



Thick Film Chip Resistors

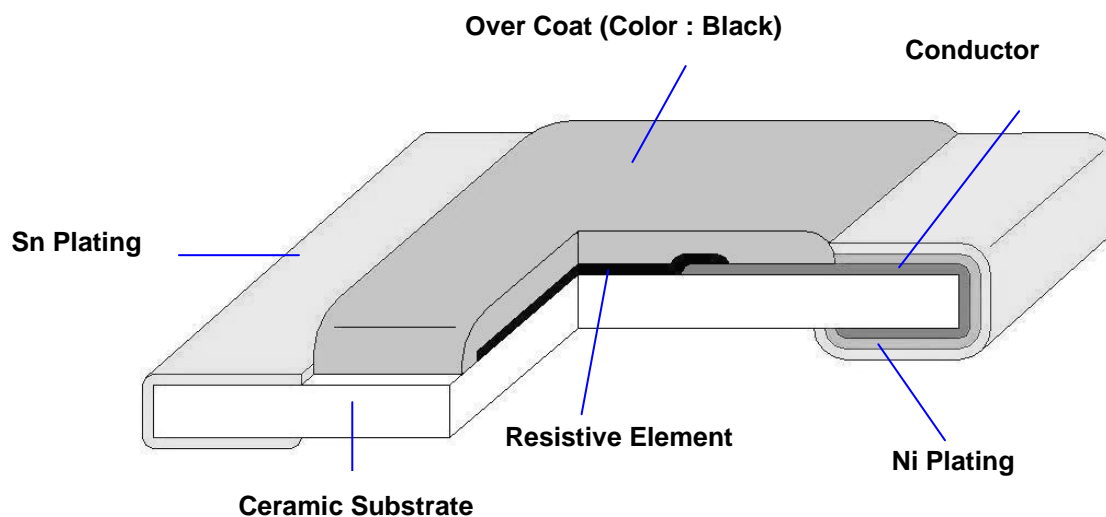
(Lead-Free for RM series standard)

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1. Scope :

This specification applies for the RM series of thick film chip resistors made by TA-I.

2. Construction:



3. Type Designation:

RM 10 J TN 103
 Product Code Size Tolerance Packaging Nominal Resistance
 RM : Chip Resistor Power Rating

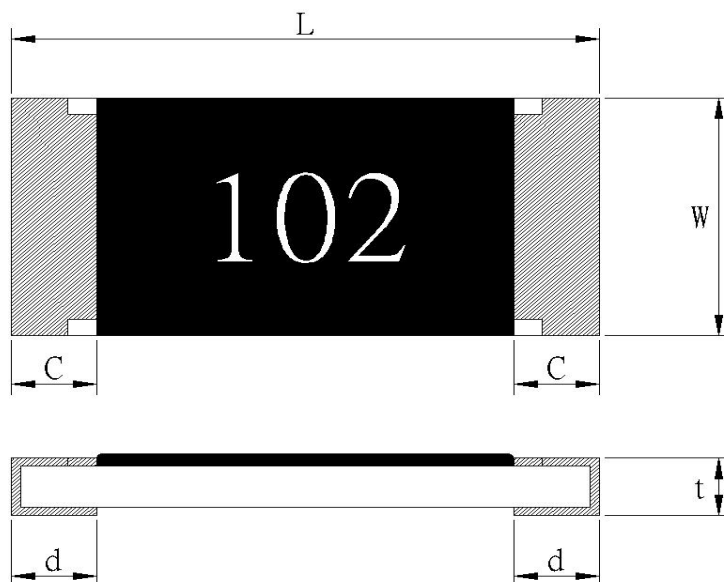
Product Code	Size / Power Rating	Tolerance	Packaging	Nominal Resistance
02-0201(0603)	1/20W	J-±5%	T-Paper Tape	3 digits, e.g.,:
04-0402(1005)	1/16W	G-±2%	E-Embossed Tape	(E-24) 103 = 10kΩ
06-0603(1608)	1/10W	F-±1%	B-Bulk Cassette	0 = 0Ω
10-0805(2012)	1/8W	D-±0.5%	+N: Lead-Free	4 digits, e.g., :
12-1206(3216)	1/4W	B-±0.1%	Special	(E-96) 1540 = 154Ω
13-1210(3226)	1/3W		L : 06 – 2mm pitch	43R2 = 43.2Ω
20-2010(5025)	1/2W		paper Tape	
25-2512(6432)	1 W			



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4. Dimensions :



UNIT: mm

Type	L	W	C	d	t
RM02	0.60±0.03	0.30±0.03	0.1±0.05	0.15±0.05	0.25±0.05
RM04	1.00 ^{+0.1} _{-0.05}	0.50±0.05	0.20±0.10	0.25±0.10	0.35±0.05
RM06	1.60±0.10	0.80±0.10	0.30±0.20	0.30 ^{+0.2} _{-0.1}	0.45±0.10
RM10	2.00±0.10	1.25±0.10	0.40±0.20	0.40±0.20	0.50±0.10
RM12	3.10±0.10	1.55±0.10	0.50±0.30	0.40±0.20	0.60±0.10
RM13	3.10±0.10	2.55±0.10	0.50±0.30	0.40±0.20	0.60±0.10
RM20	5.00±0.15	2.50±0.15	0.60±0.30	0.50±0.25	0.60±0.10
RM25	6.30±0.20	3.20±0.20	0.60±0.30	0.50±0.25	0.60±0.10



