

Thick Film Chip Resistor



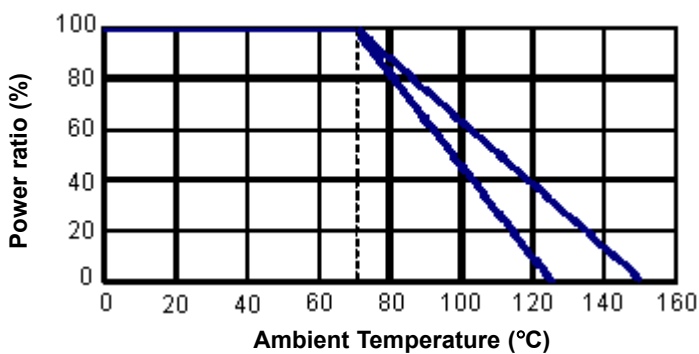
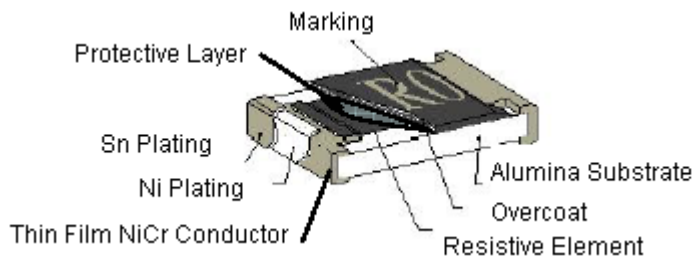
Features:

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

Applications:

Telecommunication equipments.
Radio and tape recorders, TV tuners.
Video cameras, watches and pocket calculators.
Automotive industry.
Computers, instruments.
Medical and military equipments.

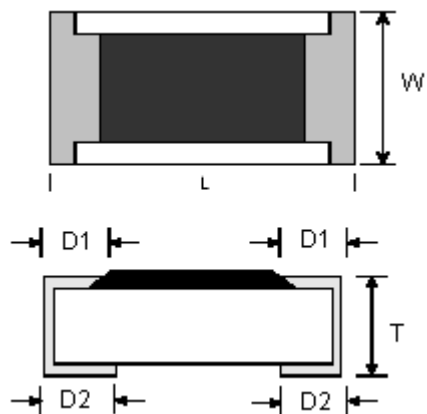
Construction:



Thick Film Chip Resistor



Dimensions:



Dimensions : Millimetres

Size	Codes	L	W	T	D1	D2
0201	CR-01	0.6 ±0.03	0.30 ±0.03	0.23 ±0.03	0.10 ±0.05	0.15 ±0.05

Dimensions : Millimetres

Standard Electrical Specifications

Type-Item	Power Rating at 70°C Jumper Rated Current	Operating Temperature Range	Maximum Operating Voltage	Maximum Overloading Voltage	Resistance Tolerance		Resistance Range	TCR (PPM/°C)
0201	1/20W	-55 to +125°C	25V	50V	E96 E24	±1%	1Ω to 1MΩ	200
Jumper	1A				-	±1%	0Ω (<50MΩ)	-

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Environmental Characteristics

Item	Specification			Test Method
	±1%	±5%	Jumper	
Temperature coefficient of resistance (TCR)	Within the specification			JIS C 5201 4.8 IEC 60115-1 4.8 -55°C to +125/+155°C, 20°C is the reference temperature
Short time overload	±(1.0% +0.05Ω)	±(2.0% +0.05Ω)	<50mΩ	JIS C 5201 4.13 IEC 60115-1 4.13 2.5 times RCWV or maximum. Overload voltage for 5 seconds
Insulation resistance	≥10G			JIS C 5201 4.6 IEC 60115-1 4.6 Maximum overload voltage for 1 minute
Voltage proof	no breakdown or flashover			JIS C 5201 4.7 IEC 60115-1 4.7 1.42 times RCWV (RMS) for 1 minute
Substrate bending test	±(1.0% +0.05Ω)	±(1.0% +0.05Ω)	<50mΩ	JIS C 5201 4.33 IEC 60115-1 4.33 Bending once for 5 seconds 2010, 2512 size: 2mm Other size: 3mm
Resistance to soldering heat	±(0.5% +0.05Ω)	±(1.0% +0.05Ω)	<50mΩ	JIS C 5201 4.18 IEC 60115 4.18 260±5°C for 10 seconds
Leaching	Individual leaching area ≤5% Total leaching area ≤10%			JIS C 5201 4.18 IEC 60068-2-58 8.2.1 260 ±5°C for 30 seconds
Solderability	>95% coverage			JIS C 5201 4.17 IEC 60115-1 4.17 245 ±5°C for 3 seconds
Endurance at upper category temperature	±(1.0% +0.05Ω)	±(1.5% +0.10Ω)	<50mΩ	JIS C 5201 4.23 IEC 60115-1 2.23.2 at +125/+155°C for 1000 hours
Rapid change of temperature	±(0.5%+0.05Ω)	±(1.0%+0.05Ω)	<50mΩ	JIS C 5201 4.19 IEC 60115-1 4.19 -55°C to +125/+155°C, 5 cycles
Damp heat with load	±(2.0%+0.10Ω)	±(3.0%+0.10Ω)	<100mΩ	JIS 5201 4.24 40 ±2°C, 90 to 95% R.H. or maximum working voltage for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"
Endurance	±(2.0+0.10Ω)	±(3.0+0.10Ω)	<100mΩ	JIS C 5201 4.25 IEC 60115-1 4.25.1 70 ±2°C, or maximum working voltage for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"

