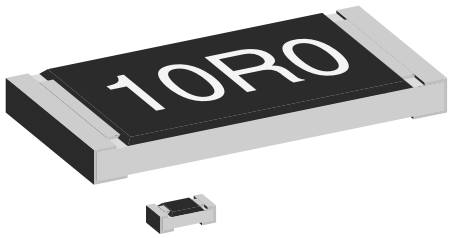
Automotive Grade
Thick Film, Rectangular Chip Resistors



FEATURES

- Metal glaze on high quality ceramic with protective overglaze
- Sulfur resistant
- Superior resistance against H2S-atmosphere than standard Ag contacts
- Solder contacts on Ni barrier layer
- Excellent stability ($\Delta R/R \leq \pm 0.5$ % for 1000 h at 70 °C) different environmental conditions
- High volume product suitable for commercial and special applications
- Automotive Grade = sulfur resistant

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	SIZE		POWER RATING $P_{70\,°C}$ W	LIMITING ELEMENT VOLTAGE MAX. V≅	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	E-SERIES
	INCH	METRIC	CECC 40401-802/EIA-575					
RCA0402	0402	1005	0.063	50	± 50 ± 100 ± 100 ± 200 ± 200	± 0.5, ± 1 ± 0.5 ± 1 ± 1 ± 5	100R - 1M0 10R - 1M0 10R - 5M6 1R0 - 9R76 1R0 - 10M	24 + 96 24 + 96 24 + 96 24 + 96 24
			Zero-Ohm-Resistor: $R_{max.}$ = 40 mΩ $I_{max.}$ = 1 A					
RCA0603	0603	1608	0.10	75	± 50 ± 100 ± 200 ± 200	± 0.5, ± 1 ± 0.5, ± 1 ± 1 ± 5	100R - 10M 10R - 10M 1R0 - 9R76 1R0 - 10M	24 + 96 24 + 96 24 + 96 24
			Zero-Ohm-Resistor: $R_{max.}$ = 40 mΩ $I_{max.}$ = 1.5 A					
RCA0805	0805	2012	0.125	150	± 50 ± 100 ± 100 ± 200	± 0.5, ± 1 ± 0.5 ± 1 ± 5	100R - 10M 10R - 10M 1R0 - 10M 1R0 - 10M	24 + 96 24 + 96 24 + 96 24
			Zero-Ohm-Resistor: $R_{max.}$ = 40 mΩ $I_{max.}$ = 2 A					
RCA1206	1206	3216	0.25	200	± 50 ± 100 ± 100 ± 200	± 0.5, ± 1 ± 0.5 ± 1 ± 5	100R - 10M 10R - 10M 1R0 - 10M 1R0 - 10M	24 + 96 24 + 96 24 + 96 24
			Zero-Ohm-Resistor: $R_{max.}$ = 20 mΩ $I_{max.}$ = 2.5 A					
RCA1210	1210	3225	0.33	200	± 50 ± 100 ± 100 ± 200	± 0.5, ± 1 ± 0.5 ± 1 ± 5	100R - 1M0 100R - 1M0 1R0 - 1M0 1R0 - 1M0	24 + 96 24 + 96 24 + 96 24
			Zero-Ohm-Resistor: $R_{max.}$ = 20 mΩ $I_{max.}$ = 2.5 A					
RCA1218	1218	3246	1.0	200	± 50 ± 100 ± 100 ± 200	± 0.5, ± 1 ± 0.5 ± 1 ± 5	100R - 2M2 100R - 2M2 1R0 - 2M2 1R0 - 2M2	24 + 96 24 + 96 24 + 96 24
			Zero-Ohm-Resistor: $R_{max.}$ = 20 mΩ $I_{max.}$ = 4 A					
RCA2010	2010	5025	0.50	400	± 50 ± 100 ± 100 ± 200	± 0.5, ± 1 ± 0.5 ± 1 ± 5	100R - 10M 10R - 10M 1R0 - 10M 1R0 - 10M	24 + 96 24 + 96 24 + 96 24
			Zero-Ohm-Resistor: $R_{max.}$ = 20 mΩ $I_{max.}$ = 3 A					
RCA2512	2512	6332	1.0	500	± 50 ± 100 ± 100 ± 200	± 0.5, ± 1 ± 0.5 ± 1 ± 5	100R - 10M 10R - 10M 1R0 - 10M 1R0 - 10M	24 + 96 24 + 96 24 + 96 24
			Zero-Ohm-Resistor: $R_{max.}$ = 20 mΩ $I_{max.}$ = 4 A					