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5. Ratings & Characteristics :

Type	Power Rating at 70°C	Rating Voltage	Max. Working Voltage	Max. Over-Load Voltage	T.C.R (PPM/°C)	Resistance Range(Ω)				
						B(±0.1%) E-96&E-24	D(±0.5%) E-96&E-24	F(±1%) E-96&E-24	G(±2%) E-24	J(±5%) E-24
RM02	1/20W	Refer 5.2	25V	50V	±200		100Ω -10kΩ	10Ω -1MΩ	10Ω -1MΩ	10Ω -10MΩ
					+600 -200			1-9.1Ω		1-9.1Ω
RM04	1/16W	Refer 5.2	50V	100V	±100	100Ω ~200kΩ	100Ω ~1MΩ	100Ω ~1MΩ		
					±200	10Ω ≤ R < 100Ω	10Ω ≤ R < 100Ω	10Ω ≤ R < 100Ω 1MΩ < R ≤ 10MΩ	10Ω-10MΩ	10Ω-10MΩ
					+500 -200			1Ω-9.1Ω	1Ω-9.1Ω	1Ω-9.1Ω
					±400				10MΩ ≤ R ≤ 20MΩ	10MΩ ≤ R ≤ 20MΩ
RM06	1/10W	Refer 5.2	50V	100V	±100	10Ω-560kΩ	10Ω-1MΩ	10Ω-1MΩ		
					±200			1M < R ≤ 10MΩ	10Ω-10MΩ	10Ω-10MΩ
					±400		10MΩ ≤ R ≤ 20MΩ	1Ω-9.1Ω	1Ω-9.1Ω	1Ω-9.1Ω 10MΩ < R ≤ 20MΩ
RM10	1/8W	Refer 5.2	150V	300V	±100	10Ω-560kΩ	10Ω-1MΩ	10Ω-1MΩ		
					±200			1M < R ≤ 10MΩ	10Ω-10MΩ	10Ω-10MΩ
					±400			1Ω-9.1Ω	1Ω-9.1Ω	1Ω-9.1Ω 10MΩ < R ≤ 20MΩ
RM12	1/4W	Refer 5.2	200V	400V	±100	10Ω-560kΩ	10Ω-1MΩ	10Ω-1MΩ		
					±200			1M < R ≤ 10MΩ	10Ω-10MΩ	10Ω-10MΩ
					±400			1Ω-9.1Ω	1Ω-9.1Ω	1Ω-9.1Ω 10MΩ < R ≤ 20MΩ
RM13	1/3W	Refer 5.2	200V	400V	±100	10Ω-560kΩ	10Ω-1MΩ	10Ω-1MΩ		
					±200			1M < R ≤ 10MΩ	10Ω-10MΩ	10Ω-10MΩ
					±400			1Ω-9.1Ω	1Ω-9.1Ω	1Ω-9.1Ω 10MΩ < R ≤ 20MΩ
RM20	1/2W	Refer 5.2	200V	400V	±100	10Ω-560kΩ	10Ω-1MΩ	10Ω-1MΩ		
					±200			1M < R ≤ 10MΩ	10Ω-10MΩ	10Ω-10MΩ
					±400			1Ω-9.1Ω	1Ω-9.1Ω	1Ω-9.1Ω 10MΩ < R ≤ 20MΩ
RM25	1W	Refer 5.2	200V	400V	±100	10Ω-560kΩ	10Ω-1MΩ	10Ω-1MΩ		
					±200			1M < R ≤ 10MΩ	10Ω-10MΩ	10Ω-10MΩ
					±400			1Ω-9.1Ω	1Ω-9.1Ω	1Ω-9.1Ω 10MΩ < R ≤ 20MΩ

Ω THICK FILM CHIP RESISTORS

Type	Rated Current	Max Overload Current	Resistance Range
RM02	0.5A	1A	50mΩ MAX
RM04	1A	2.5A	50mΩ MAX
RM06	1A	2.5A	50mΩ MAX
RM10	2A	5A	50mΩ MAX
RM12	2A	5A	50mΩ MAX
RM13	2A	5A	50mΩ MAX
RM20	2A	5A	50mΩ MAX
RM25	2A	5A	50mΩ MAX

2. Operating Temp(°C) : -55°C ~ +155°C (RM02 -55°C ~ +125°C)

Note : Except for the above standardized products, we also provide the customized products.



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5.1 Derating Curve :

For resistors operated at ambient temperature over 70°C , power rating shall be derated in accordance with figure 1.

