

### FEATURES:

- Resistance Range: 10mΩ to 100mΩ
- Low TCR as low as 50PPM
- High power rating
- Custom Resistance Values available
- Operating Temperature: -55°C to +155°C



### PART NUMBER STRUCTURE

CSMF	0603	-	R	K	-	R010	F	T
Series	Size		Power Rating	TCR		Resistance	Resistance Tol.	Packaging
	0603 0805 1206 2010 2512		R = 1/8 W T = 1/4 W V = 1/2 W W = 3/4 W X = 1 W	C = ±50ppm K = ±100ppm		XXXX R010 = 10mΩ R020 = 20mΩ	F = ±1% J = ±5%	T = Tape & Reel

Example P/N: CSMF0603-RK-R010FT

Standard Termination is 100% matte Tin over Nickel.

### DIMENSIONS

Unit: mm (inches)

SIZE	RESISTANCE RANGE (MΩ)	L	W	T	D <sub>1</sub>	D <sub>2</sub>
0603 (1608)	10-27	0.061±0.004 (1.55±0.10)	0.033±0.004 (0.85±0.10)	0.016±0.004 (0.40±0.10)	0.012±0.006 (0.30±0.15)	0.018±0.006 (0.45±0.15)
	30-100	0.061±0.004 (1.55±0.10)	0.033±0.004 (0.85±0.10)	0.016±0.004 (0.40±0.10)	0.012±0.006 (0.30±0.15)	0.014±0.006 (0.35±0.15)
0805 (2012)	10-27	0.078±0.006 (2.00±0.15)	0.049±0.006 (1.25±0.15)	0.022±0.004 (0.55±0.10)	0.012±0.008 (0.30±0.20)	0.020±0.008 (0.50±0.20)
	30-100	0.078±0.006 (2.00±0.15)	0.049±0.006 (1.25±0.15)	0.020±0.004 (0.52±0.10)	0.012±0.008 (0.30±0.20)	0.014±0.008 (0.35±0.20)
1206 (3216)	10-27	0.120±0.006 (3.05±0.15)	0.061±0.006 (1.55±0.15)	0.023±0.006 (0.58±0.15)	0.020±0.010 (0.50±0.25)	0.035±0.010 (0.90±0.25)
	30-100	0.120±0.006 (3.05±0.15)	0.061±0.006 (1.55±0.15)	0.022±0.006 (0.55±0.15)	0.020±0.010 (0.50±0.25)	0.024±0.010 (0.60±0.25)
2010 (5255)	10-27	0.197±0.008 (5.00±0.20)	0.098±0.008 (2.50±0.20)	0.023±0.006 (0.58±0.15)	0.024±0.012 (0.60±0.30)	0.059±0.012 (1.50±0.30)
	30-100	0.197±0.008 (5.00±0.20)	0.098±0.008 (2.50±0.20)	0.022±0.006 (0.55±0.15)	0.024±0.012 (0.60±0.30)	0.035±0.012 (0.90±0.30)
2512 (6332)	10-27	0.248±0.008 (6.30±0.20)	0.124±0.008 (3.15±0.20)	0.023±0.006 (0.58±0.15)	0.024±0.012 (0.60±0.30)	0.070±0.012 (1.80±0.30)
	30-100	0.248±0.008 (6.30±0.20)	0.124±0.008 (3.15±0.20)	0.022±0.006 (0.55±0.15)	0.024±0.012 (0.60±0.30)	0.047±0.012 (1.20±0.30)

### STRUCTURE

1	Alumina Substrate	6	Edge Electrode (NiCr)
2	Adhesive (acrylic)	7	Barrier Layer (Ni)
3	Resistive Layer (alloy)	8	External Electrode (Sn)
4	Bottom Electrode (Cu)	9	Primary Overcoat (Epoxy)
5	Top Electrode (NiCr)	10	Marking

