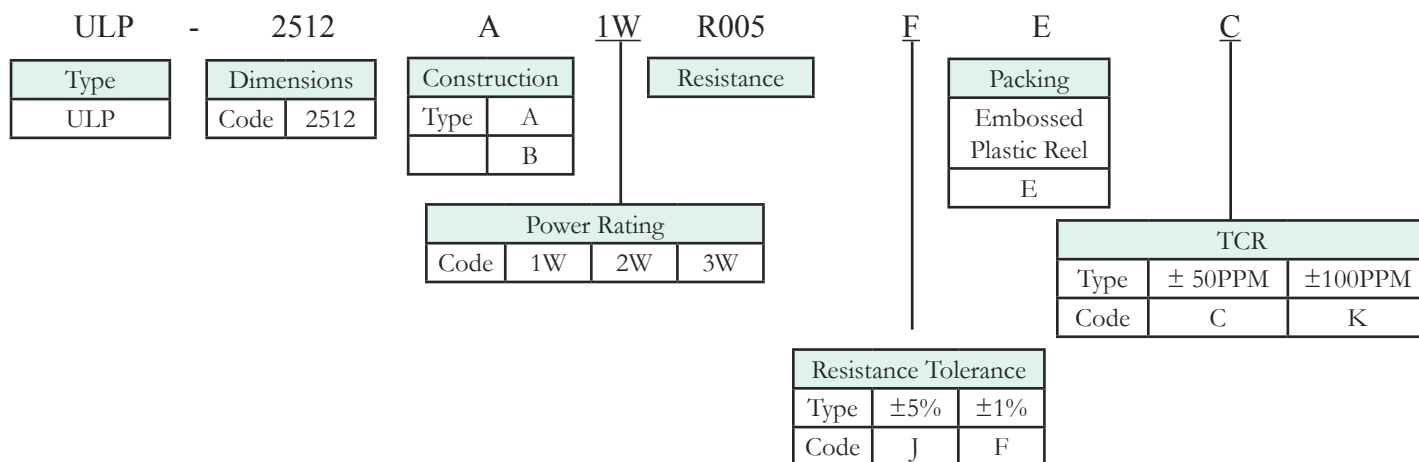




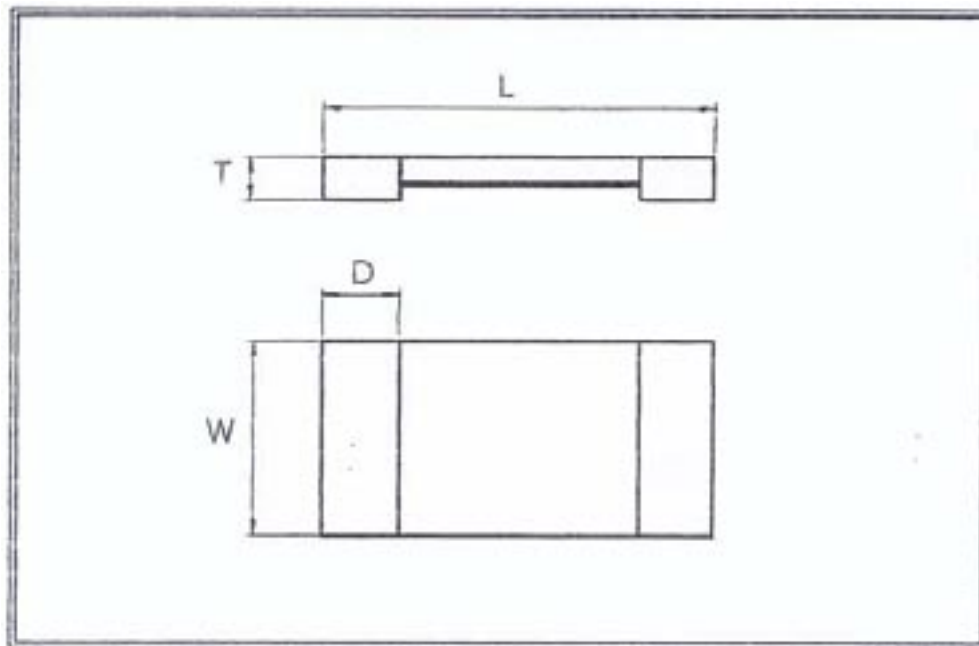
Features

These specification covers 2512 sized high power low resistance current sensing metal resistors.