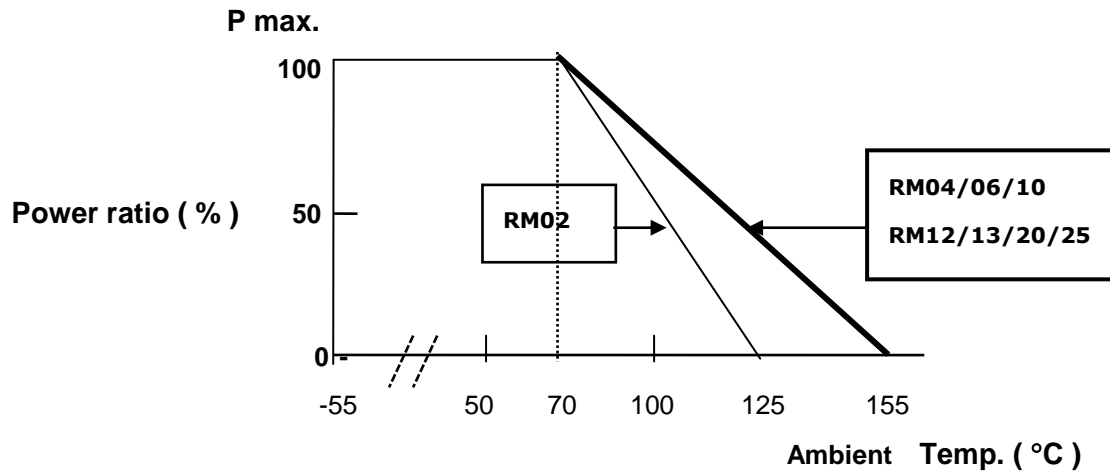


Figure 1

5.2 Rated Voltage:

The rated voltage is calculated by the following formula:

$$E = \sqrt{P * R}$$

E=Rated Voltage(V)
P=Rated Power(W)
R=Resistance Value(Ω)

E.G. : What is RM06JTN102 the rated voltage ?

RM06JTN102 P:1/10W ; R:102 = 1K Ω = 1000 Ω

$$E = \sqrt{0.1(W) * 1000(\Omega)} = 10 (V)$$



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6. Reliability Tests:

Test Items	Reference standard	Condition of Test	Test Limits ΔR
Temperature Coefficient of Resistance	IEC60115-1-4.8 JIS-C5201-4.8	-55~ +125 °C	Refer 5.0
Short Time Overload	IEC60115-1-4.13 JIS-C5201-4.13	2.5 X rated voltage for 5 sec	$\pm(1\% + 0.05\Omega)$ Remarks : 0201 : $\pm(3\% + 0.1\Omega)$ 0402 : $\pm(2\% + 0.1\Omega)$ 0Ω : 50mΩ or less
Intermittent Overload	IEC60115-1-4.39 JIS-C5201-4.39	3.0 X rated voltage or Max Overloading voltage ,1sec "ON" , 25sec "OFF" , 10000 cycles (Remarks : 0201-NA , 0402 2.5 X RCWV *)	$\pm(5.0\% + 0.1\Omega)$ 0Ω : 50mΩ or less
Endurance (Load Life)	IEC60115-1-4.25.1 JIS-C5201-4.25.1	1000 hours at rated voltage , 70°C , 1.5hours "ON" , 0.5hour "OFF"	0.1%,0.5%,1%: $\pm(1.0\%+0.05\Omega)$ 2%,5%: $\pm(3.0\%+0.1\Omega)$ Remarks : 0201 : $\pm(5.0\%+0.1\Omega)$ 0402 : $\pm(3.0\%+0.1\Omega)$ 0Ω : 100mΩ or less
Load Life with Humidity	IEC60115-1-4.24 JIS-C5201-4.24	1000 hours at rated voltage , 40±2°C , 90~95% RH 1.5hours "ON" , 0.5hour "OFF"	0.1%,0.5%,1%: $\pm(1.0\%+0.05\Omega)$ 2%, 5%: $\pm(3.0\%+0.1\Omega)$ Remarks : 0201: $\pm(5.0\%+0.1\Omega)$ 0402: $\pm(3.0\%+0.1\Omega)$ 0Ω : 100mΩ or less
Rapid Change of Temperature	IEC60115-1-4.19 JIS-C5201-4.19	-55°C (30 min.) / +155 °C (30 min.) 5 cycles	0.1%,0.5%,1%: $\pm(0.5\%+0.05\Omega)$ 2%, 5%: $\pm(1.0\%+0.05\Omega)$ Remarks : 0201: $\pm(3.0\%+0.1\Omega)$ 0Ω : 50mΩ or less
Solderability	IEC60115-1-4.17 JIS-C5201-4.17	245±5°C solder, 2±0.5 sec dwell. Solder : Sn96.5 / Ag3.0 / Cu0.5	At least 95% of surface area of electrode shall be covered with new solder.
Robustness of Termination (Bending)	IEC60115-1-4.33 JIS-C5201-4.33	3mm deflection	0.1%,0.5%,1%: $\pm(0.5\%+0.05\Omega)$ 2%,5%: $\pm(1.0\%+0.05\Omega)$ Remarks : 0201 $\pm(1.0\%+0.1\Omega)$ 0Ω : 50mΩ or less
Dielectric Withstanding Voltage (Voltage Proof)	IEC60115-1-4.7 JIS-C5201-4.7	Applying voltage : 0201 : 50V , 0402 & 0603 : 300V The other 500V for a minute .	No abnormalities such as flashover, burning dielectric breakdown shall appear.
Insulation Resistance	IEC60115-1-4.6 JIS-C5201-4.6	Applying voltage 100V for 1 minute. Remark : 0201 50V	$\geq 1G\Omega$
Resistance to Dry Heat	IEC60115-1-4.23.2 JIS-C5201-4.23.2	155±5°C for 96±4Hrs	0.1%,0.5%,1%: $\pm(1.0\%+0.05\Omega)$ 2%,5%: $\pm(2.0\%+0.1\Omega)$ Remark 0201 : $\pm(2.0\%+0.1\Omega)$ 0Ω : 50mΩ or less
Resistance to Solder Heat	IEC60115-1-4.18 JIS-C5201-4.18	270 ±5°C solder , 10 ±1 sec dwell .	0.1%,0.5%,1%: $\pm(0.5\%+0.05\Omega)$ 2%, 5%: $\pm(1.0\%+0.05\Omega)$ Remarks : 0201 $\pm(3.0\%+0.1\Omega)$ 0Ω : 50mΩ or less

Note* : RCWV : Rated continuous working voltage .