### ELECTRICAL SPECIFICATION & RANGE

SIZE	RESISTANCE (MΩ)	POWER RATING AT 70°C	RATED CURRENT (A)	MAX WORKING VOLTAGE	TOLERANCE (□)	TCR PPM (∠)	VENKEL PART NUMBER
0603	10	0.125W (1/8W)	3.54	√P*R	±1%, ±5%	±100	CSMF0603-RK-R010□T
0603	11	0.125W (1/8W)	3.37	√P*R	±1%, ±5%	±100	CSMF0603-RK-R011□T
0603	12	0.125W (1/8W)	3.23	√P*R	±1%, ±5%	±100	CSMF0603-RK-R012□T
0603	13	0.125W (1/8W)	3.1	√P*R	±1%, ±5%	±100	CSMF0603-RK-R013□T
0603	15	0.125W (1/8W)	2.89	√P*R	±1%, ±5%	±100	CSMF0603-RK-R015□T
0603	16	0.125W (1/8W)	2.8	√P*R	±1%, ±5%	±100	CSMF0603-RK-R016□T
0603	18	0.125W (1/8W)	2.64	√P*R	±1%, ±5%	±100	CSMF0603-RK-R018□T
0603	20	0.125W (1/8W)	2.5	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R020□T
0603	22	0.125W (1/8W)	2.38	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R022□T
0603	24	0.125W (1/8W)	2.28	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R024□T
0603	27	0.125W (1/8W)	2.15	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R027□T
0603	30	0.125W (1/8W)	2.04	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R030□T
0603	33	0.125W (1/8W)	1.95	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R033□T
0603	36	0.125W (1/8W)	1.86	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R036□T
0603	39	0.125W (1/8W)	1.79	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R039□T
0603	43	0.125W (1/8W)	1.7	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R043□T
0603	47	0.125W (1/8W)	1.63	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R047□T
0603	51	0.125W (1/8W)	1.57	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R051□T
0603	56	0.125W (1/8W)	1.49	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R056□T
0603	62	0.125W (1/8W)	1.42	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R062□T
0603	68	0.125W (1/8W)	1.36	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R068□T
0603	75	0.125W (1/8W)	1.29	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R075□T
0603	82	0.125W (1/8W)	1.23	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R082□T
0603	91	0.125W (1/8W)	1.17	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R091□T
0603	100	0.125W (1/8W)	1.12	√P*R	±1%, ±5%	±50, ±100	CSMF0603-R∠-R100□T
0805	10	0.25W (1/4W)	5	√P*R	±1%, ±5%	±100	CSMF0805-TK-R010□T
0805	11	0.25W (1/4W)	4.77	√P*R	±1%, ±5%	±100	CSMF0805-TK-R011□T
0805	12	0.25W (1/4W)	4.56	√P*R	±1%, ±5%	±100	CSMF0805-TK-R012□T
0805	13	0.25W (1/4W)	4.39	√P*R	±1%, ±5%	±100	CSMF0805-TK-R013□T
0805	15	0.25W (1/4W)	4.08	√P*R	±1%, ±5%	±100	CSMF0805-TK-R015□T
0805	16	0.25W (1/4W)	3.95	√P*R	±1%, ±5%	±100	CSMF0805-TK-R016□T
0805	18	0.25W (1/4W)	3.73	√P*R	±1%, ±5%	±100	CSMF0805-TK-R018□T
0805	20	0.25W (1/4W)	3.54	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R020□T
0805	22	0.25W (1/4W)	3.37	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R022□T
0805	24	0.25W (1/4W)	3.23	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R024□T
0805	27	0.25W (1/4W)	3.04	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R027□T
0805	30	0.25W (1/4W)	2.89	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R030□T
0805	33	0.25W (1/4W)	2.75	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R033□T
0805	36	0.25W (1/4W)	2.64	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R036□T
0805	39	0.25W (1/4W)	2.53	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R039□T
0805	43	0.25W (1/4W)	2.41	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R043□T
0805	47	0.25W (1/4W)	2.31	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R047□T
0805	51	0.25W (1/4W)	2.21	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R051□T
0805	56	0.25W (1/4W)	2.11	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R056□T
0805	62	0.25W (1/4W)	2.01	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R062□T
0805	68	0.25W (1/4W)	1.92	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R068□T
0805	75	0.25W (1/4W)	1.83	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R075□T
0805	82	0.25W (1/4W)	1.75	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R082□T
0805	91	0.25W (1/4W)	1.66	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R091□T
0805	100	0.25W (1/4W)	1.58	√P*R	±1%, ±5%	±50, ±100	CSMF0805-T∠-R100□T