PART NUMBERING SYSTEM:



Dimensions Type A

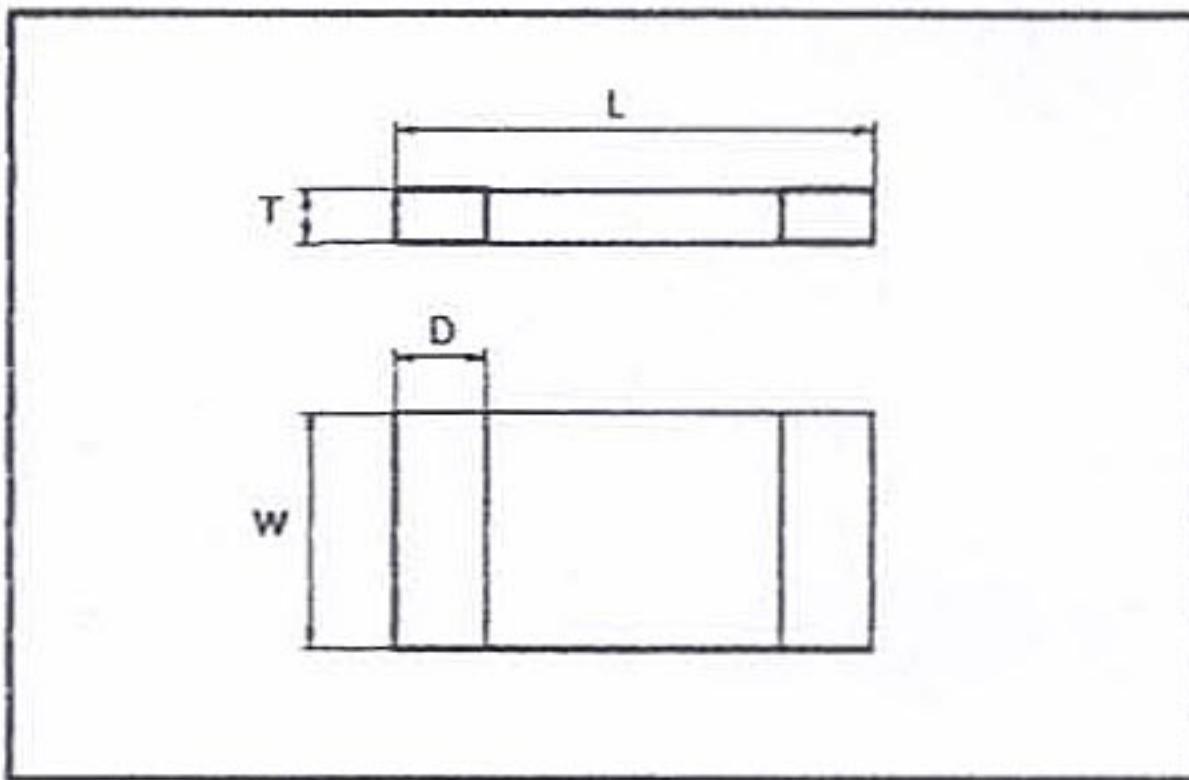


Type A	L(mm)	W(mm)	D(mm)	T(mm)
R0005 ~ R00075	6.35±0.254	3.18±0.35	1.925±0.75	1.0±0.2
R001 - R020	6.35±0.254	3.18±0.35	1.925±0.75	1.0±0.2



