Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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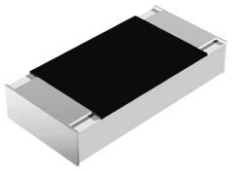
Standard Thick Film Chip Resistors



FEATURES

- Very small standard size (0.4 mm x 0.2 mm)
- Low tolerance (1 %)
- Material categorization:
  For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

HALOGEN FREE

STANDARD ELECTRICAL SPECIFICATIONS

TYPE	CASE SIZE IMPERIAL	CASE SIZE METRIC	POWER RATING P_{70} W	LIMITING ELEMENT VOLTAGE $U_{max.}$ AC_{RMS}/DC V	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	SERIES
CRCW01005	01005	RR0402M	0.031	15	± 250	± 1	10.0 to 1M	E24; E96
						± 2, ± 5		E24
					-200/+600	± 1	1.0 to 9.76	E24; E96
						± 2, ± 5	1.0 to 9.1	E24
			Zero-Ohm-Resistor: $R_{max.}$ = 50 mΩ, $I_{max.}$ = 0.5 A					

Notes

- These resistors do not feature a limited lifetime when operated within the permissible limits. However, resistance value drift increasing over operating time may result in exceeding a limit acceptable to the specific application, thereby establishing a functional lifetime.
- Power rating depends on the max. temperature at the solder point, the component placement density and the substrate material.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	CRCW01005
Rated Dissipation P_{70} (1)	W	0.031
Operating Voltage $U_{max.}$ AC_{RMS}/DC	V	15
Insulation Voltage U_{ins} (1 min)	V	30
Insulation Resistance	Ω	> 10^9
Operating Temperature Range	°C	-55 to +125
Mass	mg	0.07

Note

(1) The power dissipation on the resistor generates a temperature rise against the local ambient, depending on the heat flow support of the printed-circuit board (thermal resistance). The rated dissipation applies only if the permitted film temperature of 125 °C is not exceeded.

PART NUMBER AND PRODUCT DESCRIPTION

PART NUMBER: CRCW01001K00FREL

C	R	C	W	0	1	0	0	1	K	0	0	F	R	E	L

TYPE	VALUE	TOLERANCE	TCR	PACKAGING
CRCW0100	**R** = Decimal **K** = Thousand **M** = Million **0000** = Jumper	**F** = ± 1.0 % **G** = ± 2.0 % **J** = ± 5.0 % **Z** = Jumper	**R** = ± 250 ppm/K **Y** = -200 ppm/K/+600 ppm/K **0** = Jumper	**EL**

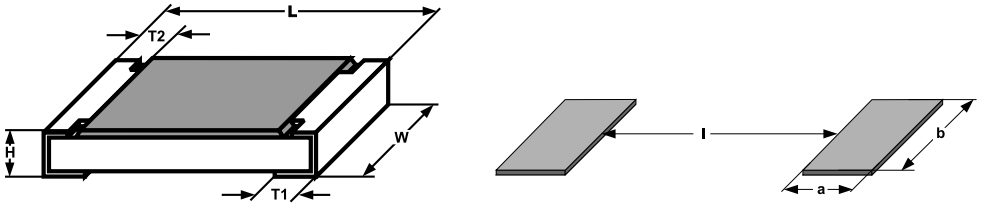
PRODUCT DESCRIPTION: CRCW01005 250 1K0 1 % ET3 e3

CRCW01005	250	1K0	1 %	ET3	e3
TYPE	TCR	RESISTANCE VALUE	TOLERANCE VALUE	PACKAGING	LEAD (Pb)-FREE
CRCW01005	**± 250** ppm/K **-200/+600** ppm/K	**1R0** = 1 Ω **10R** = 10 Ω **1K0** = 1 kΩ **10K** = 10 kΩ **1M0** = 1 MΩ **0R0** = Jumper	**± 1 %** **± 2 %** **± 5 %**	**ET3**	**e3** = Pure tin termination finish

PACKAGING

TYPE	CODE	QUANTITY	CARRIER TAPE	WIDTH	PITCH	REEL DIAMETER
CRCW01005	EL = ET3	20 000	Paper tape acc. to IEC 60286-3, Type 1a	8 mm	2 mm	180 mm/7"