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1206	10	0.50W (1/2W)	7.07	√P*R	±1%, ±5%	±100	CSMF1206-VK-R010□T
1206	11	0.50W (1/2W)	6.74	√P*R	±1%, ±5%	±100	CSMF1206-VK-R011□T
1206	12	0.50W (1/2W)	6.45	√P*R	±1%, ±5%	±100	CSMF1206-VK-R012□T
1206	13	0.50W (1/2W)	6.20	√P*R	±1%, ±5%	±100	CSMF1206-VK-R013□T
1206	15	0.50W (1/2W)	5.77	√P*R	±1%, ±5%	±100	CSMF1206-VK-R015□T
1206	16	0.50W (1/2W)	5.59	√P*R	±1%, ±5%	±100	CSMF1206-VK-R016□T
1206	18	0.50W (1/2W)	5.27	√P*R	±1%, ±5%	±100	CSMF1206-VK-R018□T
1206	20	0.50W (1/2W)	5.00	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R020□T
1206	22	0.50W (1/2W)	4.77	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R022□T
1206	24	0.50W (1/2W)	4.56	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R024□T
1206	27	0.50W (1/2W)	4.30	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R027□T
1206	30	0.50W (1/2W)	4.08	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R030□T
1206	33	0.50W (1/2W)	3.89	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R033□T
1206	36	0.50W (1/2W)	3.73	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R036□T
1206	39	0.50W (1/2W)	3.58	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R039□T
1206	43	0.50W (1/2W)	3.41	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R043□T
1206	47	0.50W (1/2W)	3.26	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R047□T
1206	51	0.50W (1/2W)	3.13	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R051□T
1206	56	0.50W (1/2W)	2.99	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R056□T
1206	62	0.50W (1/2W)	2.84	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R062□T
1206	68	0.50W (1/2W)	2.71	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R068□T
1206	75	0.50W (1/2W)	2.58	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R075□T
1206	82	0.50W (1/2W)	2.47	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R082□T
1206	91	0.50W (1/2W)	2.34	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R091□T
1206	100	0.50W (1/2W)	2.24	√P*R	±1%, ±5%	±50, ±100	CSMF1206-V∠-R100□T
2010	10	0.75W (3/4W)	8.66	√P*R	±1%, ±5%	±100	CSMF2010-WK-R010□T
2010	11	0.75W (3/4W)	8.26	√P*R	±1%, ±5%	±100	CSMF2010-WK-R011□T
2010	12	0.75W (3/4W)	7.91	√P*R	±1%, ±5%	±100	CSMF2010-WK-R012□T
2010	13	0.75W (3/4W)	7.60	√P*R	±1%, ±5%	±100	CSMF2010-WK-R013□T
2010	15	0.75W (3/4W)	7.07	√P*R	±1%, ±5%	±100	CSMF2010-WK-R015□T
2010	16	0.75W (3/4W)	6.85	√P*R	±1%, ±5%	±100	CSMF2010-WK-R016□T
2010	18	0.75W (3/4W)	6.45	√P*R	±1%, ±5%	±100	CSMF2010-WK-R018□T
2010	20	0.75W (3/4W)	6.12	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R020□T
2010	22	0.75W (3/4W)	5.84	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R022□T
2010	24	0.75W (3/4W)	5.59	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R024□T
2010	27	0.75W (3/4W)	5.27	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R027□T
2010	30	0.75W (3/4W)	5.00	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R030□T
2010	33	0.75W (3/4W)	4.77	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R033□T
2010	36	0.75W (3/4W)	4.56	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R036□T
2010	39	0.75W (3/4W)	4.39	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R039□T
2010	43	0.75W (3/4W)	4.18	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R043□T
2010	47	0.75W (3/4W)	3.99	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R047□T
2010	51	0.75W (3/4W)	3.83	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R051□T
2010	56	0.75W (3/4W)	3.66	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R056□T
2010	62	0.75W (3/4W)	3.48	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R062□T
2010	68	0.75W (3/4W)	3.32	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R068□T
2010	75	0.75W (3/4W)	3.16	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R075□T
2010	82	0.75W (3/4W)	3.02	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R082□T
2010	91	0.75W (3/4W)	2.87	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R091□T
2010	100	0.75W (3/4W)	2.74	√P*R	±1%, ±5%	±50, ±100	CSMF2010-W∠-R100□T

