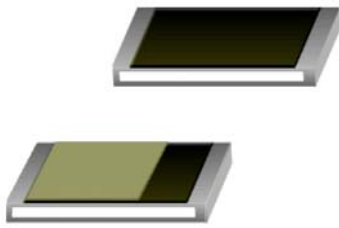


Wire Bondable Chip Resistor – WB Series



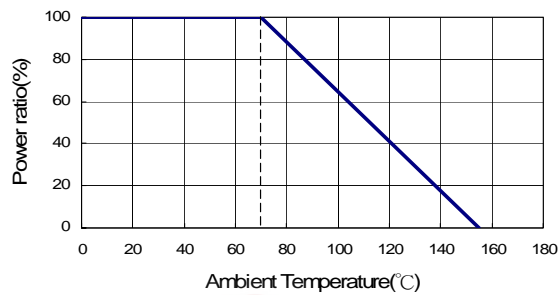
Features

- Thin film passivated NiCr resistive element
- Tolerance from $\pm 0.1\%$ ~ 10%
- Extremely Low TCR from ± 25 ~ 100ppm/ $^{\circ}\text{C}$
- Wide Resistance Range

Applications

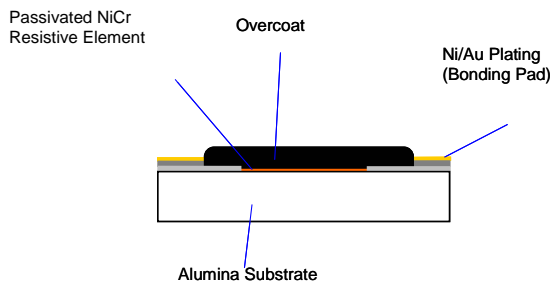
- LED constant current application
- Medical Equipment
- Testing / Measurement Equipment
- Hybrid chip on board circuits
- Multi chip module(MCM) package
- Integrated MMIC

Derating Curve

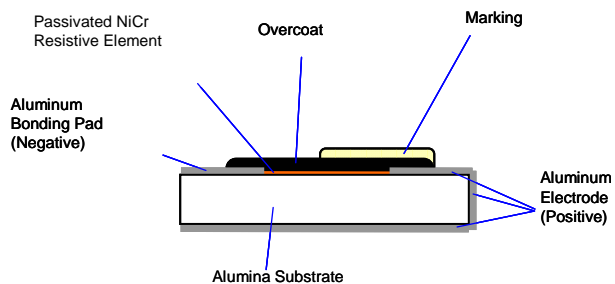


Construction

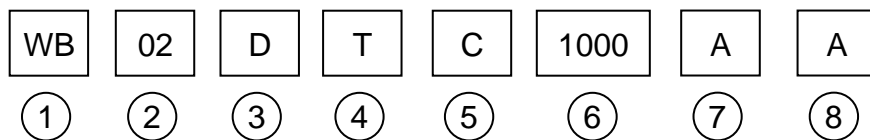
A Type / Two Bonding Pads



B Type / Single Bonding Pads



Part Numbering



Product Type

Product Type	
WB	Wire Bondable Chip Resistor

Dimensions (LxW)

Codes	Dimensions (LxW)	EIA
WB01	0.6x0.30mm	0201
WB02	1.0x0.50mm	0402
WB03	1.6x0.80mm	0603

Resistance Tolerance

Codes	Resistance Tolerance
B	$\pm 0.1\%$
D	$\pm 0.5\%$
F	$\pm 1\%$
J	$\pm 5\%$
K	$\pm 10\%$

Packaging

Code	Type
T	Taping Reel
B	Bulk

TCR

Codes	Type
D	$\pm 50\text{PPM}/^{\circ}\text{C}$
E	$\pm 100\text{PPM}/^{\circ}\text{C}$

Resistance

Codes	Type
0100	10 Ω
1000	100 Ω
2201	2200 Ω
1002	10000 Ω

Construction

Code	Type
A	Two Bonding Pads
B	Single Bonding Pads

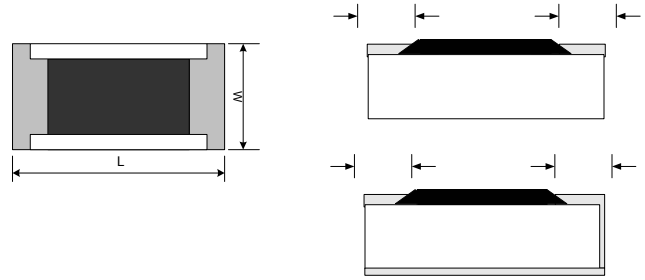
Electrode

Code	Type
N	Ni / Au
A	Aluminum

Dimensions

Unit: mm

Size	L	W	T	D1
0201	0.6±0.05	0.30±0.05	0.25±0.05	0.15±0.05
0402	1.0±0.05	0.50±0.05	0.30±0.05	0.20±0.10
0603	1.55±0.10	0.80±0.10	0.45±0.10	0.30±0.20



