

# CHIP RESISTOR

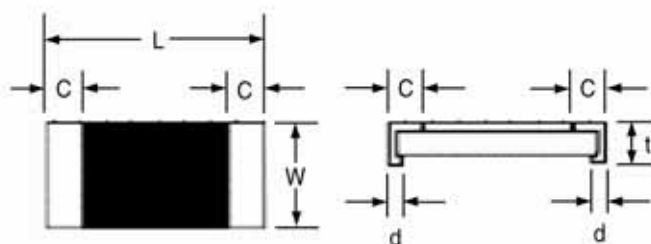
## RC TYPE

### INTRODUCTION

CHIP resistors consist of a deposited resistive paste on ceramic body and two wrapping end of the resistor to wave soldering.

### FEATURE

- The resistive layer is covered with a protective coating to assure mechanical and environmental integrity.
- Excellent mechanical strength and electrical stability due to special electrode construction.
- Free from troubles at placement due to accurate and uniformed physical dimensions.
- Low TCR available: 50ppm, 25ppm, 15ppm, 10ppm.



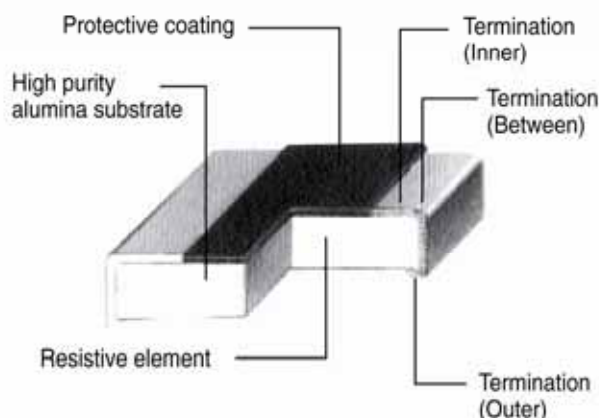
### DIMENSIONS

TYPE	L	W	t	c	d
RC0201	0.60±0.10	0.30±0.05	0.25±0.05	0.15±0.10	0.15±0.10
RC0402	1.00±0.10	0.50±0.05	0.30±0.10	0.20±0.10	0.20±0.10
RC0603	1.60±0.10	0.80±0.10	0.40±0.10	0.30±0.20	0.30±0.15
RC0805	2.00±0.10	1.25±0.10	0.50±0.15	0.35±0.20	0.35±0.15
RC1206	3.20±0.20	1.60±0.10	0.55±0.15	0.45±0.20	0.45±0.25
RC1210	3.20±0.20	2.50±0.15	0.55±0.15	0.50±0.25	0.50±0.25
RC1812	4.50±0.10	3.00±0.15	0.55±0.15	0.55±0.25	0.80±0.25
RC2010	5.00±0.10	2.50±0.15	0.55±0.15	0.60±0.25	0.60±0.25
RC1218	3.10±0.10	4.60±0.15	0.55±0.15	0.45±0.15	0.40±0.15
RC2512	6.30±0.20	3.20±0.20	0.55±0.15	0.60±0.25	0.60±0.25
RC2030	5.20±0.20	7.60±0.20	0.76±0.15	0.80±0.25	0.80±0.25

### RATINGS

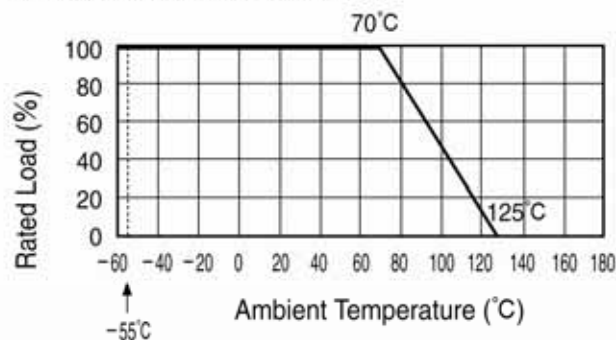
TYPE	RC0201	RC0402	RC0603	RC0805	RC1206	RC1210	RC1812	RC2010	RC1218	RC2512	RC2030
POWER	1/20W	1/16W	1/10W	1/8W	1/4W	1/3W	1/2W	3/4W	1W	1W	2W
Maximum Working Voltage	25V	50V	50V	150V	200V	200V	200V	200V	200V	200V	200V
Maximum Overload Voltage	50V	100V	100V	300V	400V	400V	400V	400V	400V	400V	400V
Dielectric Withstand Voltage	50V	100V	100V	300V	500V	500V	500V	500V	500V	500V	500V
Operating Temp. Range	-55°C ~ +125°C										
Resistance Range	±5%			±1%			±0.5%			±0.1%	
	1Ω~10MΩ			10Ω~1MΩ			100Ω~100KΩ			100Ω~100KΩ	