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2512	10	1W	10.00	√P*R	±1%, ±5%	±100	CSMF2512-XK-R010□T
2512	11	1W	9.53	√P*R	±1%, ±5%	±100	CSMF2512-XK-R011□T
2512	12	1W	9.13	√P*R	±1%, ±5%	±100	CSMF2512-XK-R012□T
2512	13	1W	8.77	√P*R	±1%, ±5%	±100	CSMF2512-XK-R013□T
2512	15	1W	8.16	√P*R	±1%, ±5%	±100	CSMF2512-XK-R015□T
2512	16	1W	7.91	√P*R	±1%, ±5%	±100	CSMF2512-XK-R016□T
2512	18	1W	7.45	√P*R	±1%, ±5%	±100	CSMF2512-XK-R018□T
2512	20	1W	7.07	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R020□T
2512	22	1W	6.74	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R022□T
2512	24	1W	6.45	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R024□T
2512	27	1W	6.09	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R027□T
2512	30	1W	5.77	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R030□T
2512	33	1W	5.50	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R033□T
2512	36	1W	5.27	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R036□T
2512	39	1W	5.06	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R039□T
2512	43	1W	4.82	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R043□T
2512	47	1W	4.61	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R047□T
2512	51	1W	4.43	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R051□T
2512	56	1W	4.23	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R056□T
2512	62	1W	4.02	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R062□T
2512	68	1W	3.83	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R068□T
2512	75	1W	3.65	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R075□T
2512	82	1W	3.49	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R082□T
2512	91	1W	3.31	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R091□T
2512	100	1W	3.16	√P*R	±1%, ±5%	±50, ±100	CSMF2512-X∠-R100□T

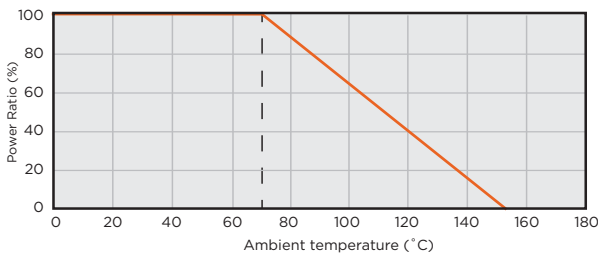
### PART NUMBER & MARKING CODE



Note: 0603 size will have a 3 digit marking. (e.g. R01 = 10mΩ)

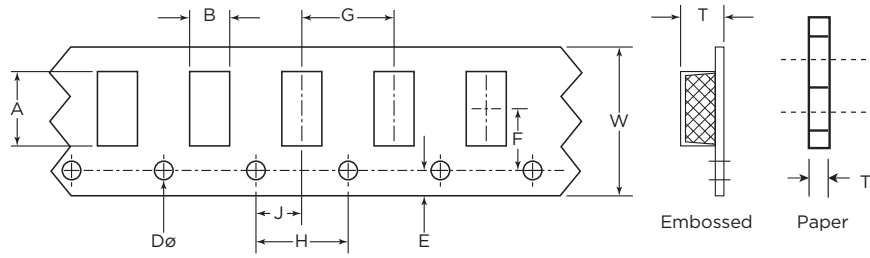
RESISTANCE	P/N (marking code)	RESISTANCE	P/N (marking code)	RESISTANCE	P/N (marking code)	RESISTANCE	P/N (marking code)
10 mΩ	R010	20 mΩ	R020	39 mΩ	R039	75 mΩ	R075
11 mΩ	R011	22 mΩ	R022	43 mΩ	R043	82 mΩ	R082
12 mΩ	R012	24 mΩ	R024	47 mΩ	R047	91 mΩ	R091
13 mΩ	R013	27 mΩ	R027	51 mΩ	R051	100 mΩ	R0100
15 mΩ	R015	30 mΩ	R030	56 mΩ	R056		
16 mΩ	R016	33 mΩ	R033	62 mΩ	R062		
18 mΩ	R018	36 mΩ	R036	68 mΩ	R068		

