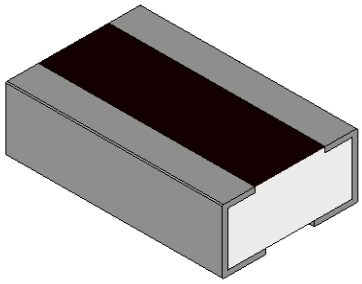
VSRP0508WD Series Current Sensing Resistor (Lead / Halogen Free)

Features / Applications :

- High power rating is up to 1/2W
- Low TCR (±200 ppm/℃)
- Current sensing resistor for power supplies, motor circuits, etc.
- RoHS compliant & AEC-Q200 qualified
- Suitable for reflow soldering
- Excellent heat dissipation by wide terminal type

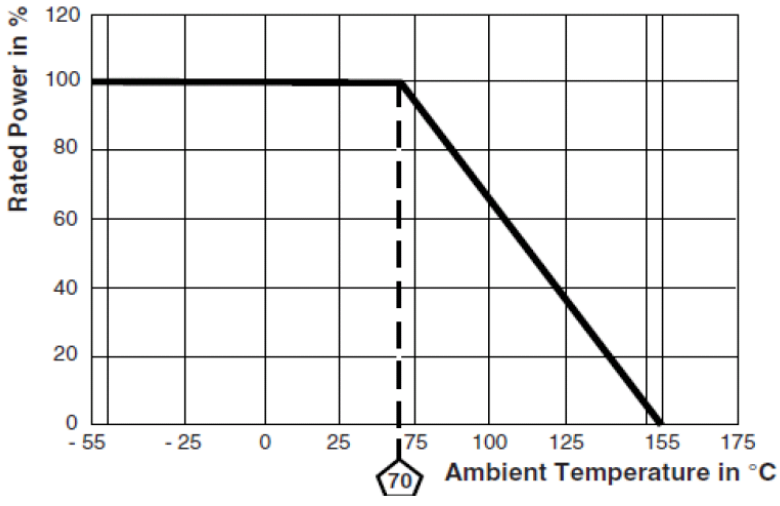


Electrical Specifications :

Characteristics	Feature
Power Rating*	1/2 W
Resistance Range	0.02Ω～0.51Ω
Temperature Coefficient of Resistance(ppm/℃)	±200
Resistance Tolerance	±1%(F), ±2%(G), ±5%(J)
Operation Temperature Range	-55℃ ～ +155℃

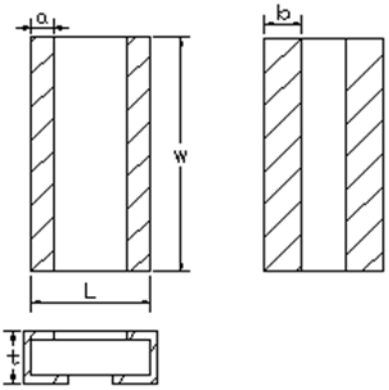
*Note :

For sensor operated at ambient temperature in excess of 70℃, the maximum load shall be derated in accordance with the following curve.



Outline Drawing :

Dimensions



L	1.25 ± 0.20
W	2.00 ± 0.20
t	0.60 ± 0.20
a	0.30 ± 0.20
b	0.40 ± 0.20

Unit: mm

Type Designation :

V S R P	0508	W	D	-	□ □ □ □	□
(1)	(2)	(3)	(4)	-	(5)	(6)

Note :

(1) Series No.

(2) Size

(3) Terminal type : W = Wide terminal

(4) Power Rating : D = 1/2W

(5) Resistance value:

The “R” shall be used as a decimal point, For example --

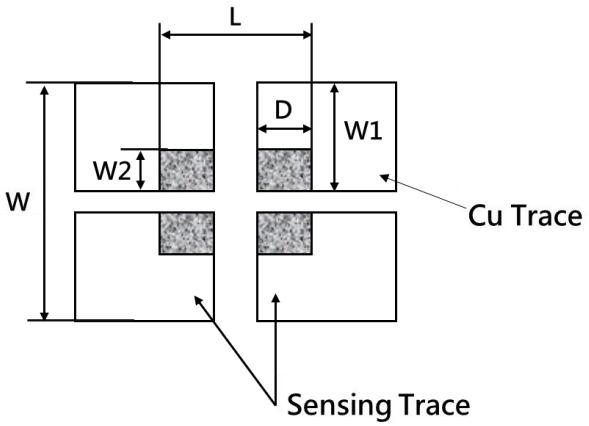
R020 = 0.02Ω;