### CONSTRUCTION AND MATERIALS



### POWER DERATING CURVE

For resistors operated in ambient temperatures above 70°C, power rating must be derated in accordance with the curve below.

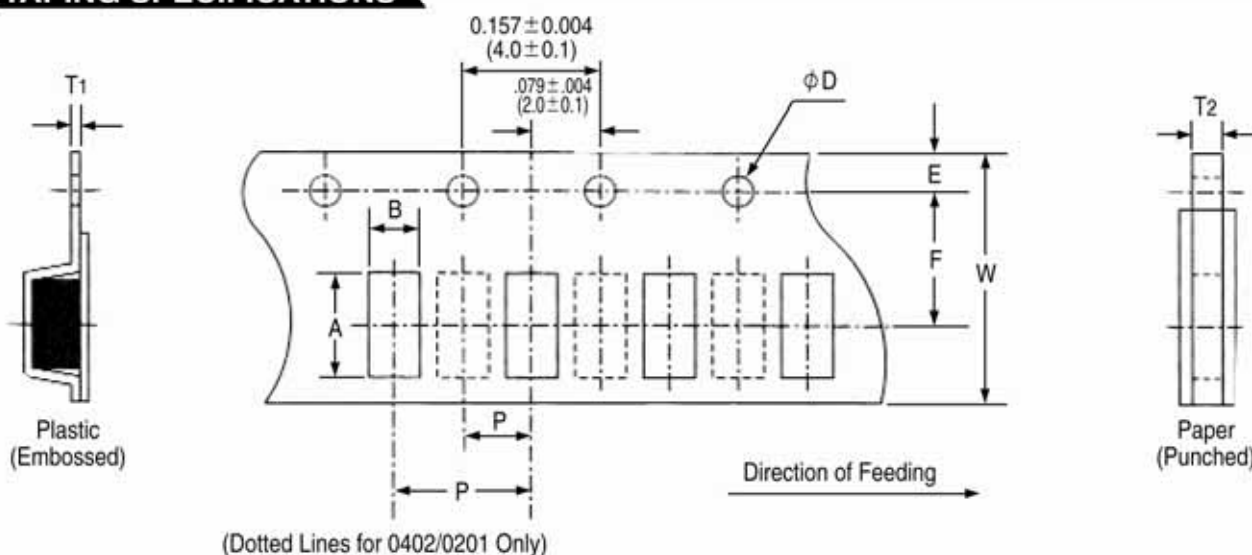


Unit: mm

## CHARACTERISTICS

TEST	LIMITS		TEST METHOD	
	1% TOL	5% TOL	JIS C 5202	EIAJ 2690
Temp. Coefficient (ppm/°C)	±100ppm/°C	±200ppm/°C	5.2	—
Terminal Strength	±(1%+0.05Ω)		—	6.5
	over 1Kg/mm <sup>2</sup>		—	—
Resistance To Soldering Heat	±(1%+0.05Ω)		6.4 270°C/10 sec.	—
Short Time Overload	±(1%+0.05Ω)		5.5A	—
Intermittent Overload	±(2%+0.05Ω)		5.8	—
Temperature Cycling	±(2%+0.2Ω)		—	6.8
Load Life	±(3%+0.1Ω)		7.10 1,000Hrs	—
Moisture Resistance	±(2%+0.05Ω)		7.9 1,000Hrs	—
Electrode Solderability	>95% coverage		6.5 245°C/5sec.	—
Insulation Resistance	1,000M Ω Min.		—	—
Dielectric Withstanding Voltage	500V./minute		—	—
Vibration	±1%		—	—

