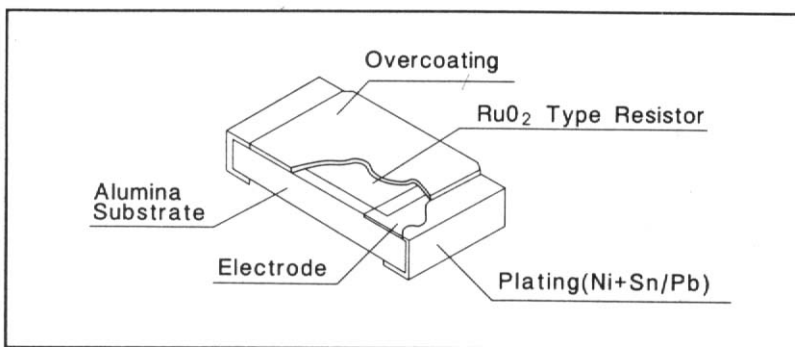
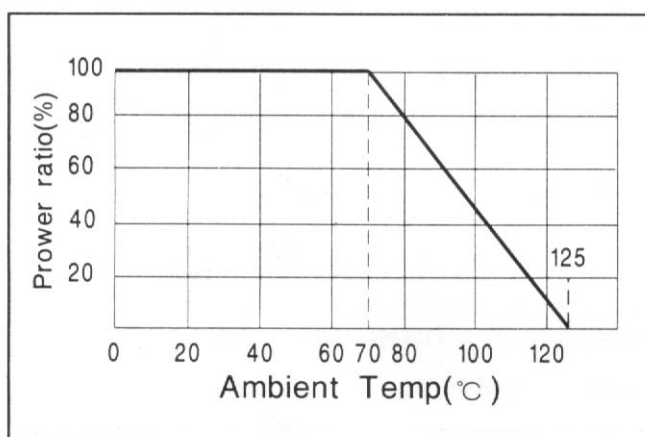


## THICK FILM CHIP RESISTORS

### Construction



### Derating Curve



#### ● Standard Resistance Values

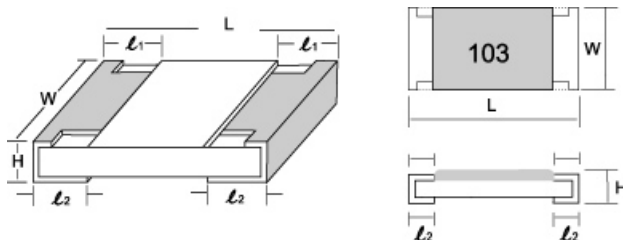
For 2%,5%(E-24)

10	11	12	13	15
16	18	20	22	24
27	30	33	36	39
43	47	51	56	62
68	75	82	91	

For 1 % (E-96)

100	102	105	107	110	113	115	118	121	124	127	130
133	137	140	143	147	150	154	158	162	165	169	174
178	182	187	191	196	200	205	210	215	221	226	232
237	243	249	255	261	267	274	280	287	294	301	309
316	324	332	340	348	357	365	374	383	392	402	412
422	432	442	453	464	475	487	499	511	523	536	549
562	576	590	604	619	634	649	665	681	698	715	732
750	768	787	806	825	845	866	887	909	931	953	976

