1M60, 1%	MCRE000243
Resistor, 0201, 1M50, 1%	MCRE000242
Resistor, 0201, 1M30, 1%	MCRE000241
Resistor, 0201, 1M20, 1%	MCRE000240
Resistor, 0201, 1M10, 1%	MCRE000239
Resistor, 0201, 9R10, 1%	MCRE000238

Description	Part Number
Resistor, 0201, 8R20, 1%	MCRE000237
Resistor, 0201, 7R50, 1%	MCRE000236
Resistor, 0201, 6R20, 1%	MCRE000235
Resistor, 0201, 5R60, 1%	MCRE000234
Resistor, 0201, 5R10, 1%	MCRE000233
Resistor, 0201, 4R30, 1%	MCRE000232
Resistor, 0201, 3R90, 1%	MCRE000231
Resistor, 0201, 3R60, 1%	MCRE000230
Resistor, 0201, 3R0, 1%	MCRE000229
Resistor, 0201, 2R70, 1%	MCRE000228
Resistor, 0201, 2R40, 1%	MCRE000227
Resistor, 0201, 2R0, 1%	MCRE000226
Resistor, 0201, 1R80, 1%	MCRE000225
Resistor, 0201, 1R60, 1%	MCRE000224
Resistor, 0201, 1R30, 1%	MCRE000223
Resistor, 0201, 1R20, 1%	MCRE000222
Resistor, 0201, 1R10, 1%	MCRE000221
Resistor, 0201, 1R0, 1%	MCRE000220

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