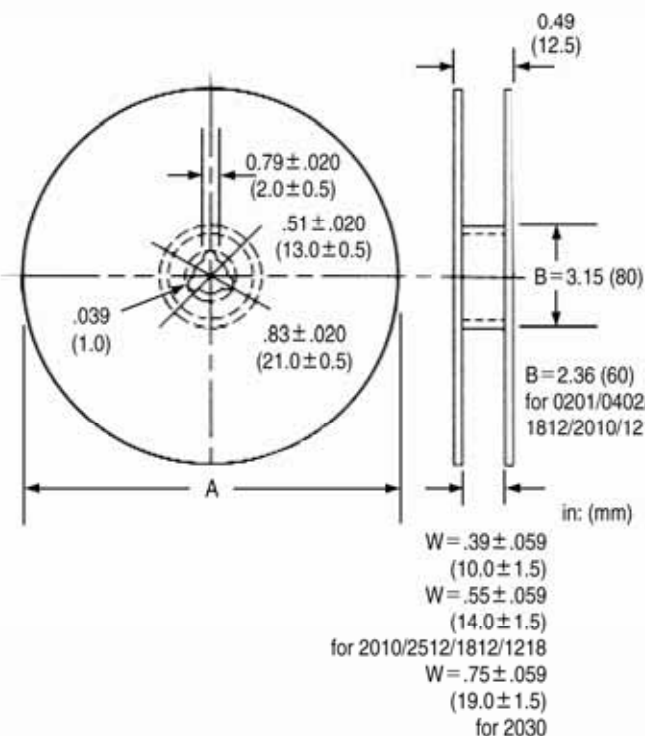
## TAPING SPECIFICATIONS



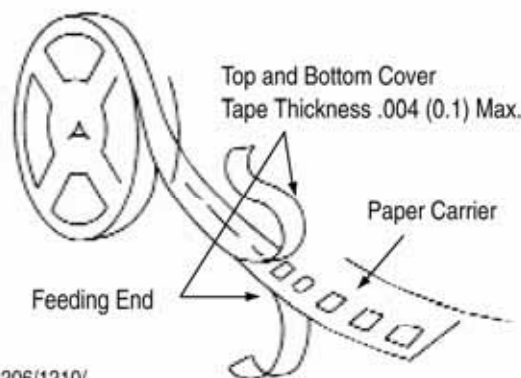
Unit: in (mm)

TYPE	A	B	W	E	F	T <sub>1</sub>	T <sub>2</sub>	P	D
RC0201	.029 ± .004 (0.75 ± .1)	.017 ± .004 (0.45 ± .1)	.315 ± .008 (8.0 ± .2)	.069 ± .004 (1.75 ± .1)	.138 ± .002 (3.5 ± 0.5)		.018 ± .004 (.45 ± .1)	.078 ± .004 (2.0 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)
RC0402	.045 ± .004 (1.15 ± .1)	.025 ± .004 (0.65 ± .1)	.315 ± .008 (8.0 ± .2)	.069 ± .004 (1.75 ± .1)	.13 ± .002 (3.5 ± 0.5)		.018 ± .004 (.45 ± .1)	.078 ± .004 (2.0 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)
RC0603	.075 ± .004 (1.9 ± .1)	.043 ± .004 (1.1 ± .1)	.315 ± .008 (8.0 ± .2)	.069 ± .004 (1.75 ± .1)	.138 ± .002 (3.5 ± 0.5)		.024 ± .004 (.60 ± .1)	.157 ± .004 (4.0 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)
RC0805	.094 ± .004 (2.4 ± .1)	.065 ± .004 (1.65 ± .1)	.315 ± .008 (8.0 ± .2)	.069 ± .004 (1.75 ± .1)	.138 ± .002 (3.5 ± 0.5)	.01 ± .002 (.25 ± 0.5)	.030 ± .004 (.75 ± .1)	.157 ± .004 (4.0 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)
RC1206	.138 ± .004 (3.5 ± .1)	.075 ± .004 (1.9 ± .1)	.315 ± .008 (8.0 ± .2)	.069 ± .004 (1.75 ± .1)	.138 ± .002 (3.5 ± 0.5)	.01 ± .002 (.25 ± 0.5)	.030 ± .004 (.75 ± .1)	.157 ± .004 (4.0 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)
RC1210	.138 ± .004 (3.5 ± .1)	.11 ± .004 (2.8 ± .1)	.315 ± .004 (8.0 ± .1)	.069 ± .004 (1.75 ± .1)	.138 ± .002 (3.5 ± 0.5)	.008 ± .002 (.2 ± 0.5)	.030 ± .004 (.75 ± .1)	.157 ± .004 (4.0 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)
RC2010	.216 ± .008 (5.4 ± .2)	.116 ± .008 (2.9 ± .2)	.472 ± .004 (12.0 ± .1)	.069 ± .004 (1.75 ± .1)	.217 ± .002 (5.5 ± 0.5)	.008 ± .002 (.2 ± 0.5)		.157 ± .004 (4.0 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)
RC2512	.276 ± .008 (6.9 ± .2)	.144 ± .008 (3.6 ± .2)	.472 ± .004 (12.0 ± .1)	.069 ± .004 (1.75 ± .1)	.217 ± .002 (5.5 ± 0.5)	.008 ± .002 (.2 ± 0.5)		.157 ± .004 (4.0 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)
RC1812 RC1218	.184 ± .008 (4.6 ± .2)	.140 ± .008 (3.3 ± .2)	.472 ± .004 (12.0 ± .1)	.069 ± .004 (1.75 ± .1)	.217 ± .002 (5.5 ± 0.5)	.008 ± .002 (.2 ± 0.5)		.157 ± .004 (4.0 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)
RC2030	.220 ± .008 (5.5 ± .2)	.316 ± .008 (7.9 ± .2)	.472 ± .004 (12.0 ± .1)	.069 ± .004 (1.75 ± .1)	.217 ± .002 (5.5 ± 0.5)	.008 ± .002 (.2 ± 0.5)		.472 ± .004 (12 ± .1)	.059 ± .004/-0 (1.5 ± .1/-0)