Standard Electrical Specifications

Item Type	Power Rating at 70°C	Operating Temp. Range	Max Operating Voltage	Max Overloading Voltage	Resistance Tolerance	Resistance Range	TCR (PPM/°C)
WB01 (0201)	1/32W	-55 ~ +155°C	15V	30V	±0.5% ±1% ±5% ±10%	50Ω~42KΩ	±50 ±100
WB02 (0402)	1/16W		25V	50V	±0.1% ±0.5% ±1% ±5% ±10%	10Ω~100KΩ	±25 ±50 ±100
WB03(0603)	1/16W		50V	100V	±0.1% ±0.5% ±1% ±5% ±10%	10Ω~332KΩ	±25 ±50 ±100

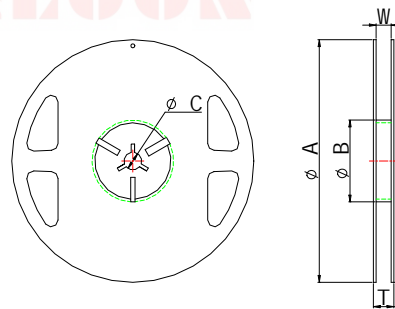
Operating Voltage $V=\sqrt{P \cdot R}$

Overload Voltage $V=2.5 \cdot \sqrt{P \cdot R}$



Packaging

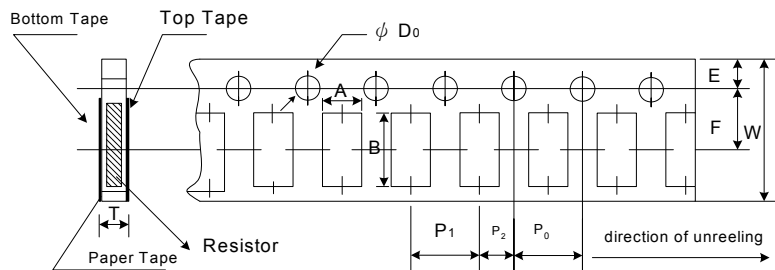
Reel Specifications & Packaging Quantity



Unit: mm

Series	Packaging	ΦA	ΦB	ΦC	W	T	Paper Tape (EA)
WB01		178±0.1	60±0.5	13.0±0.2	9.0±0.5	12.0±0.15	10,000
WB02		178±0.1	60±0.5	13.0±0.2	9.0±0.5	12.0±0.15	10,000
WB03		178±0.1	60±0.5	13.0±0.2	9.0±0.5	12.0±0.15	5,000

Paper Tape Specifications



Unit: mm

Series	A	B	W	F	E	P1	P2	P0	ΦD0	T
WB01	0.36±0.02	0.66±0.02	8.0±0.1	3.50±0.05	1.75±0.05	2.00±0.05	2.00±0.05	4.00±0.10	1.55±0.03	0.42±0.02
WB02	0.70±0.05	1.16±0.05	8.0±0.1	3.50±0.05	1.75±0.05	2.00±0.05	2.00±0.05	4.00±0.10	1.55±0.03	0.40±0.03
WB03	1.10±0.05	1.90±0.05	8.0±0.1	3.50±0.05	1.75±0.05	4.00±0.10	2.00±0.05	4.00±0.10	1.55±0.03	0.40±0.03

Environmental Characteristics

Test Item	Specification	Test Method
Temperature Coefficient of Resistance	As Spec	MIL-STD-202F Method 304 +25/-55/+25/+125/+25°C
Short Time Overload	$\Delta R \pm 0.5\%$	JIS-C-5202-5.5 RCWV*2.5 or Max Overloading Voltage · 5 seconds
Dielectric Withstand Voltage	By type	MIL-STD-202F Method 301 Apply Max Overload Voltage for 1 minute
Insulation Resistance	$>1000M\Omega$	MIL-STD-202F Method 302 Apply 100V _{DC} for 1 minute
Thermal Shock	$\Delta R \pm 0.25\%$	MIL-STD-202F Method 107G -55°C~150°C, 100 cycles
Load Life	$\Delta R \pm 0.2\%$	MIL-STD-202F Method 108A
	$>7k\Omega \Delta R \pm 0.5\%$	RCWV , 70°C , 1.5 hours ON , 0.5 hours OFF, total 1000~1048 hours
Humidity (Steady State)	$\Delta R \pm 0.3\%$	MIL-STD-202F Method 103B 40°C , 90~95%RH,RCWV 1.5 hours ON,0.5 hours OFF, total 1000~1048 hours
Resistance to Dry Heat	$\Delta R \pm 0.2\%$	JIS-C-5202-7.2 96 hours @ +155°C without load
Low Temperature Operation	$\Delta R \pm 0.2\%$	JIS-C-5202-7.1 1 hours,-65°C, followed by 45minutes of RCWV
Bending Strength	$\Delta R \pm 0.2\%$	JIS-C-5202-6.1.4 Bending Amplitude 3mm for 10 seconds
Solderability	95%min coverage	MIL-STD-202F Method 208H 245°C±5°C, 5±0.5 (sec)
Resistance to Soldering Heat	$\Delta R \pm 0.2\%$	MIL-STD-202F Method 210E 260±5°C, 10±1 seconds



品質承諾標誌
Quality Commitment