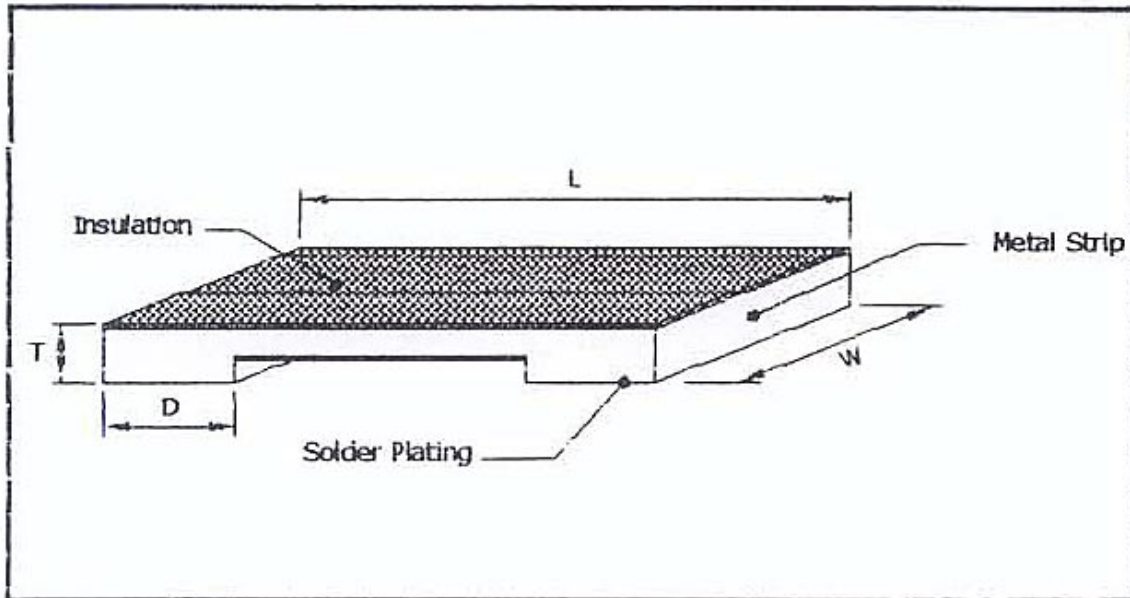
Dimensions Type B

Type A	L(mm)	W(mm)	D(mm)	T(mm)
R00050	6.35±0.254	3.18±0.254	1.3±0.3	1.4±0.2
R00075	6.35±0.254	3.18±0.254	1.3±0.3	1.0±0.2
R001	6.35±0.254	3.18±0.254	1.3±0.3	0.8±0.2
R0015	6.35±0.254	3.18±0.254	1.3±0.3	0.65±0.2
R002	6.35±0.254	3.18±0.254	1.3±0.3	0.5±0.2
R0025	6.35±0.254	3.18±0.254	1.3±0.3	1.0±0.2
R003	6.35±0.254	3.18±0.254	1.3±0.3	0.7±0.2
R0035	6.35±0.254	3.18±0.254	1.3±0.3	0.71±0.2
R004	6.35±0.254	3.18±0.254	1.3±0.3	0.6±0.2
R0045	6.35±0.254	3.18±0.254	1.3±0.3	0.58±0.2
R005	6.35±0.254	3.18±0.254	1.3±0.3	0.5±0.2
R0055	6.35±0.254	3.18±0.254	1.3±0.3	0.47±0.2
R006	6.35±0.254	3.18±0.254	1.3±0.3	0.5±0.2
R0065	6.35±0.254	3.18±0.254	1.3±0.3	0.47±0.2
R007	6.35±0.254	3.18±0.254	1.3±0.3	0.45±0.2