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7. Marking

7.1 ±2% & ±5%(E24) : RM06 / RM10 / RM12 / RM13 / RM20 / RM25

Resistance value is expressed by 3 digits, the first two digits represent the significant figures of nominal resistance value in Ω , and the third digit represents exponent for base of 10.

E.G. :, $102 = 10 \times 10^2 = 1000\Omega = 1K\Omega$



7.2 ±0.1% , ±0.5% , ±1% (E96) : RM10 / RM12 / RM13 / RM20 / RM25

Resistance value is expressed by 4 digits or 3digits , the first three digits represent the significant figures of nominal resistance value in Ω , and the fourth digit represents exponent for base of 10.

E.G. : $1000 = 100 \times 10^0 = 100\Omega$



7.3 ±0.1% , ±0.5% , ±1% (E96): RM06

When the marking space is too small in such small-sized resistors as RM06, the marking can not made by 4 digits and may be made by two digits combined with one English capital.

Symbol for E96 series nominal resistance value

Symbol	E96	Symbol	E96	Symbol	E96	Symbol	E96
01	100	25	178	49	316	73	562
02	102	26	182	50	324	74	576
03	105	27	187	51	332	75	590
04	107	28	191	52	340	76	604
05	110	29	196	53	348	77	619
06	113	30	200	54	357	78	634
07	115	31	205	55	365	79	649
08	118	32	210	56	374	80	665
09	121	33	215	57	383	81	681
10	124	34	221	58	392	82	698
11	127	35	226	59	402	83	715
12	130	36	232	60	412	84	732
13	133	37	237	61	422	85	750



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14	137	38	243	62	432	86	768
15	140	39	249	63	442	87	787
16	143	40	255	64	453	88	806
17	147	41	261	65	464	89	825
18	150	42	267	66	475	90	845
19	154	43	274	67	487	91	866
20	158	44	280	68	499	92	887
21	162	45	287	69	511	93	909
22	165	46	294	70	523	94	931
23	169	47	301	71	536	95	953
24	174	48	309	72	549	96	976

Symbol for multipliers

Symbol	A	B	C	D	E	F	G	H	X	Y	Z
multipliers	10 ⁰	10 ¹	10 ²	10 ³	10 ⁴	10 ⁵	10 ⁶	10 ⁷	10 ⁻¹	10 ⁻²	10 ⁻³

E.G : 01A = 100×10⁰ = 100Ω



Notes :

When the resistance value is not in the list of E96 , 3 digitals with underline in E-24 series is used as mark .

E.G.: 0603 , 120Ω , 1% Marking is 121



7.4 ±0.1% , ±0.5% , ±1%(E96/3digitals)

The resistance value by 3 digits is requirement for customer.

7.5 No Marking for RM02 & RM04



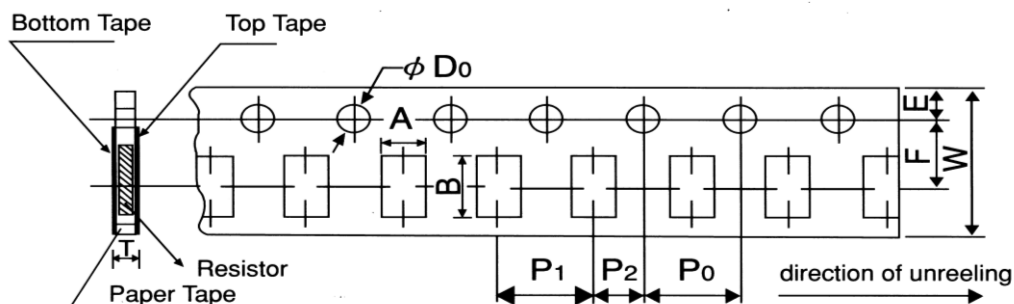
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8. Taping & Reel :

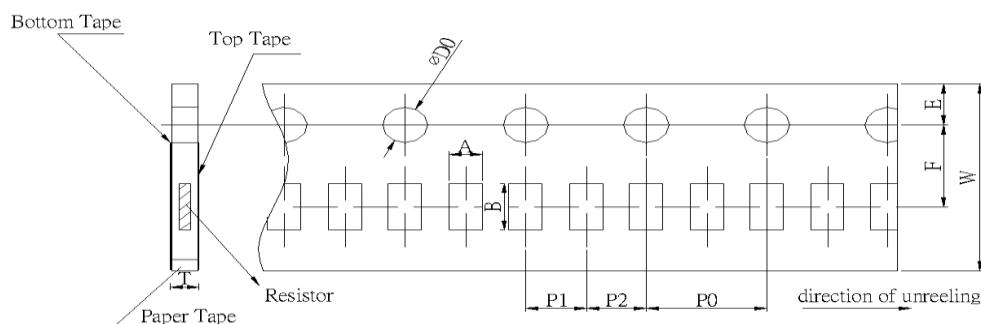
8.1 Taping Dimensions

8.1.1 4 mm pitch paper:



Packing	Type	A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	T
Paper	RM06	1.1±0.1	1.9±0.1	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	φ 1.5 +0.1 -0	0.64±0.1
	RM10	1.6±0.15	2.4±0.2								0.84±0.1
	RM12	2.0±0.15	3.6±0.2								0.84±0.1
	RM13	2.8±0.2	3.6±0.2								0.84±0.1

8.1.2 2 mm pitch paper :



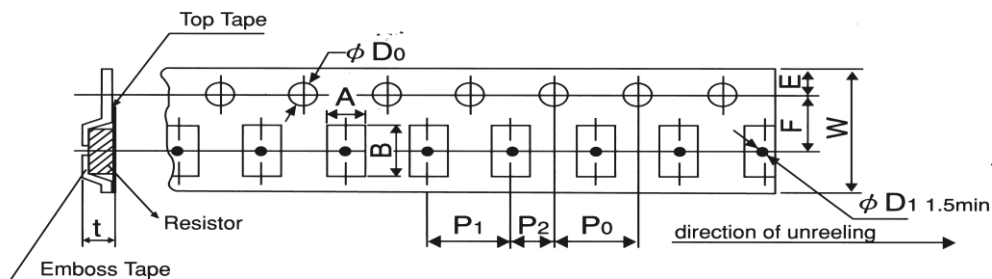
Packing	Type	A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	T
Paper	RM02	0.37±0.05	0.67±0.1	8.0±0.2	3.5±0.05	1.75±0.1	2.0±0.1	2.0±0.05	4.0±0.1	φ 1.5 +0.1 -0	0.37±0.1
	RM04	0.7±0.05	1.2±0.05				2.0±0.1	2.0±0.1			0.45±0.1
	RM06	1.1±0.1	1.9±0.1				2.0±0.1	2.0±0.1			0.64±0.1



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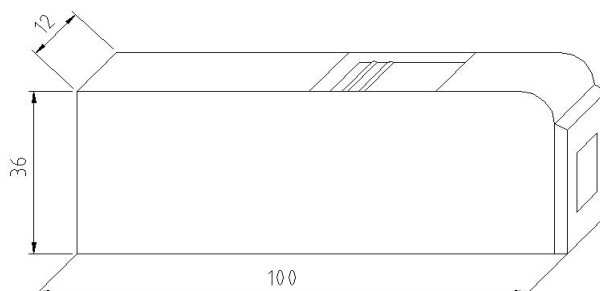
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8.1.3 4 mm pitch Emboss :



Packing	Type	A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	T
Emboss	RM20	2.8±0.2	5.3±0.2	12.0±0.2	5.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.05	$\phi 1.5$	0.85±0.15
	RM25	3.6±0.2	6.9±0.2								

8.14. Bulk Case Specifications:



UNIT: mm

Package Type / Size		Paper Tape				Emboss Plastic Tape 4 mm pitch	Bulk
		4 mm pitch		2 mm pitch			
		178mm/R	250mm/R	178mm/R	250mm/R		
RM	02			10000			
RM	04			10000	20000		50000
RM	06	5000	10000	10000	20000		20000
RM	10	5000	10000				10000
RM	12	5000	10000				5000
RM	13	5000					
RM	20					4000	
RM	25					4000	

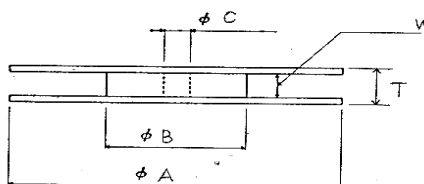
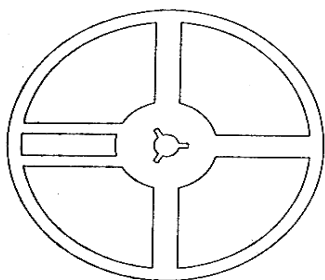


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8.2 Reel Specifications:

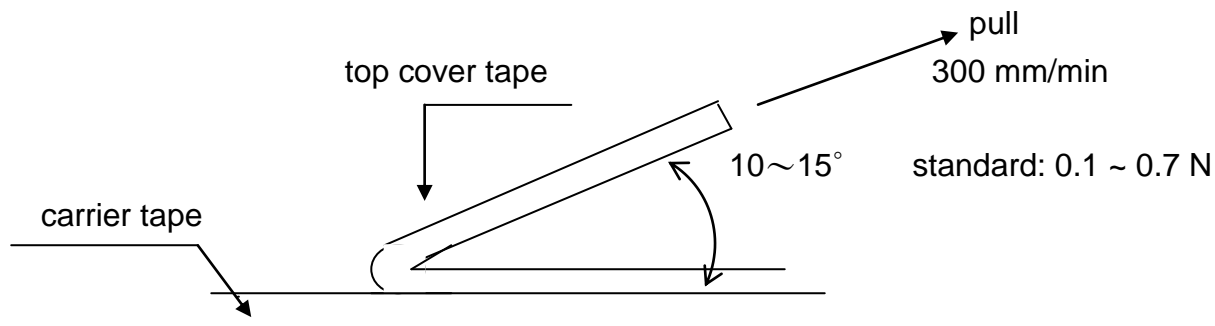


UNIT: mm

Type	ϕA	ϕB	ϕC	W	T
RM02 /04 / 06 RM10 /12 /13	178.0 ± 2.0	60.0 ± 1.0	13.0 ± 1.0	9.0 ± 1.0	11.5 ± 1.0
RM20 / 25				13.0 ± 1.0	15.5 ± 1.0

8.3. Peel –off force :

Peel –off force of paper and blister tape is in accordance with “JIS-C5202 ”
that is , 0.1 to 0.7 N at a peel-off speed of 300 mm / minute.