**REEL DIMENSIONS**

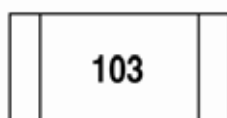


**PAPER CARRIER**

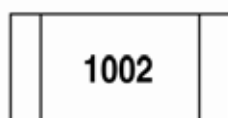


A (Max.)	REEL QUANTITY			
	0201/0402	0603/0805 /1206/1210	1812/1218/ 2010/2512	2030
180 ± 2.0mm	10,000PCS	5,000PCS	4,000PCS	1,000PCS
254 ± 2.0mm	-	10,000PCS	-	-
278 ± 2.0mm	-	-	-	-
330 ± 2.0mm	-	20,000PCS	-	-

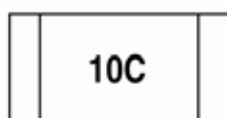
**0603 MARKING**



5% marking  
Value = 10KΩ  
0603 ± 1% (E-24)



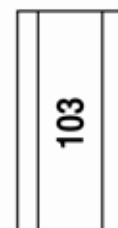
1% marking  
Value = 10KΩ



1% marking  
Value = 12.4KΩ  
0603 ± 1% (E-96)



no marking  
0402/0201



1218/2030

**E-96 MARKING FOR 0603 1%**

Code Value	Code Value	Code Value	Code Value	Code Value	Code Value	Code Value	Code Value
01 100	13 133	25 178	37 237	49 316	61 422	73 562	85 750
02 102	14 137	26 182	38 243	50 324	62 432	74 576	86 768
03 105	15 140	27 187	39 249	51 332	63 442	75 590	87 787
04 107	16 143	28 191	40 255	52 340	64 453	76 604	88 806
05 110	17 147	29 196	41 261	53 348	65 464	77 619	89 825
06 113	18 150	30 200	42 267	54 357	66 475	78 634	90 845
07 115	19 154	31 205	43 274	55 365	67 487	79 649	91 866
08 118	20 158	32 210	44 280	56 374	68 499	80 665	92 887
09 121	21 162	33 215	45 287	57 383	69 511	81 681	93 909
10 124	22 165	34 221	46 294	58 392	70 523	82 698	94 931
11 127	23 169	35 226	47 301	59 402	71 536	83 715	95 953
12 130	24 174	36 232	48 309	60 412	72 549	84 732	96 976

\* This table shows the first two digits for the three-digit EIA-96 part marking scheme

\* The third character is a letter multiplier: Y = 0<sup>-2</sup> X = 10<sup>-1</sup> A = 10<sup>0</sup> B = 10<sup>1</sup> C = 10<sup>2</sup> D = 10<sup>3</sup> E = 10<sup>4</sup> F = 10<sup>5</sup>

\* 0402/0201 no marking.