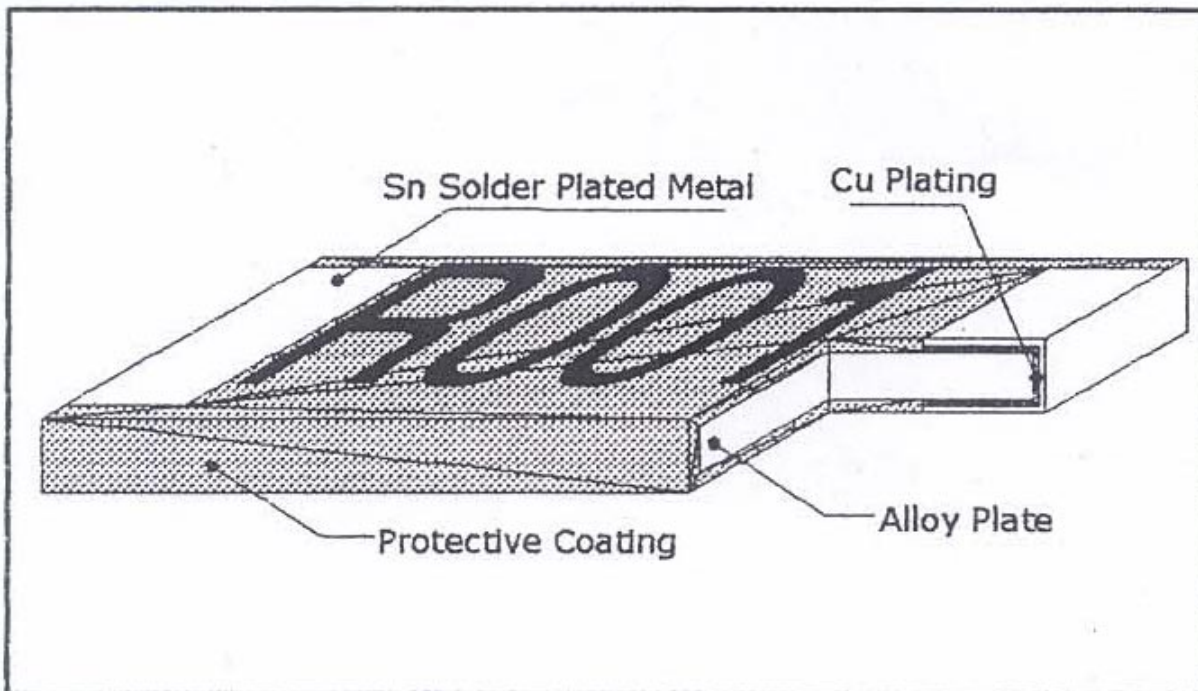


Configuration

Type A



Type B





Ratings

Type A

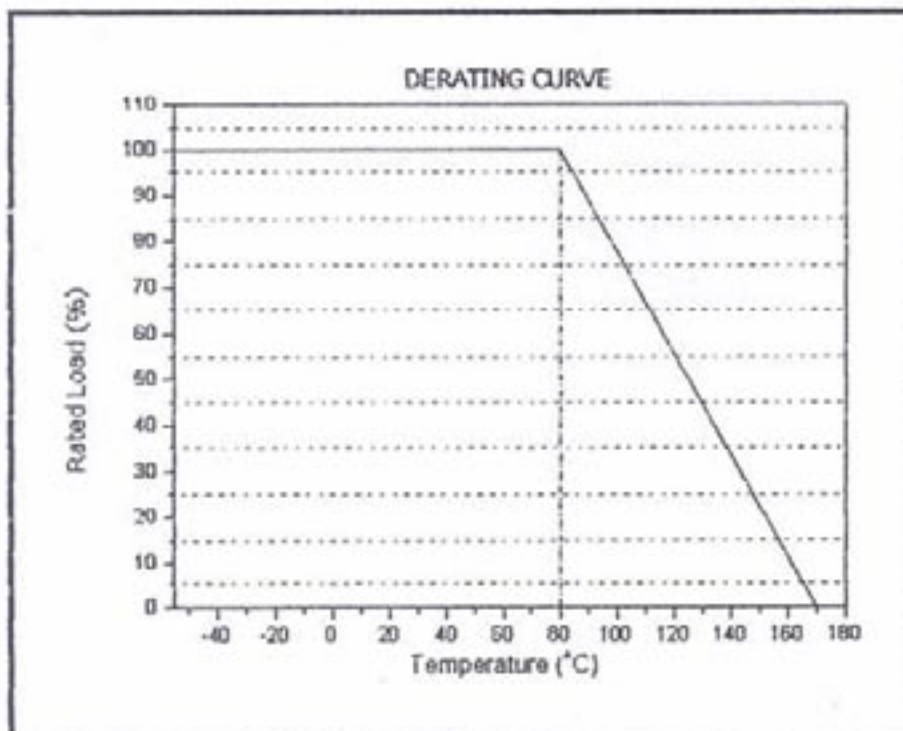
Resistance	Power Rating at 80°	Max. Dielectric Voltage	Operating Temp
0.5mΩ~2mΩ	3W	200V	-55°C - 170°C
4mΩ~10mΩ	2W		
11mΩ~20mΩ	1W		

Type B

Resistance	Power Rating at 80°	Max. Dielectric Voltage	Operating Temp
0.5mΩ~2mΩ	3W	200V	-55°C - 170°C
4mΩ~10mΩ	2W		
11mΩ~20mΩ	1W		

Power Temperature Derating Curve

Power ratings are based on continuous full load operation at rated ambient temperature of 80°C. For resistors operated at ambient temperature in excess of 80°C, the maximum load shall be derated in accordance with the following curve.





Rated Voltage

The direct or alternating voltage for the rated power can be calculated from the following formula but must not exceed the maximum voltage.

$V = \sqrt{P \times R}$	Where,
	V=rated voltage (V)
	P=rated power (W)
	R=rated resistance (Ω)

Temperature coefficient of resistance (TCR)

Test Method

$TCR (ppm/^{\circ}C) = \left[\frac{R_2 - R_1}{R_1(T_2 - T_1)} \right] \times 10^6$	Where,
	R ₁ =resistance at room temperature
	R ₂ =resistance at -55 $^{\circ}$ C or 125 $^{\circ}$ C
	T ₁ =room temperature
	T ₂ =-55 $^{\circ}$ C or 125 $^{\circ}$ C