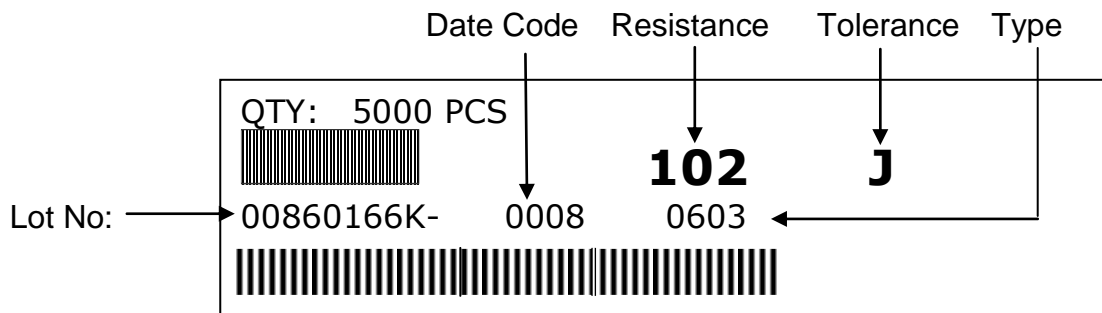


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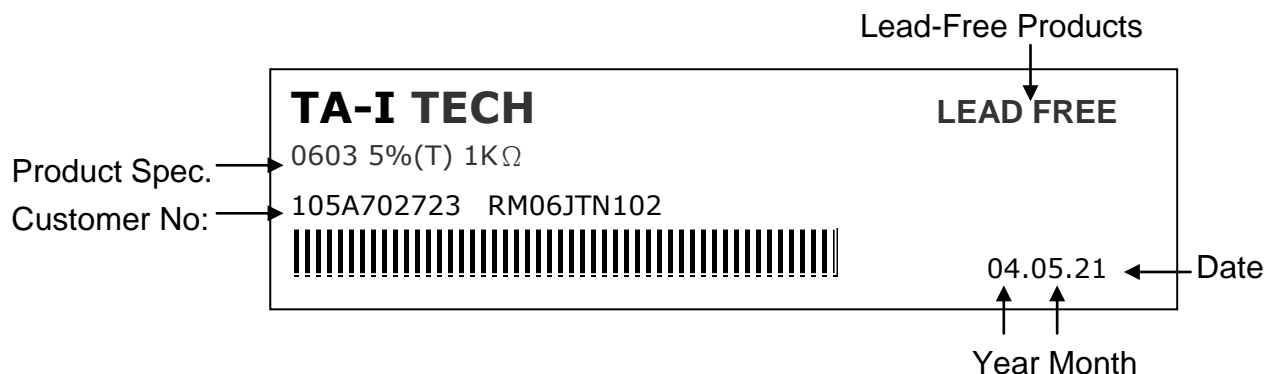
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9. Label :

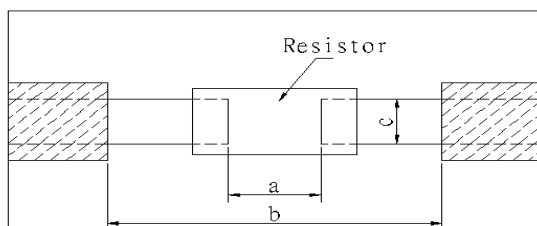
9.1 Manufacture Label :



9.2 Customer Label (By customer request):



10. Recommended land patterns :



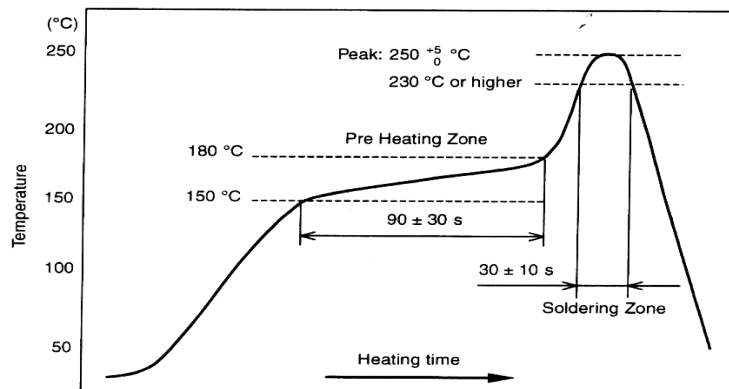
Type	Size	Land pattern		
		Dimension (mm)		
		a	b	c
RM	02 (0201)	0.25~0.3	0.7~0.9	0.3~0.4
RM	04 (0402)	0.50~0.6	1.4~1.6	0.4~0.6
RM	06 (0603)	0.7~0.9	2.0~2.2	0.8~1.0
RM	10 (0805)	1.0~1.4	3.2~3.8	0.9~1.4
RM	12 (1206)	2.0~2.4	4.4~5.0	1.2~1.8
RM	13 (1210)	2.0~2.4	4.4~5.0	2.3~3.5
RM	20 (2010)	3.3~3.7	5.7~6.5	2.3~3.5
RM	25 (2512)	3.6~4.0	7.6~8.6	2.3~3.5