### DERATING CURVE



### TAPE & REEL SPECIFICATIONS

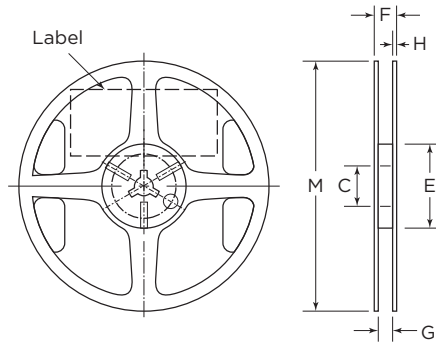
#### TAPE



Unit: mm

TAPE	SIZE	B	A	W	E	F	H	G	J	DØ	T
Paper	0603	1.10±0.10	1.90±0.10	8.0±0.20	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1, -0	0.70±0.10
	0805	1.60±0.10	2.40±0.20	8.0±0.20	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1, -0	0.85±0.10
	1206	1.90±0.10	3.50±0.20	8.0±0.20	1.75±0.10	3.50±0.05	4.00±0.10	4.00±0.05	2.00±0.05	1.50+0.1, -0	0.85±0.10
Embossed	2010	2.80±0.10	5.50±0.10	12.0±0.30	1.75±0.10	5.5±0.05	4.00±0.05	4.00±0.10	2.00±0.05	1.50+0.1, -0	1.00±0.20
	2512	3.50±0.10	6.70±0.10	12.0±0.30	1.75±0.10	5.5±0.05	4.00±0.05	4.00±0.10	2.00±0.05	1.50+0.1, -0	1.00±0.20