Performance

Type A

Range (m Ω)	R0005	R00075	R001	R002	R003	R004 ~ R006	R007~R010	R011~R020	
Max. Working Current (A)	77.5	63.3	54.8	38.7	31.6	25 20.4	16.9 14.1	9.5 7.1	
Max Overload Current (A)	173.2	141.4	122.5	86.6	70.7	55.9 45.6	37.8 31.6	21.3 15.8	
TCR (ppm)	±100		±50		±75	±50			
Power Rating (W)	3					2		1	
Tolerance (%)	±1,5								

**Type B**

Range (mΩ)	0.5	0.75~2	2.5~3	4~5.5	6~7
Max. Working Current (A)	63.3	51.6 31.6	20 18.3	15.8 13.5	12.9 12
Max Overload Current (A)	141.4	115.5 70.7	44.7 40.8	35.4 30.2	28.9 26.7
TCR (ppm)	±50	±50	±150	±100	±75
Power Rating (W)	2	2	1	1	1
Tolerance (%)	±1,5				



Short Time Overload

Test Method

5 times the rated power is applied to the resistor and the change in resistance is measured after 30mins.

Performance

$\Delta R < \pm 1\%$

Load Life

Test Method

The resistor is placed in a chamber for 1000hrs at $70\pm 2^{\circ}\text{C}$. The rated voltage is applied to the resistor (duty cycle: 90mins ON, 30mins OFF). The change in resistance is measured 60mins after removal from test chamber.

Performance

$\Delta R < \pm 1\%$

Solderability

Test Method

The resistor is immersed in solder bath at $260\pm 5^{\circ}\text{C}$ for 2 ± 0.5 secs.

Performance

Coverage of 95% of the surface immersed.

High Temperature Storage

Test Method

The resistor is placed in a constant temperature-humidity chamber at $170\pm 2^{\circ}\text{C}$ for 1000hrs and the resistance is measured 60mins after the end of the cycle .

Performance

$\Delta R < \pm 1\%$



Thermal Shock

Test Method

The resistor is kept at a temperature of -55°C for 15mins and the temperature is then raised to 150°C and the resistor is held in this state for another 15mins. This is repeated for 1000 cycles. The change in resistance is then measured 2hrs after the completion of 1000 cycles.

Performance

$\Delta R < \pm 1\%$

Solder Heat

Test Method

The resistor is immersed in solder bath at $260 \pm 5^{\circ}\text{C}$ for 10 ± 1 secs and the resistance is measured 1hr after the test.