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11. Recommend IR – Reflow profile : (solder : Sn96.5 / Ag3 / Cu0.5)



Peak : 250 $\overset{+}{-}$ 5 $\overset{+}{-}$ 0 °C , 5 sec

Pre – heat Zone : 150 to 180 °C , 90 \pm 30 sec

Soldering Zone : 230°C or higher , 30 \pm 10 sec

12. Storage Conditions:

Temperature: 5°C~35°C, Humidity:40%~75%

13. Shelf Life:

2 years from manufacturing date.

14. ECN :

Engineering Change Notice: The customer will be informed with ECN if there is significant modification on the characteristics and materials described in Approval Sheet.

15. Manufacturing Country & City :

TA-I TECHNOLOGY CO., LTD. (Taiwan– Tao Yuan)
Tel: 886-3-3246169 Fax : 886-3-3246167

TA-I TECHNOLOGY (SU ZHOU) CO., LTD. (China – Su Zhou)
Tel :86- 512-63457879 Fax : 86-512-63457869

Associated companies :

(1) FORTUNE TASK RESISTOR FACTORY (China – Dongguan)
Tel : 86-769-8339-4790~3 Fax : 86-769-8339-4794

(2) TA-I TECHNOLOGY (DONGGUAN) CO., LTD. (China –Dongguan)
Tel : 86-769-8339-4790~3 Fax : 86-769-8339-4794

(3) TAI OHM ELECTRONICS (M) SDN. BHD. (Malaysia – Pulaupinang)
Tel :604- 3900480 Fax : 604-3901481

(4) P.T.TAI ELECTRONICS Indonesia (Indonesia – Jakarta)
Tel :002-62-21-44820254 Fax : 002-62-21-44820256



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Date	Content	Owner
Nov.25.2005	4. Ratings & Characteristics : Adding Rating Voltage	Hank Liu
Dec.12.2005	6.Reliability Tests Short Time Overload : add 0402 & 0201 Intermittent Overload : add 0402 & 0201 Load Life : add 0402 & 0201 Load Life with Humidity : add 0402 & 0201 Rapid Change of Temperature: add 0402 & 0201 Robustness of Termination : add 0402 & 0201 Dielectric Withstanding Voltage (Voltage Proof) : add 0402 & 0201 Insulation Resistance : add 0402 & 0201 Resistance to Dry Heat : add 0402 & 0201 Resistance to Solder Heat : add 0402 & 0201	Hank Liu
Mar.15.2006	1.Adding resistance range for 1% 0603~2512 size from 1M Ω to 10 M Ω .	Vincent
May.11.2006	2. Adding resistance range for 1%,2% 0402 size from 1M Ω to 10 M Ω .	Vincent
May.22.2006	1.Adding metric system for product size. 2. Construction: Conductor: New add : Lead-free material (Original :With lead material)	Vincent
Jun.09.2006	2. Adding resistance range : 0402 size : Adding 0.1% : from 10 Ω to 200 K Ω . Adding 0.5% : from 10 Ω to 1 M Ω . 0603-2512 size : 0.1% , 0.5% : before :from 56 Ω to 560k Ω . after : from 10 Ω to 1 M Ω . Adding 5% :10M Ω to 20M Ω .	Vincent
Jul.10.2006	1. Type Designation: (E-24) 103 = 10 ³ Ω = 10k Ω changed 103 = 10k Ω 2. 9.1 Manufacture label : Series number 3 codes changed to 4 codes 3. 15. Manufacturing Country & City: Adding TA-I TECHNOLOGY (DONGGUAN) CO., LTD 4. Adding photograph of marking .	Vincent



Thick Film Chip Resistors
(Lead-Free for RM series standard)

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Date	Content	Owner						
Nov.13.2006	4. Ratings & Characteristics : Adding resistance range $1\Omega - 9.1\Omega$ for 0201 type 5% product .	Vincent						
May.22.2007	5. Ratings & Characteristics : Adding resistance range $10M\Omega \leq R \leq 20M\Omega$	Vincent						
Nov.20.2007	5. Ratings & Characteristics : Resistance Range(Ω) Change from <table border="1" style="margin-left: 20px;"> <tr> <td>B($\pm 0.1\%$) E-96</td> <td>D($\pm 0.5\%$) E-96</td> <td>F($\pm 1\%$) E-96</td> </tr> </table> to <table border="1" style="margin-left: 20px;"> <tr> <td>B($\pm 0.1\%$) E-96 & E-24</td> <td>D($\pm 0.5\%$) E-96 & E-24</td> <td>F($\pm 1\%$) E-96 & E-24</td> </tr> </table>	B($\pm 0.1\%$) E-96	D($\pm 0.5\%$) E-96	F($\pm 1\%$) E-96	B($\pm 0.1\%$) E-96 & E-24	D($\pm 0.5\%$) E-96 & E-24	F($\pm 1\%$) E-96 & E-24	Vincent
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April 18,2008	To correct: 1. Reliability a)From Test Limits to Test Limits ΔR . b)Adding test specification of ± 0.1 & $\pm 0.5\%$ c) Intermittent Overload test of 0201 type d) Whisker test item: on request.	Vincent						
Nov.17 2008	1. TCR (0.1%,0.5%,1%) : from $\pm 200\text{ppm}$ change to $\pm 100\text{ppm}$ for $100\Omega \sim 1M\Omega$ 2. Wisker Test : on request.	Vincent						