Notes:

- Ask about further value ranges
- Marking and packaging: see appropriate catalog or web pages
- Power rating depends on the max. temperature at the solder point, the component placement density and the substrate material

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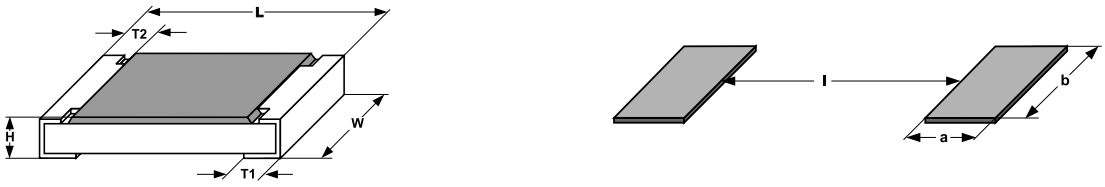
TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RCA0402	RCA0603	RCA0805	RCA1206	RCA1210	RCA1218	RCA2010	RCA2512
Rated Dissipation at 70 °C (CECC 40401 | EIA 575)	W	0.063	0.10	0.125	0.25	0.33	1.0	0.5	1.0
Limiting Element Voltage (2)	$V_{\cong}$	50	75	150	200	200	200	400	500
Insulation Voltage (1 min)	V_{peak}	> 75	> 100	> 200	> 300	> 300	> 300	> 300	> 300
Thermal Resistance	K/W	≤ 870 (1)	≤ 550 (1)	≤ 440 (1)	≤ 220 (1)	≤ 140 (3)	(3)	≤ 88 (3)	≤ 65 (3)
Insulation Resistance	Ω	$> 10^9$							
Category Temperature Range	°C	- 55 to + 125 (+ 155)							
Failure Rate	h^{-1}	0.3×10^{-9}							
Weight/1000 pieces	g	0.65	2	5.5	10	16	29.5	25.5	40.5

Notes:
(1) Measuring conditions in acc. to CECC 40401
(2) Rated voltage: $\sqrt{P \times R}$
(3) Depending on solder pad dimensions

DIMENSIONS



SIZE		DIMENSIONS [in millimeters]					SOLDER PAD DIMENSIONS [in millimeters]					
							REFLOW SOLDERING			WAVE SOLDERING		
INCH	METRIC	L	W	H	T1	T2	a	b	l	a	b	l
0402	1005	1.0 ± 0.05	0.5 ± 0.05	0.35 ± 0.05	0.25 ± 0.05	0.2 ± 0.1	0.4	0.6	0.5			
0603	1608	1.55 $^{+0.10}_{-0.05}$	0.85 ± 0.1	0.45 ± 0.05	0.3 ± 0.2	0.3 ± 0.2	0.5	0.9	1.0	0.9	0.9	1.0
0805	2012	2.0 $^{+0.20}_{-0.10}$	1.25 ± 0.15	0.45 ± 0.05	0.3 $^{+0.20}_{-0.10}$	0.3 ± 0.2	0.7	1.3	1.2	0.9	1.3	1.3
1206	3216	3.2 $^{+0.10}_{-0.20}$	1.6 ± 0.15	0.55 ± 0.05	0.45 ± 0.2	0.4 ± 0.2	0.9	1.7	2.0	1.1	1.7	2.3
1210	3225	3.2 ± 0.2	2.5 ± 0.2	0.55 ± 0.05	0.45 ± 0.2	0.4 ± 0.2	0.9	2.5	2.0	1.1	2.5	2.2
1218	3246	3.2 $^{+0.10}_{-0.20}$	4.6 ± 0.15	0.55 ± 0.05	0.45 ± 0.2	0.4 ± 0.2	1.05	4.9	1.9	1.25	4.8	1.9
2010	5025	5.0 ± 0.15	2.5 ± 0.15	0.6 ± 0.1	0.6 ± 0.2	0.6 ± 0.2	1.0	2.5	3.9	1.2	2.5	3.9
2512	6332	6.3 ± 0.2	3.15 ± 0.15	0.6 ± 0.1	0.6 ± 0.2	0.6 ± 0.2	1.0	3.2	5.2	1.2	3.2	5.2

