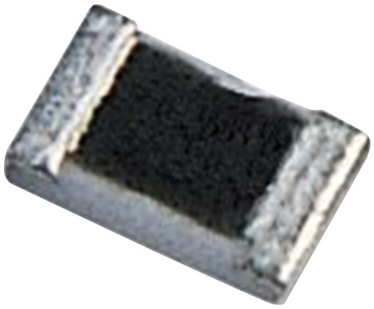
Thick Film High Power
Chip Resistors

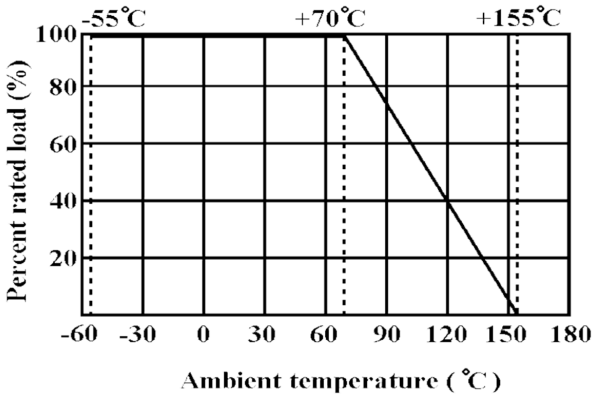


Specifications:

Type	: MCHP06
Power Rating	: 0.50W
Max. Working Voltage	: 50V
Max. Overload Voltage	: 100V
Dielectric Withstanding Voltage	: 300V
Temperature Range	: -55°C to +155°C
Ambient Temperature	: 70°C

Power Rating:

Resistors shall have a power rating based on continuous load operation at an ambient temperature of 70°C . For temperature in excess of 70°C , The load shall be derate as shown in figure



Voltage Rating:

Resistors shall have a rated direct-current (DC) continuous working voltage or an approximate sine-wave root-mean-square (RMS) alternating-current (AC) continuous working voltage at commercial line frequency and waveform corresponding to the power rating , as determined from the following formula:

$$RCWV = \sqrt{P \times R}$$

Were : RCWV = Rated DC or RMS AC continuous working voltage at commercial-line frequency and waveform (volt)
P = Power Rating (watt)
R = Nominal Resistance (ohm)
In no case shall the rated DC or RMS AC continuous working voltage be greater than the applicable maximum value.

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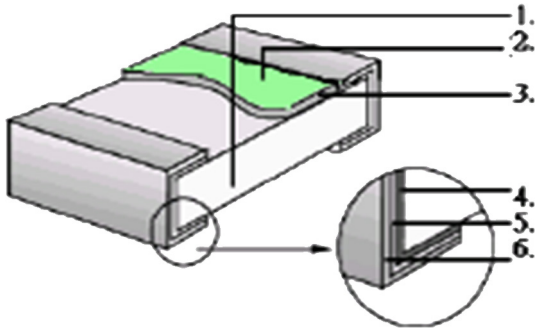
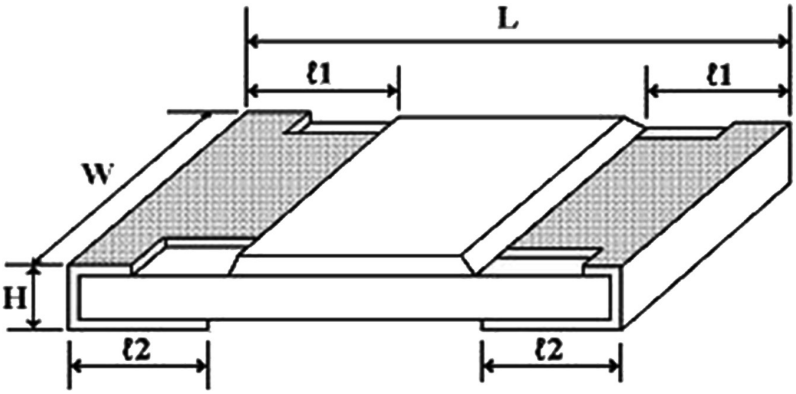
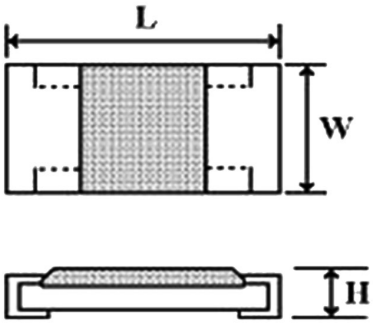
Construction:



1. High Purity Aluminium Substrate
2. Protective covering
3. Resistive covering
4. Termination inner (Ag/Pd)
5. Termination (between) Ni plating
6. Termination (outer) Sn plating

Power Rating and Dimensions:





Dimension :

Type	Dimension (mm)				
	L	W	H	ℓ1	ℓ2
MCHP06	3.1 ± 0.15	1.55 + 0.15 - 0.1	0.55 ± 0.1	0.45 ± 0.2	0.45 ± 0.2

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Power Rating :

Type	Power Rating at 70°C	Tolerance %	Resistance Range	Standard Series
MCHP06	0.50W	± 1	1Ω to 10MΩ	E-96

Marking:

Resistors:

±1% Tolerance : 4 Digits, the first three digits are singnificant figures of resistance and the fourth digit denoted number of zeros. Letter"R" is for decimal point

Ex. | | 1004 | | 1MΩ

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Performance Specification:		
Characteristics	**Limits**	**Test Methods (JIS C 5201-1)**
Temperature Coefficient	≦10E:±200PPM/°C ＞10E:±100PPM/°C	5.2 Natural resistance change per temperature degree centigrade: $\frac{R_2 - R_1}{R_1(t_2 - t_1)} * 10^6 (PPm/℃)$ R1: Resistance value at room temperature(t1) R2: Resisitance value at room temperature plus 100°C (t2) Test Pattern: Room temperature(t1), Room Temperature : +100°C(t2)
Short time overload	Resistance change rate is ± 5% (2.0% + 0.1Ω) Max. ± 1% (1.0% + 0.1Ω) Max.	Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds
Terminal bending	± (1.0% + 0.05Ω) Max.	Twist of Test Board : Y/X = 3/90 mm for 60 seconds
Dielectric withstanding voltage	No evidence of flashover mechanical damage, arcing or insulation break down	Clamped in the trough of a 90°C metallic V-BLOCK and shall be tested at AC potential respectively specified in the type for 60-70 seconds
Solderability	Min. 95% Coverage	Test temperature of solder: 245±3°C; dipping time in soldwe : 2-3 seconds
Soldering heat	Resistance Change Rate Is ±(1%+0.05Ω) Max.	Dip The Resistor Intoa Solder Bath Having a Temperature Of 260°C 3°C and Hold It for 10±1 Seconds

Characteristics	Limits	Test Methods (JIS C 5201-1)
Temperature cycling	± 5% (1.0% + 0.05Ω) Max. ± 1% (0.5% + 0.05Ω) Max.	Resistance change after continuous 5 cycles for duty cycle specified below : Step / Temperature / Time 1 / -55°C ± 3°C / 30mins 2 / Room temp. / 10 to 15mins 3 / +155°C ± 2°C / 30mins 4 / Room temp. / 10 to 15mins
Load life in humidity	Resistance change rate is ± 5% (3.0% + 0.1Ω) Max. ± 1% (1.0% + 0.1Ω) Max.	Resistance change after 1,000 hours (1.5 hours "on", 0.5 hour "off") at RCWV in a humidity chamber controlled at 40°C ± 2°C and 90 to 95% relative humidity
Load Life	Resistance change rate is ± 5% (3.0% + 0.1Ω) Max. ± 1% (1.0% + 0.1Ω) Max.	Permanent resistance change after 1,000 hours operating at RCWV, with duty cycle of (1.5 hours "on", 0.5 hour "off") at 70°C ± 2°C ambient

Part Number Table

Description	Part Number
Resistor, 56R, 1206 1% 0.5W	MCHP06W2F560JT5E