(6) Tolerance (%)

F=±1%, G=±2%, J=±5%

Recommend Land Pattern Dimensions :

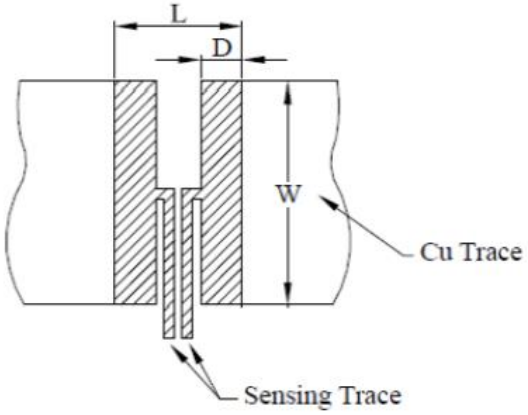
1. Suitable 0.020Ω ~ 0.050Ω



Size	W (mm)	W1 (mm)	W2 (mm)	L (mm)	D (mm)	t (mm)
1220W	5.45	2.5	0.95	2.7	1.05	1.05

t: Copper foil minimum thickness of PCB

2. Suitable 0.051Ω ~ 0.510Ω

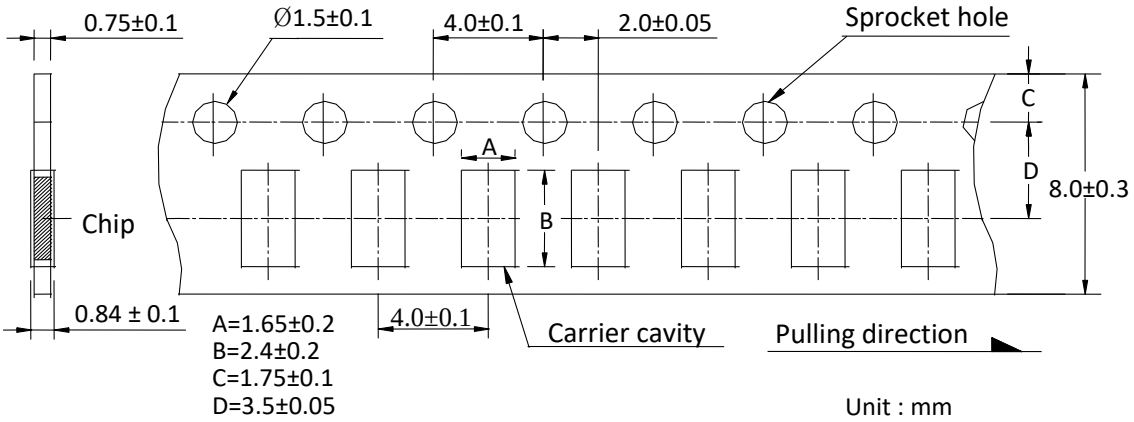


Size	W (mm)	L (mm)	D (mm)	t (mm)
1220W	2.0	2.2	0.8	1.05

t: Copper foil minimum thickness of PCB

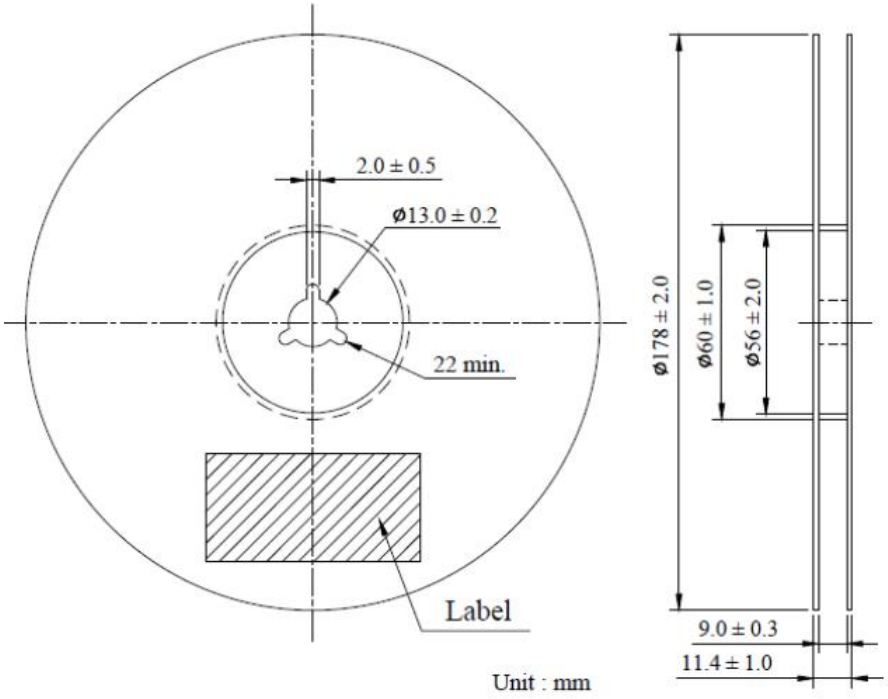
Packaging :