PART NUMBER AND PRODUCT DESCRIPTION RCA - SERIES

PART NUMBERING: RCA080510K0FKTA

R	C	A	0	8	0	5	1	0	K	0	F	K	T	A		

MODEL	SIZE	VALUE	TOLERANCE	TCR	PACKAGING (1)	SPECIAL
RCA	**0402** **1210** **0603** **1218** **0805** **2010** **1206** **2512**	**R** = Decimal **K**= Thousand **M** = Million **1K32** = 1.32 kΩ **10R0** = 10 Ω **0000** = Jumper	**D** = ± 0.5 % **F** = ± 1.0 % **J** = ± 5.0 %	**H** = ± 50 ppm/K **K** = ± 100 ppm/K **N** = ± 200 ppm/K	**TA** = RT1 **TG** = R67 **TB** = RT5 **TH** = R82 **TC** = RT6 **TK** = RT9 **TD** = RT7 **BA** = B27 **TF** = R02	Up to 2 digits

PRODUCT DESCRIPTION: RCA0805 10K 1 % 100 RT1

RCA0805	10K	1 %	100	RT1
MODEL	RESISTANCE VALUE	TOLERANCE	TCR	PACKAGING (1)
RCA0402 **RCA1210** **RCA0603** **RCA1218** **RCA0805** **RCA2010** **RCA1206** **RCA2512**	**49R9** = 49.9 Ω **3011** = 3.01 kΩ	± **0.5** % ± **1** % ± **5** %	± **50** ppm/K ± **100** ppm/K ± **200** ppm/K	**RT1** **R67** **RT5** **R82** **RT6** **RT9** **RT7** **B27** **R02**

Notes:
(1) Please refer to table PACKAGING, see next page
- Products can be ordered either using the PRODUCT DESCRIPTION or PART NUMBER

PACKAGING

MODEL	REEL						BULK	
	TAPE WIDTH	DIAMETER	PIECES/REEL	PITCH	PACKING CODE		BULK FEEDING MAGAZINE PIECES/MAGAZINE	
					PAPER	BLISTER	PIECES	CODE
RCA0402	8 mm	180 mm/7" 330 mm/13"	10 000 50 000	2 mm 2 mm	RT7 RF4		50 000	B27
RCA0603	8 mm	180 mm/7" 255 mm/10" 330 mm/13"	5000 10 000 20 000	4 mm 4 mm 4 mm	RT1 RT5 RT6		25 000	B27
RCA0805	8 mm	180 mm/7" 255 mm/10" 330 mm/13"	5000 10 000 20 000	4 mm 4 mm 4 mm	RT1 RT5 RT6		10 000	B27
RCA1206	8 mm	180 mm/7" 255 mm/10" 330 mm/13"	5000 10 000 20 000	4 mm 4 mm 4 mm	RT1 RT5 RT6			
RCA1210	8 mm	180 mm/7" 330 mm/13"	5000 20 000	4 mm 4 mm	RT1 RT6			
RCA1218	12 mm	180 mm/7"	4000	4 mm		RT9		
RCA2010	12 mm	180 mm/7"	4000	4 mm		R02		
RCA2512	12 mm	180 mm/7"	2000 4000	8 mm 4 mm		R67 R82		

PERFORMANCE				
TEST	CONDITIONS OF TEST	TEST RESULTS %		
		0402 0603	0805 1206 1210	1218 2010 2512
Endurance Test at 70 °C IEC 60115-1 4.25.1	1000 h at 70 °C, 1.5 h ON, 0.5 h OFF	≤ ± 1.0	≤ ± 0.5	≤ ± 1.0
Endurance at UCT IEC 60115-1 4.25.3	1000 h at 125 °C without load	≤ ± 1.0	≤ ± 0.5	≤ ± 1.0
Overload Test IEC 60115-1 4.13	Short time overload 2.5 x rated voltage or ≤ 2 x limiting element voltage.	≤ ± 0.25	≤ ± 0.25	≤ ± 0.5
Thermal Shock IEC 60115-1 4.19; IEC 60068-2-14;	Rapid change between upper and lower category temperature	≤ ± 0.25	≤ ± 0.25	≤ ± 0.5
Damp Heat Steady State IEC 60115-1 4.24; IEC 60068-2-3	56 days at 40 °C and 93 % relative humidity	≤ ± 1.0	≤ ± 0.5	≤ ± 1.0
Resistance to Soldering Heat IEC 60115-1 4.18; IEC 60068-2-20	10 s at 260 °C solder bath temperature	≤ ± 0.25	≤ ± 0.25	≤ ± 0.5

Note:
• For more details please refer to datasheet D../CRCW

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