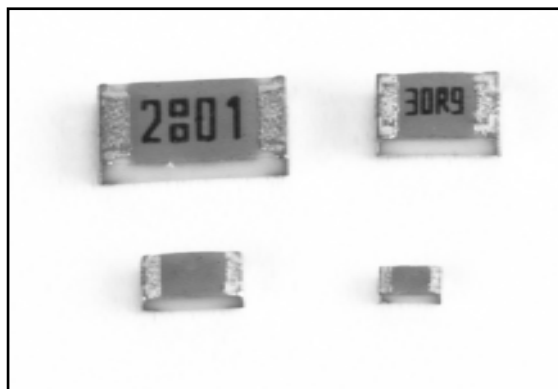


FLAT CHIP RESISTOR - PRECISION



- RuO₂ Thick Film Resistor Element
- Anti-Leaching Nickel Barrier Terminations
- 90/10 Solder Plated Terminations, Standard
- Also Available with Epoxy Bondable, (Palladium Silver) Terminations in 0805 and 1206 sizes.
- Meets or Exceeds EIA 575, EIAJ RC 2690A, EIA PDP - 100, MIL - R - 55342F
- 4 Digit, Black Marking on Blue Protective Coat. No Marking on 1E (0402) size.

STANDARD APPLICATIONS

PART DESIGNATION *	POWER RATING @70°C	TCR (ppm/°C) MAX	RESISTANCE RANGE (E-96)*** (D ±0.5%)	RESISTANCE RANGE (E-96)*** (F ±1%)	ABSOLUTE MAXIMUM WORKING VOLTAGE	ABSOLUTE MAXIMUM OVERLOAD VOLTAGE	OPERATING TEMPERATURE RANGE
RK73H1E (0402)	63 mW	±100	100 ~ 100KΩ	10Ω - 1MΩ	50V	100V	- 55°C +125°C
		±200	10 ~ 97.6Ω 102 ~ 976KΩ				
RK73H1J **(0603)	100 mW	±100	10Ω - 976KΩ	10Ω - 1MΩ	50V	100V	-55°C +175°C
		±400		1.0Ω - 9.76Ω			
RK73H2A (0805)	125 mW	±100	10Ω - 976KΩ	10Ω - 1MΩ	150V	300V	
		±400		1.0Ω - 9.76Ω 1.02MΩ - 10MΩ			
RK73H2B (1206)	250 mW	±100	10Ω - 976KΩ	10Ω - 1MΩ	200V	400V	
		±200		1.02MΩ - 5.6MΩ			
		±400		1.0Ω - 9.76Ω 5.62MΩ - 10MΩ			
RK73H2E (1210)	330 mW	±100	10Ω - 976KΩ	10Ω - 1MΩ			
		±200		1.02MΩ - 5.6MΩ			
		±400		1.0Ω - 9.76Ω 5.62MΩ - 10MΩ			
RK73H2H (2010)	750 mW	±100	10Ω - 976KΩ	10Ω - 1MΩ	200V	400V	-55°C +150°C
		±200		1.02MΩ - 5.6MΩ			
		±400		1.0Ω - 9.76Ω 5.62MΩ - 10MΩ			
RK73H3A (2512)	1000mW	±100	10Ω - 976KΩ	10Ω - 1MΩ			
		±200		1.02MΩ - 5.6MΩ			
		±400		1.0Ω - 9.76Ω 5.62 MΩ- 10MΩ			

* Parenthesis indicates EIA Package Size Codes.