Performance

$\Delta R < \pm 1\%$

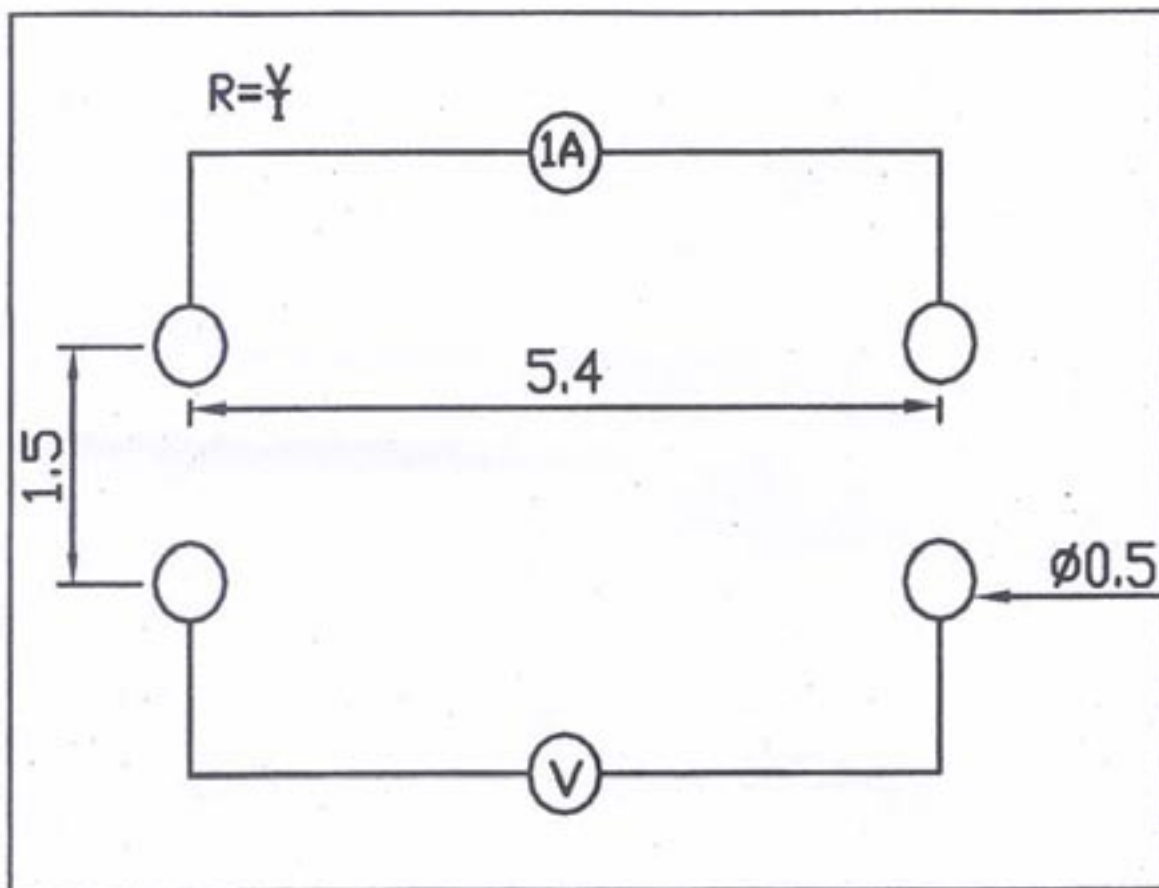
Measurements

4 Wire Precision Measurements

Equipment: ADEX AX-1152D DC Low Ohm Meter

Excitation Current: 3A (0.5mΩ~1.5 mΩ)

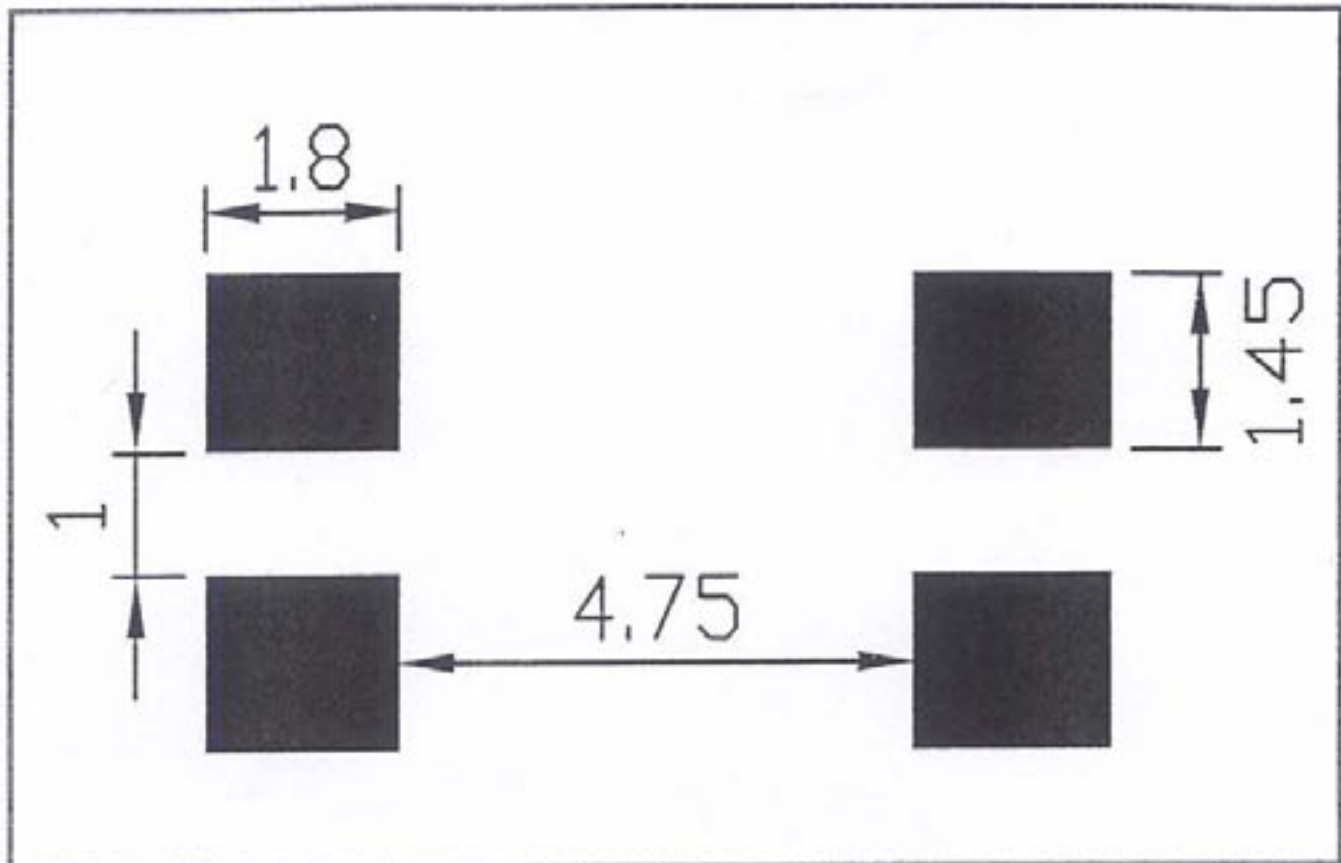
1A (2mΩ~20mΩ)