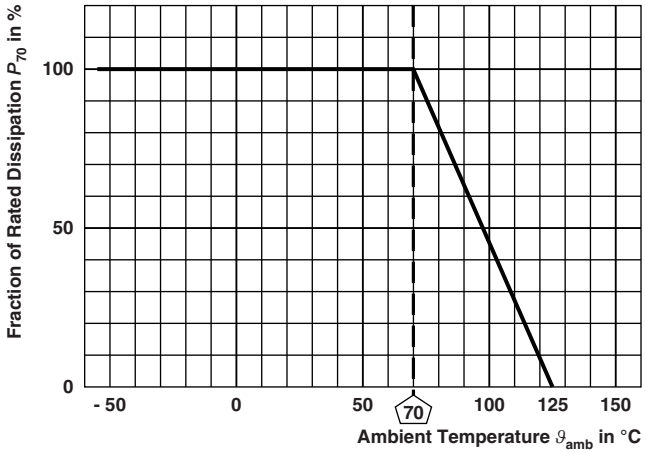
DIMENSIONS in millimeters



SIZE		DIMENSIONS					RECOMMENDED SOLDER PAD DIMENSIONS		
IMPERIAL	METRIC	L	W	H	T1	T2	a	b	l
01005	RR0402M	0.4 ± 0.02	0.2 ± 0.02	0.13 ± 0.02	0.10 ± 0.03	0.10 ± 0.03	0.15	0.2	0.2

Note
- No marking for 01005 size.

DERATING



TEST PROCEDURES AND REQUIREMENTS				
EN 60115-1 CLAUSE	IEC 60068-2 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS PERMISSIBLE CHANGE (ΔR)
				STABILITY CLASS 1 OR BETTER
			Stability for product types:	
			CRCW01005 e3	1 Ω to 1 MΩ
4.5	-	Resistance	-	± 1 %; ± 2 %; ± 5 %
4.13	-	Short time overload	$U = 2.5 \times \sqrt{P_{70} \times R} \leq 2 \times U_{max.}$; duration according to style	± (2 % R + 0.1 Ω)
4.17.2	58 (Td)	Solderability	Solder bath method; Sn60Pb40 non activated flux; (235 ± 5) °C (2 ± 0.2) s	Good tinning (≥ 95 % covered) no visible damage
			Solder bath method; Sn96.5Ag3Cu0.5 non-activated flux; (235 ± 3) °C (2 ± 0.5) s	Good tinning (≥ 95 % covered) no visible damage
4.8.4.2	-	Temperature coefficient	(20/-55/20) °C and (20/125/20) °C	- 200 ppm/K/+600 ppm/K, ± 250 ppm/K
4.33	21 (Uu_1)	Substrate bending	Depth 3 mm; 1 time	No visible damage, no open circuit in bent position ± (1 % R + 0.05 Ω)
4.19	14 (Na)	Rapid change of temperature	15 min. at -55 °C; 15 min. at 125 °C; 300 cycles	± (2 % R + 0.1 Ω)
4.25.1	-	Endurance at 70 °C	$U = \sqrt{P_{70} \times R} \leq U_{max.}$; 1.5 h on; 0.5 h off; 70 °C; 1000 h	± (5 % R + 0.1 Ω)
4.18.2	58 (Td)	Resistance to soldering heat	Solder bath method (260 ± 5) °C; (10 ± 1) s	± (2 % R + 0.1 Ω)
4.24	78 (Cab)	Damp heat, steady state	(40 ± 2) °C; (90 to 95) % RH; 1000 h	± (5 % R + 0.1 Ω)
4.25.3	-	Endurance at upper category temperature	125 °C, 1000 h	± (2 % R + 0.1 Ω)
4.29	45 (XA)	Component solvent resistance	Isopropyl alcohol; (20 to 25) °C; (5 ± 0.5) min	No visible damage

All tests are carried out in accordance with the following specifications:

- EN 60115-1, generic specification
- EN 140400, sectional specification
- EN 140401-802, detail specification
- IEC 60068-2-x, environmental test procedures

Packaging of components is done in paper tapes according to IEC 60286-3.

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