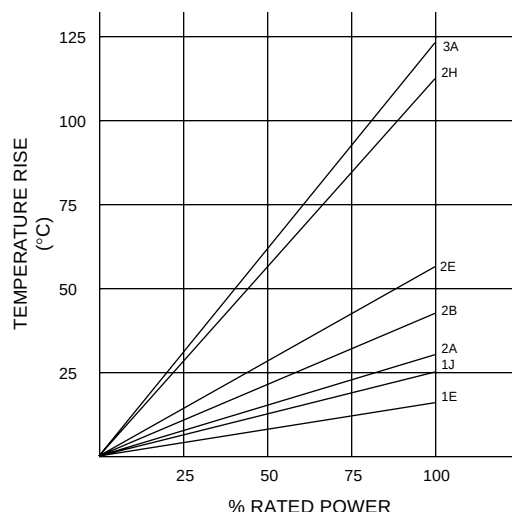
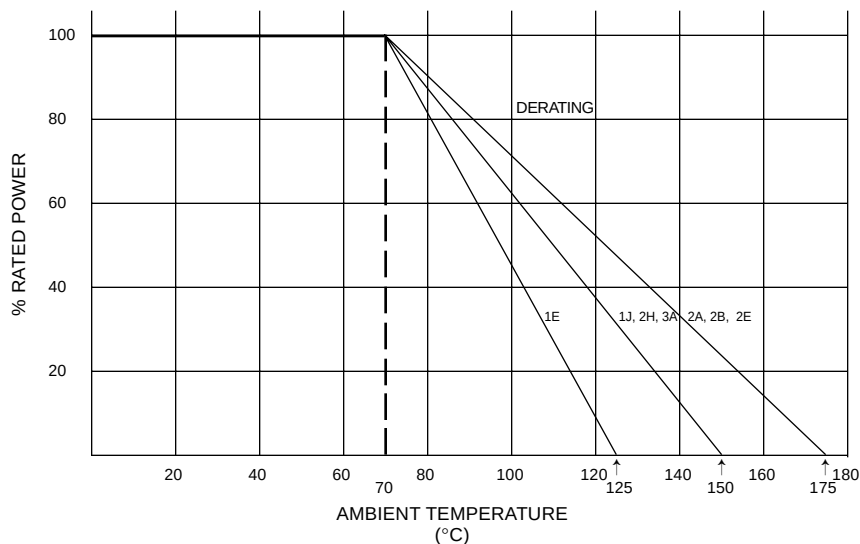
*** See Appendix A for available decade values.

ORDERING & SPECIFYING INFORMATION*

RK73	H	2B	T	1003	F
TYPE	TERMINATION	SIZE CODE	PACKAGING	NOMINAL RESISTANCE	TOLERANCE
	H: Solderable X: Epoxy Bondable Available in 0603, 0805 and 1206 sizes	(See Page 4) 1E: 0402 1J: 0603 2A: 0805 2B: 1206 2E: 1210 2H: 2010 3A: 2512	(See Appendix A) T: 7" Punched Paper TE: 7" Embossed Plastic TP: Punched Paper 2mm 0402 (1E) only. TDD: 10" Punched Paper TED: 10" Embossed Plastic	3 Significant Figures & 1 Multiplier. R Indicates Decimal on Value < 100Ω	F: ± 1.0% D: ± 0.5%

*Please Note: KSE's Part Numbers Do Not Contain any Spaces or Hyphens.

ENVIRONMENTAL APPLICATIONS



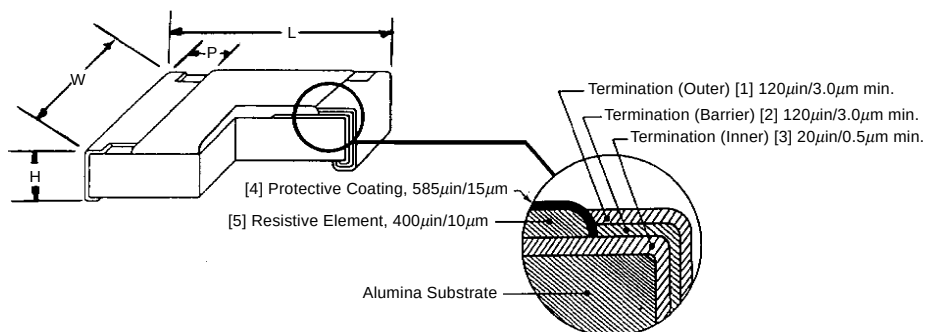
PARAMETER	MAXIMUM ΔR	TEST METHOD
Thermal Shock	$\pm 0.2\%$	MIL-STD-202, Method 107 -55°C ~ +125°C, 5 cycles
Low Temperature Operation	$\pm 0.2\%$	MIL - R - 55342 π 4.7.4 1 Hour @ -55°C followed by 45 minutes of RCWV**
High Temperature Exposure	$\pm 0.5\%$	MIL - R - 55342 π 4.7.6 100 Hours @ 125°C
Short Time Overload	$\pm 2.0\%$	MIL - R - 55342 π 4.7.5 2.5 X RCWV for 5 seconds
Resistance to Solder Heat	$\pm 0.2\%$	MIL - R - 55342 π 4.7.7 260°C for 10 seconds
Terminal Strength-Push	$\pm 0.75\%$	1.2 Kg for 1 minute
Terminal Strength-Bend	$\pm 0.5\%$	5mm Deflection in Either Direction for 10 Seconds
Moisture Resistance	$\pm 0.5\%$	MIL - STD - 202, Method 103 40°C, 90 - 95%RH, 1000 Hours
Life	$\pm 0.75\%$	MIL - STD - 202, Method 108 70°C, 1000 Hours @ RCWV, 1 1/2 Hr ON, 1/2 Hr OFF
Pulse Limitation Curves Are Available at www.koaspeer.com		
Pulse	$\pm 1.5\%$	2.5 X RCWV**, Not Exceeding Maximum Overload Voltage 1 Second ON, 25 Seconds OFF 10,000 Cycles
Temperature Cycling	$\pm 0.75\%$	30 Minutes at -55°C; 15 Minutes at +25°C, 30 Minutes at + 125°C, 15 Minutes at +25°C, 5 Cycles
MINIMUM		
Terminal Adhesion	15 Grams	Axial Pull, One Terminal at a Time
Dielectric Withstanding Voltage 1E 1J 2A 2B 2E 2H 3A	100V 100V 400V 400V 400V 400V 400V	MIL - STD - 202, Method 301
Insulation Resistance	10,000 Meg Ohm	