unit:mm

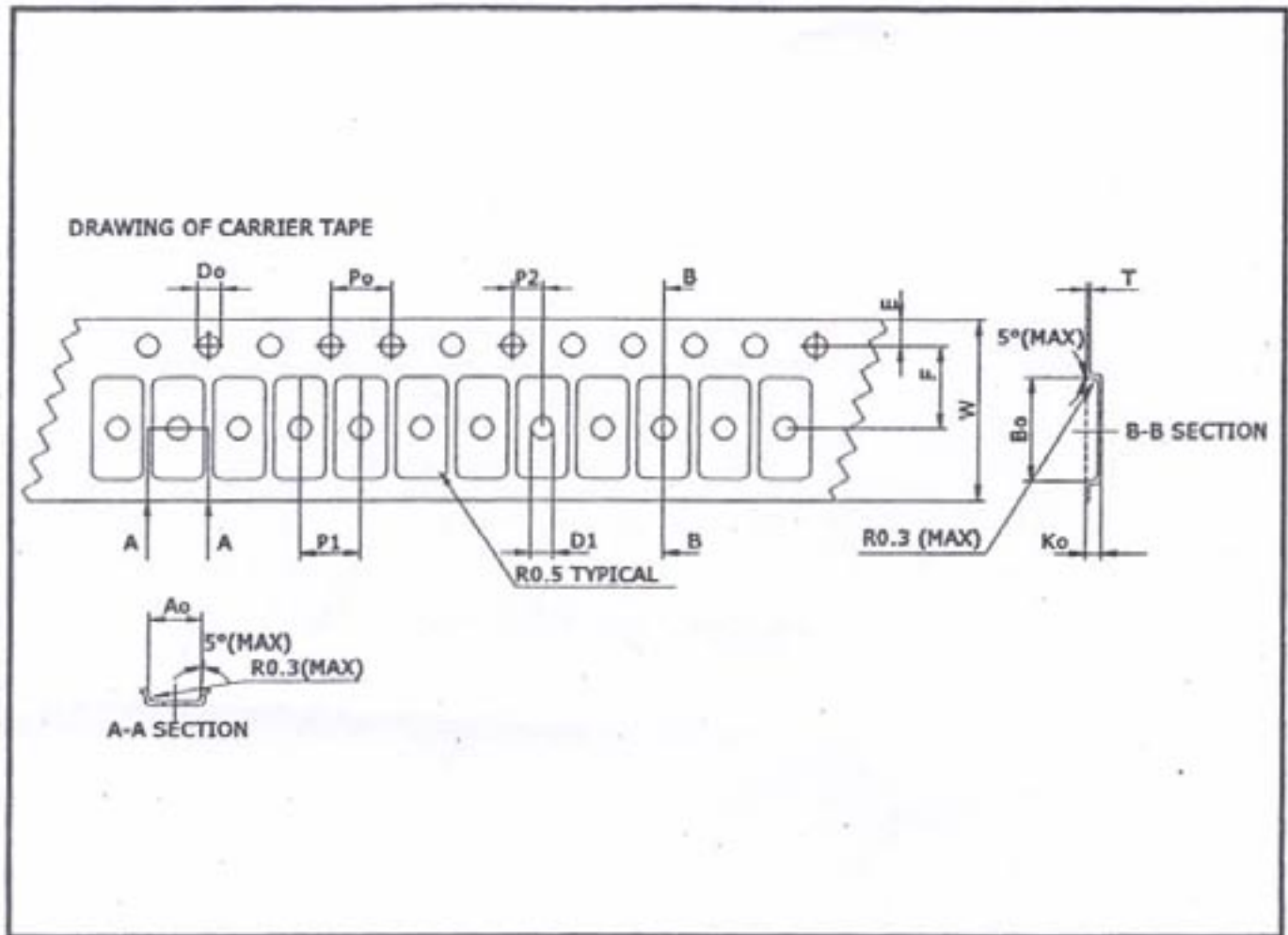
4-wire Dad layout (recommended for precision current sensing)