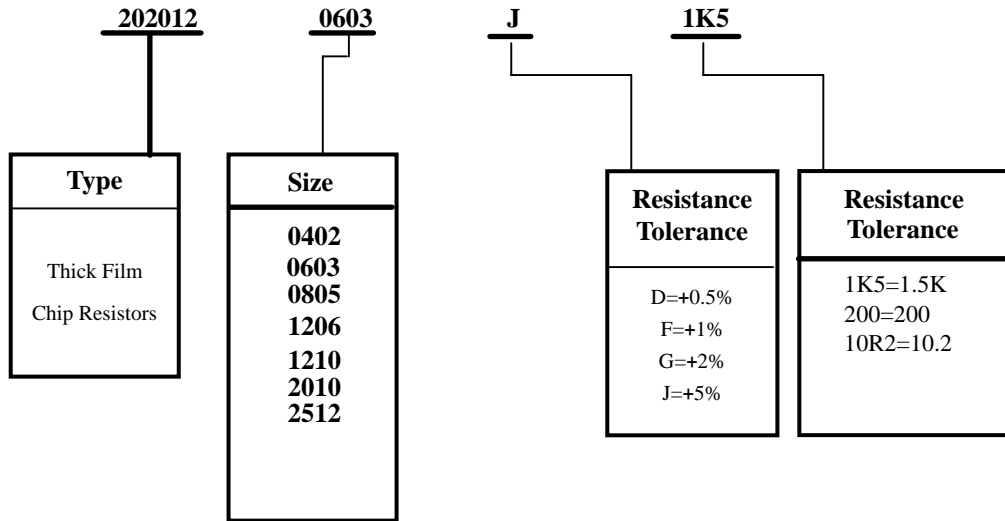
#### ● Dimensions



Unit:mm

TYPE	L	W	H	l <sub>1</sub>	l <sub>2</sub>
0402	1.00 ±0.10	0.50 ±0.05	0.30 ±0.05	0.20 ±0.10	0.20 ±0.10
0603	1.60 ±0.20	0.80 ±0.15	0.40 ±0.10	0.30 ±0.20	0.30 ±0.15
0805	2.00 ±0.20	1.25 ±0.15	0.50 ±0.15	0.35 ±0.15	0.35 ±0.15
1206	3.20 ±0.20	1.60 ±0.20	0.60 ±0.15	0.45 ±0.20	0.45 ±0.20
1210	3.20 ±0.20	2.50 ±0.20	0.55 ±0.15	0.50 ±0.20	0.50 ±0.20
2010	5.00 ±0.20	2.50 ±0.20	0.55 ±0.10	0.60 ±0.20	0.60 ±0.20
2512	6.30 ±0.20	3.20 ±0.20	0.55 ±0.10	0.60 ±0.20	0.60 ±0.20