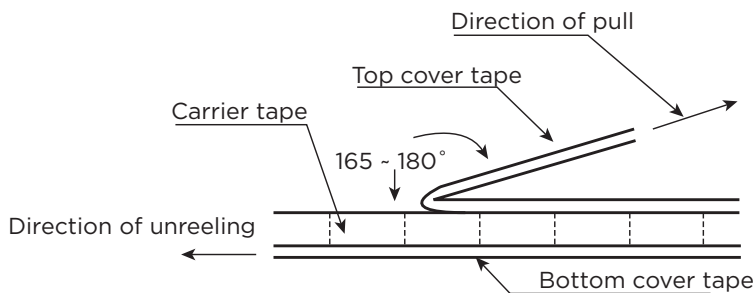
#### REEL



Unit: mm

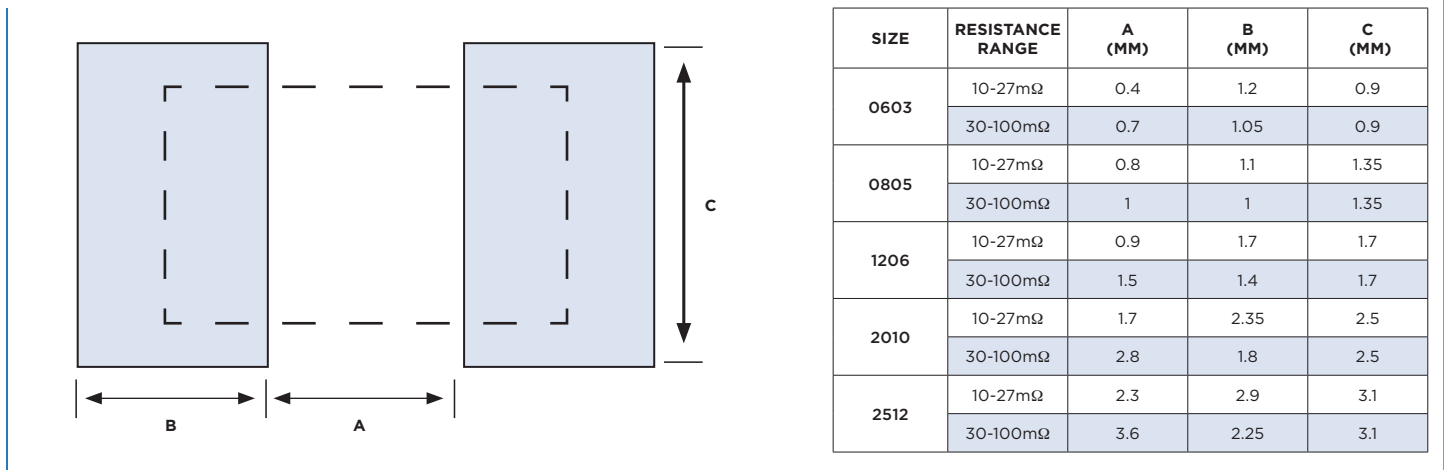
SIZE	M	E	C	H	G	F	QUANTITY PER REEL
0603	178.0±1.0	60.0±1.0	13.5±0.7	1.5 ± .3	9.5±0.1	11.5±1.0	5,000
0805	178.0±1.0	60.0±1.0	13.5±0.7	1.5 ± .3	9.5±0.1	11.5±1.0	5,000
1206	178.0±1.0	60.0±1.0	13.5±0.7	1.5 ± .3	9.5±0.1	11.5±1.0	5,000
2010	178.0±1.0	60.0±1.0	13.5±0.7	1.5 ± .3	13.5±1.0	15.5±1.0	4,000
2512	178.0±1.0	60.0±1.0	13.5±0.7	1.5 ± .3	13.5±1.0	15.5±1.0	4,000

### PEEL BACK FORCE AND DIRECTION DIAGRAM



Peel back force and direction of peel back angle should follow EIA481-1-A. Peel back force should be between 0.1N - 1.3N and peel back angle of 165° - 180°.

### RECOMMENDED LAND PATTERN



### ENVIRONMENTAL CHARACTERISTICS

TEST	REQUIREMENT	TEST METHOD
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	<b>IEC 60115-1 4.8</b> +20/-55/+20/+125/+20°C
Short Time Overload	No mechanical damage $\Delta R_{\pm 1\%}$	<b>IEC 60115-1 4.13</b> 1/2W&3/4W&1W: 5x rated power for 5s; 2W: 4x rated power for 5s
Endurance		<b>IEC 60115-1 4.25.1</b> 70±2°C, 1000 hrs, rated current or limiting element current whichever is lower for 1.5 hrs "ON" and 0.5 hr "OFF"
Endurance at upper Category Temperature		<b>IEC 60115-1 4.25.3</b> at 170±2°C for 1000 hrs
Damp Heat Steady State		<b>IEC 60115-1 4.24</b> 40±2°C, 93±3% RH, 1000 hrs, rated current or limiting element current whichever is lower for 1.5 hrs "ON" and 0.5 hr "OFF"
Rapid Change of Temperature		<b>IEC 60115-1 4.19</b> -55°C (30min) → normal temperature(5min) → 155°C (30min), 100 cycles
Solderability		95% min. coverage
Resistance to Soldering Heat	No mechanical damage $\Delta R_{\pm 1\%}$	<b>IEC 60115-1 4.18</b> 270±5°C for 10±1 seconds
Substrate Bending Test		<b>IEC 60115-1 4.33</b> 0603 & 0805: 5mm;1206: 4mm; 2010 & 2512: 2mm Duration: 60±5 seconds
Insulation Resistance	>1000MΩ	<b>IEC 60115-1 4.6</b> Apply DC 100V±15V between substrate and terminations for 1min, then check insulation resistance
Voltage Proof	No breakdown or flashover	<b>IEC 60115-1 4.7</b> Apply max. overload voltage of AC RMS at a rate of approximately 100V/s between substrate and terminations for 60±5 seconds
Component Solvent Resistance	No mechanical damage $\Delta R_{\pm 1\%}$	<b>IEC 60115-1 4.29</b> Iso-propyl alcohol (IPA), 23±5°C, 10hrs