Note: No circuits between pads to avoid short circuit



unit:mm

Emboss Plastic Tape Specifications

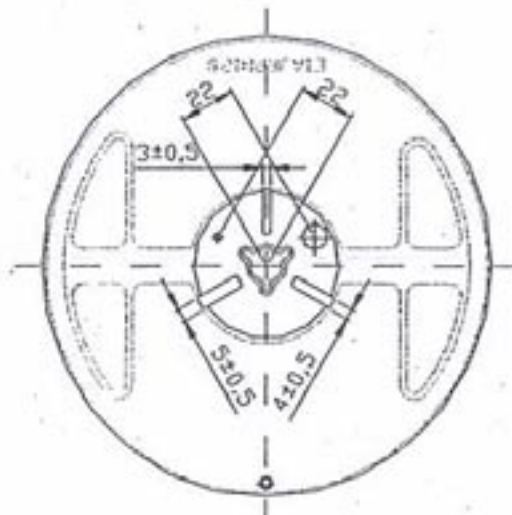
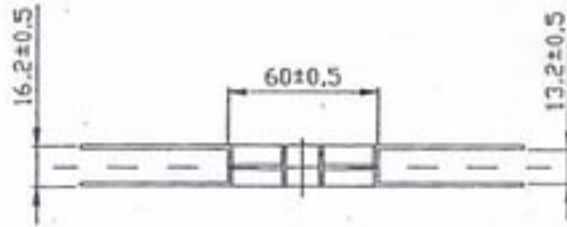
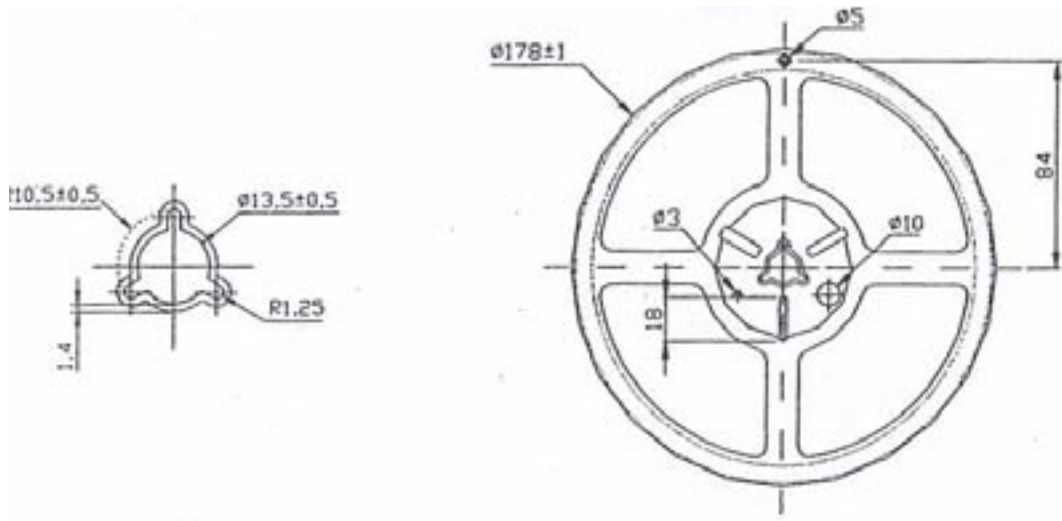


Symbol	A_o	B_o	K_o	P_o	P_1	P_2	T
Spec.	3.40 ± 0.1	6.75 ± 0.1	0.80 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.05	0.25 ± 0.1
Symbol	E	F	D_o	D_1	W	$10P_o$	
Spec.	1.75 ± 0.1	5.5 ± 0.05	1.55 ± 0.05	1.5 (MIN)	12.0 ± 0.3	40.0 ± 0.2	

Notice :

1. The cumulative tolerance of 10 sprocket hole pitch is $\pm 0.2\text{mm}$.
2. Carrier camber shall be not more than 1mm per 100mm through a length of 250mm.
3. A_o & B_o measured 0.3mm from the bottom of the packet
4. K_o measured at a point on the inside bottom of the packet to the top surface of the carrier. For $0.5\text{m}\Omega$ and $0.75\text{m}\Omega$, $K_o = 1.35(+0.1, -0.05)\text{mm}$
5. Pocket position relative to sprocket hole is measured as the true position of the pocket and not the pocket hole

Reel Specification



UNIT: mm