Thick Film Chip Resistors

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SEP.16.2010	<p>5.Ratings & Characteristics : from</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Type</th> <th rowspan="2">T.C.R (PPM/°C)</th> <th colspan="5">Resistance Range(Ω)</th> </tr> <tr> <th>B(±0.1%) E-96&E-24</th> <th>D(±0.5%) E-24 / E-96</th> <th>F(±1%) E-24 / E-96</th> <th>G(±2%) E-24</th> <th>J(±5%) E-24</th> </tr> </thead> <tbody> <tr> <td rowspan="2">RM02</td> <td>±200</td> <td></td> <td></td> <td>10Ω-1MΩ</td> <td>10Ω-1MΩ</td> <td>10Ω-1MΩ</td> </tr> <tr> <td style="color: red;">+600 -200</td> <td>10Ω ≤ R < 100Ω</td> <td>10Ω ≤ R < 100Ω</td> <td>10Ω ≤ R < 100Ω</td> <td></td> <td></td> </tr> </tbody> </table> <p>change to</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Type</th> <th rowspan="2">T.C.R (PPM/°C)</th> <th colspan="4">Resistance Range(Ω)</th> </tr> <tr> <th>D(±0.5%) E-24 / E-96</th> <th>F(±1%) E-24 / E-96</th> <th>G(±2%) E-24</th> <th>J(±5%) E-24</th> </tr> </thead> <tbody> <tr> <td rowspan="2">RM02</td> <td>±200</td> <td>100Ω -10KΩ</td> <td>10Ω -1MΩ</td> <td>10Ω -1MΩ</td> <td>10Ω -10MΩ</td> </tr> <tr> <td style="color: red;">+600 -200</td> <td></td> <td>1-9.1Ω</td> <td></td> <td>1-9.1Ω</td> </tr> </tbody> </table>	Type	T.C.R (PPM/°C)	Resistance Range(Ω)					B(±0.1%) E-96&E-24	D(±0.5%) E-24 / E-96	F(±1%) E-24 / E-96	G(±2%) E-24	J(±5%) E-24	RM02	±200			10Ω-1MΩ	10Ω-1MΩ	10Ω-1MΩ	+600 -200	10Ω ≤ R < 100Ω	10Ω ≤ R < 100Ω	10Ω ≤ R < 100Ω			Type	T.C.R (PPM/°C)	Resistance Range(Ω)				D(±0.5%) E-24 / E-96	F(±1%) E-24 / E-96	G(±2%) E-24	J(±5%) E-24	RM02	±200	100Ω -10KΩ	10Ω -1MΩ	10Ω -1MΩ	10Ω -10MΩ	+600 -200		1-9.1Ω		1-9.1Ω	Claire
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March.01.2011	<p>Reliability test : Reference standard from JIS-5202 change to IEC60115 & JIS-C5201</p>	Kate																																														
May 05.2011	<p>5.Ratings & Characteristics : From</p> <table border="1" style="width: 50%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Type</th> <th rowspan="2">T.C.R (PPM/°C)</th> <th>Resistance Range(Ω)</th> </tr> <tr> <th>F(±1%) E-24 / E-96</th> </tr> </thead> <tbody> <tr> <td rowspan="3">RM04</td> <td>±100</td> <td>10Ω-1MΩ</td> </tr> <tr> <td>±200</td> <td>10Ω ≤ R < 100Ω</td> </tr> <tr> <td style="color: red;">+500 -200</td> <td>1-9.1Ω</td> </tr> </tbody> </table> <p style="text-align: right;">change to</p> <table border="1" style="width: 50%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Type</th> <th rowspan="2">T.C.R (PPM/°C)</th> <th>Resistance Range(Ω)</th> </tr> <tr> <th>F(±1%) E-24 / E-96</th> </tr> </thead> <tbody> <tr> <td rowspan="3">RM04</td> <td>±100</td> <td>10Ω-1MΩ</td> </tr> <tr> <td>±200</td> <td>10Ω ≤ R < 100Ω 1MΩ < R ≤ 10MΩ</td> </tr> <tr> <td style="color: red;">+500 -200</td> <td>1-9.1Ω</td> </tr> </tbody> </table>	Type	T.C.R (PPM/°C)	Resistance Range(Ω)	F(±1%) E-24 / E-96	RM04	±100	10Ω-1MΩ	±200	10Ω ≤ R < 100Ω	+500 -200	1-9.1Ω	Type	T.C.R (PPM/°C)	Resistance Range(Ω)	F(±1%) E-24 / E-96	RM04	±100	10Ω-1MΩ	±200	10Ω ≤ R < 100Ω 1MΩ < R ≤ 10MΩ	+500 -200	1-9.1Ω	Kate																								
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June 24.2011	<p>Operating Temp(°C): From -55°C ~ +125°C change to -55°C ~ +155°C (RM02 -55°C ~ +125°C)</p>	kate																																														