Tape packaging dimensions



Remark: Leader tape length≧30 cm(150 Hollow carrier cavity)

Reel dimensions



Numbers of Taping : 5,000 pieces /reel

The following items shall be marked on the reel.

(1) Type designation.

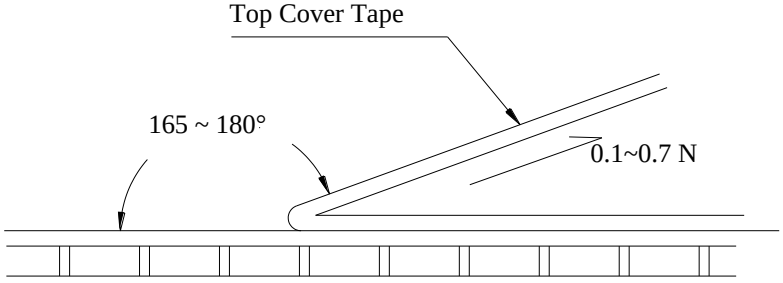
(2) Quantity

(3) Manufacturing date code

(4) Manufacturer's name

Peel force of top cover tape

The peel speed shall be about 300 mm/min. The peel force of top cover tape shall be between 0.1 to 0.7 N.



Care Note :

Care note for storage

(1) Chip resistor shall be stored in a room where temperature and humidity must be controlled. (temperature 5 to 35℃, humidity 45 to 85% RH) However, a humidity keep it low, as it is possible.

(2) Chip resistor shall be stored as direct sunshine doesn't hit on it.

(3) Chip resistor shall be stored with no moisture, dust, a material that will make solderability inferior, and a harmful gas (Chloridation hydrogen, sulfurous acid gas, and sulfuration hydrogen).

Care note for operating and handling

(1) It is necessary to protect the edge and protection coat of resistors from mechanical stress.

(2) Handle with care when printing circuit board (PCB) is divided or fixed on support body, because bending of printing circuit board (PCB) mounting will make mechanical stress for resistors.

(3) Resistors shall be used with in rated range shown in specification. Especially, if voltage more than specified value will be loaded to resistor, there is a case it will make damage for machine because of temperature rise depending on generating of heat, and increase resistance value or breaks.

(4) In case that resistor is loaded a rated voltage, it is necessary to confirms temperature of a resistor and to reduce a load power according to load reduction curve, because a temperature rise of a resistor depends on influence of heat from mounting density and neighboring element.

(5) Observe Limiting element voltage and maximum overload voltage specified in each specification

(6) If there is possibility that a large voltage (pulse voltage, shock voltage) charge to resistor, it is necessary that operating condition shall be set up before use.

Reversion History :

REV.	Issue date	Description
A0	2017/7/5	New Approval (gang.liu)
A1	2017/9/21	Range :20 ~ 500mΩ TCR:±200 (yili.wang)
A2	2019/5/9	Add" AEC-Q200 is under testing" (yili.wang, huang.huang)
A3	2019/9/12	New Approval Standard (xiangyu.wei) 1. Range :0.02Ω ~ 0.55Ω 2. Land Pattern - 4Pin: 0.020Ω ~ 0.050Ω 3. Land Pattern - 2Pin: 0.051Ω ~ 0.550Ω
A4	2020/02/12	Corrected the max of resistance (eason.cheng) 1. Range :0.02Ω ~ 0.51Ω 2. Land Pattern - 2Pin: 0.051Ω ~ 0.510Ω