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

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Resistance Preferred Value Range

E6	E12	E24	E96	E6	E12	E24	E96	E6	E12	E24	E96
10	10	10	10.0				21.5				46.4
			10.2	22	22	22	22.1	47	47	47	47.5
			10.5				22.6				48.7
			10.7				23.2				49.9
		11	11.0				23.7			51	51.1
			11.3			24	24.3				52.3
			11.5				24.9				53.6
			11.8				25.5				54.9
	12	12	12.1				26.1		56	56	56.2
			12.4				27.7				57.6
			12.7		27	27	27.4				59.0
		13	13.0				28.0				60.4
			13.3				28.7			62	61.9
			13.7				29.4				63.4
			14.0			30	30.1				64.9
			14.3				30.9				66.5
			14.7				31.6	68	68	68	68.1
							32.4				69.8
15	15	15	15.0	33	33	33	33.2				71.5
			15.4				34.0				73.2
			15.8				34.8			75	75.0
		16	16.2				35.7				76.8
			16.5				36.5				78.7
			16.9			36	37.4				80.6
			17.4				38.3				
			17.8				39.2	82	82	82	82.5
	18	18	18.2	39	39	39	40.2				84.5
			18.7				41.2				86.6
			19.1				42.2				88.7
			19.6				43.2			91	90.9
		20	20.0			43	44.2				93.1
			20.5				45.3				95.3
			21.0								97.6

Above values in accordance with IEC Publication 63 (1963) and BS2488

Thick Film Chip Resistor



Part Number Table

Description	Part Number
Resistor, 0201, 1%, 0R	MCRE000086
Resistor, 0201, 1%, 1R5	MCRE000087
Resistor, 0201, 1%, 2R2	MCRE000088
Resistor, 0201, 1%, 3R3	MCRE000089
Resistor, 0201, 1%, 4R7	MCRE000090
Resistor, 0201, 1%, 6R8	MCRE000091
Resistor, 0201, 1%, 10R	MCRE000092
Resistor, 0201, 1%, 11R	MCRE000093
Resistor, 0201, 1%, 12R	MCRE000094
Resistor, 0201, 1%, 13R	MCRE000095
Resistor, 0201, 1%, 15R	MCRE000096
Resistor, 0201, 1%, 16R	MCRE000097
Resistor, 0201, 1%, 18R	MCRE000098
Resistor, 0201, 1%, 20R	MCRE000099
Resistor, 0201, 1%, 22R	MCRE000100
Resistor, 0201, 1%, 24R	MCRE000101
Resistor, 0201, 1%, 27R	MCRE000102
Resistor, 0201, 1%, 30R	MCRE000103
Resistor, 0201, 1%, 33R	MCRE000104
Resistor, 0201, 1%, 36R	MCRE000105
Resistor, 0201, 1%, 39R	MCRE000106
Resistor, 0201, 1%, 43R	MCRE000107
Resistor, 0201, 1%, 47R	MCRE000108
Resistor, 0201, 1%, 51R	MCRE000109
Resistor, 0201, 1%, 56R	MCRE000110
Resistor, 0201, 1%, 62R	MCRE000111
Resistor, 0201, 1%, 68R	MCRE000112
Resistor, 0201, 1%, 75R	MCRE000113
Resistor, 0201, 1%, 82R	MCRE000114
Resistor, 0201, 1%, 91R	MCRE000115
Resistor, 0201, 1%, 100R	MCRE000116
Resistor, 0201, 1%, 110R	MCRE000117
Resistor, 0201, 1%, 120R	MCRE000118
Resistor, 0201, 1%, 130R	MCRE000119