● **Explanation of Part Numbers**

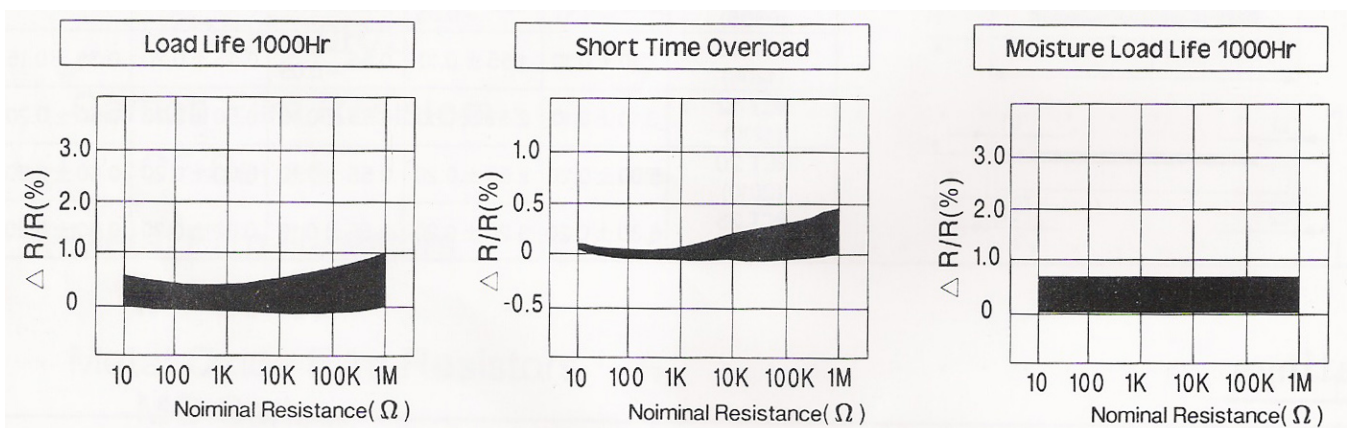


● **Characteristic**

Item	1%	2%、5%	Test Method
Temperature Cycling	$\pm(0.5\%+0.05)$	$\pm(1.0\%+0.05)$	JIS-C5202-7.4 Cycle between -55 and +125 for 5 cycles
Low Temperature Operating	$\pm(0.5\%+0.05)$	$\pm(1.0\%+0.05)$	By Millennium Followed by 45 Minutes of RCWV
Short Time Overload	$\pm(1.0\%+0.05)$	$\pm(2.0\%+0.10)$	JIS-C5202-5.5 Apply rated voltage 2.5 times for 5 seconds
Resistance to soldering Heat	$\pm(0.5\%+0.05)$	$\pm(1.0\%+0.05)$	JIS-C5202-6.10 Immerse for 10 sec. In solder at $260\pm 5$
Loading Life in Moisture	$\pm(0.5\%+0.05)$	$\pm(2.0\%+0.05)$	JIS-C5202-7.9 40 , 1000Hrs at RCWV, 1.5Hr ON,0.5Hr OFF
Resistance to dry heat	$\pm(1.0\%+0.05)$	$\pm(2.0\%+0.10)$	JIS-C5202-7.2 96Hrs at 125
Load Life	$\pm(1.0\%+0.05)$	$\pm(3.0\%+0.10)$	JIS-C5202-7.10 70 , 1000Hrs at RCWV, 1.5Hr ON,0.5Hr OFF
Solderability	Coverage 95%	Coverage 95%	JIS-C5202-6.11 Immerse for 3 sec. in solder at $215\pm 3$
Bending Strength	$\pm(1.0\%+0.05)$	$\pm(1.0\%+0.05)$	JIS-C5202-6.1.4 5mm deflection in either direction for 10 seconds
Intermittent Overload	$\pm(5.0\%+0.10)$	$\pm(5.0\%+0.10)$	JIS-C5202-5.8 Apply rated voltage 4 times, 1sec ON,25sec OFF,10000 cycles

RCWV=Rated Continuous Working Voltage

● **Characteristic data**



● Ratings

TYPE	Rated Power at 70°C	Max Working Voltage	Max Overload Voltage	T.C.R (PPM/°C)	Resistance Range				Jumper Rated Current	Jumper Resistance Value	Operating Temperature Range
					B(±0.1%) D(±0.5%)	F(±1%) below	G(±2%)	J(±5%) K(±10%)			
0402	0.0625W	50V	100V	+500~-200		1Ω~9.9Ω	1Ω~9.9Ω	1Ω~9.9Ω	1A	50mΩ Max	-55°C ? +125°C
				+300~-300		10Ω~990Ω	10Ω~990Ω	10Ω~990Ω			
				+200~-200	10Ω~1MΩ	1KΩ~1MΩ	1KΩ~1MΩ	1KΩ~1MΩ			
0603	0.1W	50V	100V	+400~-400		1Ω~9.9Ω	1Ω~9.9Ω	1Ω~9.9Ω	1A	50mΩ Max	
				+200~-200		10Ω~1MΩ	10Ω~10MΩ				
				+100~-100	10Ω~1MΩ	10Ω~1MΩ					
0805	0.125W	150V	300V	+400~-400		1Ω~9.9Ω	1Ω~9.9Ω	1Ω~9.9Ω	1A	50mΩ Max	
				+200~-200		10Ω~1MΩ	10Ω~10MΩ				
				+100~-100	10Ω~1MΩ	10Ω~1MΩ					
1206	0.25W	200V	400V	+400~-400		1Ω~9.9Ω	1Ω~9.9Ω	1Ω~9.9Ω	2A	50mΩ Max	
				+200~-200		10Ω~1MΩ	10Ω~10MΩ				
				+100~-100	10Ω~1MΩ	10Ω~1MΩ					
1210	0.333W	200V	400V	+400~-400		1Ω~9.9Ω	1Ω~9.9Ω	1Ω~9.9Ω	2A	50mΩ Max	
				+200~-200		10Ω~1MΩ	10Ω~10MΩ				
				+100~-100	10Ω~1MΩ	10Ω~1MΩ					
2010	0.5W	200V	400V	+400~-400		1Ω~9.9Ω	1Ω~9.9Ω	1Ω~9.9Ω	2A	50mΩ Max	
				+200~-200		10Ω~1MΩ	10Ω~10MΩ				
				+100~-100	10Ω~1MΩ	10Ω~1MΩ					
2512	1W	200V	400V	+400~-400		1Ω~9.9Ω	1Ω~9.9Ω	1Ω~9.9Ω	2A	50mΩ Max	
				+200~-200		10Ω~1MΩ	10Ω~10MΩ				
				+100~-100	10Ω~1MΩ	10Ω~1MΩ					

- Marking



FOR E-24&E-96

2%,5% 3 digit indication

1st 2 significant

3rd multiplier( $10^x$ )

EX.  $56 \times 10^3 = 56000 = 56K$

1% 4 digit indication

1st 3 significant

4th multiplier( $10^x$ )

EX.  $392 \times 10^2 = 39200 = 39.2K$

FOR RCT03 1%(E-96)

3 digit indication

1st 2 significant for E-96 Part marking scheme

3rd multiplier:

$Y=10^{-2}$   $X=10^{-1}$   $A=10^0$   $B=10^1$

$C=10^2$   $D=10^3$   $E=10^4$   $F=10^5$