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Part Number Table

Description	Part Number
Resistor, 0201, 1%, 150R	MCRE000120
Resistor, 0201, 1%, 160R	MCRE000121
Resistor, 0201, 1%, 180R	MCRE000122
Resistor, 0201, 1%, 200R	MCRE000123
Resistor, 0201, 1%, 220R	MCRE000124
Resistor, 0201, 1%, 240R	MCRE000125
Resistor, 0201, 1%, 270R	MCRE000126
Resistor, 0201, 1%, 300R	MCRE000127
Resistor, 0201, 1%, 330R	MCRE000128
Resistor, 0201, 1%, 360R	MCRE000129
Resistor, 0201, 1%, 390R	MCRE000130
Resistor, 0201, 1%, 430R	MCRE000131
Resistor, 0201, 1%, 470R	MCRE000132
Resistor, 0201, 1%, 510R	MCRE000133
Resistor, 0201, 1%, 560R	MCRE000134
Resistor, 0201, 1%, 620R	MCRE000135
Resistor, 0201, 1%, 680R	MCRE000136
Resistor, 0201, 1%, 750R	MCRE000137
Resistor, 0201, 1%, 820R	MCRE000138
Resistor, 0201, 1%, 910R	MCRE000139
Resistor, 0201, 1%, 1K	MCRE000140
Resistor, 0201, 1%, 1.1K	MCRE000141
Resistor, 0201, 1%, 1.2K	MCRE000142
Resistor, 0201, 1%, 1.3K	MCRE000143
Resistor, 0201, 1%, 1.5K	MCRE000144
Resistor, 0201, 1%, 1.6K	MCRE000145
Resistor, 0201, 1%, 1.8K	MCRE000146
Resistor, 0201, 1%, 2K	MCRE000147
Resistor, 0201, 1%, 2.2K	MCRE000148
Resistor, 0201, 1%, 2.4K	MCRE000149
Resistor, 0201, 1%, 2.7K	MCRE000150
Resistor, 0201, 1%, 3K	MCRE000151
Resistor, 0201, 1%, 3.3K	MCRE000152
Resistor, 0201, 1%, 3.6K	MCRE000153

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Part Number Table

Description	Part Number
Resistor, 0201, 1%, 3.9K	MCRE000154
Resistor, 0201, 1%, 4.3K	MCRE000155
Resistor, 0201, 1%, 4.7K	MCRE000156
Resistor, 0201, 1%, 5.1K	MCRE000157
Resistor, 0201, 1%, 5.6K	MCRE000158
Resistor, 0201, 1%, 6.2K	MCRE000159
Resistor, 0201, 1%, 6.8K	MCRE000160
Resistor, 0201, 1%, 7.5K	MCRE000161
Resistor, 0201, 1%, 8.2K	MCRE000162
Resistor, 0201, 1%, 9.1K	MCRE000163
Resistor, 0201, 1%, 10K	MCRE000164
Resistor, 0201, 1%, 11K	MCRE000165
Resistor, 0201, 1%, 12K	MCRE000166
Resistor, 0201, 1%, 13K	MCRE000167
Resistor, 0201, 1%, 15K	MCRE000168
Resistor, 0201, 1%, 16K	MCRE000169
Resistor, 0201, 1%, 18K	MCRE000170
Resistor, 0201, 1%, 20K	MCRE000171
Resistor, 0201, 1%, 22K	MCRE000172
Resistor, 0201, 1%, 24K	MCRE000173
Resistor, 0201, 1%, 27K	MCRE000174
Resistor, 0201, 1%, 30K	MCRE000175
Resistor, 0201, 1%, 33K	MCRE000176
Resistor, 0201, 1%, 36K	MCRE000177
Resistor, 0201, 1%, 39K	MCRE000178
Resistor, 0201, 1%, 43K	MCRE000179
Resistor, 0201, 1%, 47K	MCRE000180
Resistor, 0201, 1%, 51K	MCRE000181
Resistor, 0201, 1%, 56K	MCRE000182
Resistor, 0201, 1%, 62K	MCRE000183
Resistor, 0201, 1%, 68K	MCRE000184
Resistor, 0201, 1%, 75K	MCRE000185
Resistor, 0201, 1%, 82K	MCRE000186
Resistor, 0201, 1%, 91K	MCRE000187

Thick Film Chip Resistor



Part Number Table

Description	Part Number
.Resistor, 0201, 1%, 100K	MCRE000188
Resistor, 0201, 1%, 110K	MCRE000189
Resistor, 0201, 1%, 120K	MCRE000190
Resistor, 0201, 1%, 130K	MCRE000191
Resistor, 0201, 1%, 150K	MCRE000192
Resistor, 0201, 1%, 160K	MCRE000193
Resistor, 0201, 1%, 180K	MCRE000194
Resistor, 0201, 1%, 200K	MCRE000195
Resistor, 0201, 1%, 220K	MCRE000196
Resistor, 0201, 1%, 240K	MCRE000197
Resistor, 0201, 1%, 270K	MCRE000198
Resistor, 0201, 1%, 300K	MCRE000199
Resistor, 0201, 1%, 330K	MCRE000200
Resistor, 0201, 1%, 360K	MCRE000201
Resistor, 0201, 1%, 390K	MCRE000202
Resistor, 0201, 1%, 430K	MCRE000203
Resistor, 0201, 1%, 470K	MCRE000204
Resistor, 0201, 1%, 510K	MCRE000205
Resistor, 0201, 1%, 560K	MCRE000206
Resistor, 0201, 1%, 620K	MCRE000207
Resistor, 0201, 1%, 680K	MCRE000208
Resistor, 0201, 1%, 750K	MCRE000209
Resistor, 0201, 1%, 820K	MCRE000210
Resistor, 0201, 1%, 910K	MCRE000211
Resistor, 0201, 1%, 1M	MCRE000212

Stocked Values

Tolerance	Wattage (W)	Preferred Value Range	Range Value
1%	0.063	E96	1R5 - 1M
1%	0.1	E24	1R5 - 1M
1%	0.125	E24	10R - 1M

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