**RCWV = Rated Continuous Working Voltage

DESCRIPTION OF CHIP RESISTORS

- Eight (8) Available Sizes - 0201, 0402, 0603, 0805, 1206, 1210, 2010, 2512
- 1/20 Watt to 1 Watt Power Ratings
- 0.1 Ohm to 22 Meg Ohm Resistance Range
- Tight Tolerance and Low TCR Available
- Excellent Solderability
- Nickel Barrier for Leaching Control
- Paper and Plastic Tape Packaging

CONSTRUCTION & MECHANICAL DIMENSIONS



[1] Solder Plate, 90% Sn, 10% Pb

[2] Barrier, Ni

[3] Electrode

[4] Protective Layer

[5] Resistive Element

*NOTE: Dimensions are reference only.

SIZE CODE (inches)	DIMENSIONS in/mm					EIA SIZE REFERENCE
	L	W	H	P TOP	P BOTTOM	
1H (0201)	0.024 ± 0.002 0.6 ± 0.03	0.012 ± 0.002 0.3 ± 0.03	0.010 ± 0.002 0.25 ± 0.03	0.004 ± 0.002 0.1 ± 0.05	0.005 ± 0.002 0.15 ± 0.05	0502
1E (0402)	0.04 ± 0.002 1.0 ± 0.1/-0.05	0.02 ± 0.002 0.5 ± 0.05	0.014 ± 0.002 0.35 ± 0.05	0.008 ± 0.004 0.2 ± 0.1	0.010 ± 0.004 0.25 ± 0.05/-0.1	1005
1J (0603)	0.063 ± 0.008 1.6 ± 0.2	0.031 ± 0.004 0.8 ± 0.1	0.020 ± 0.004 0.5 ± 0.1	0.012 ± 0.004 0.3 ± 0.1	0.012 ± 0.004 0.3 ± 0.1	1608
2A (0805)	0.079 ± 0.008 2.0 ± 0.2	0.049 ± 0.004 1.25 ± 0.1	0.020 ± 0.004 0.5 ± 0.1	0.016 ± 0.008 0.4 ± 0.2	0.012 ± 0.004 0.3 ± 0.2/-0.1	2012
2B (1206)	0.126 ± 0.008 3.2 ± 0.2	0.063 ± 0.008 1.6 ± 0.2	0.024 ± 0.004 0.6 ± 0.1	0.020 ± 0.012 0.5 ± 0.3	0.016 ± 0.004 0.4 ± 0.2/-0.1	3216
2E (1210)	0.126 ± 0.008 3.2 ± 0.2	0.102 ± 0.008 2.6 ± 0.2	0.024 ± 0.004 0.6 ± 0.1	0.020 ± 0.012 0.5 ± 0.3	0.016 ± 0.004 0.4 ± 0.2/-0.1	3225
2H (2010)	0.197 ± 0.008 5.0 ± 0.2	0.098 ± 0.008 2.5 ± 0.2	0.024 ± 0.004 0.6 ± 0.1	0.020 ± 0.012 0.5 ± 0.3	0.016 ± 0.004 0.4 ± 0.2/-0.1	5025
3A (2512)	0.248 ± 0.008 6.3 ± 0.2	0.122 ± 0.008 3.1 ± 0.2	0.024 ± 0.004 0.6 ± 0.1	0.020 ± 0.012 0.5 ± 0.3	0.016 ± 0.004 0.4 ± 0.2/-0.1	6332

PACKAGING SPECIFICATIONS

MARKING

KSE PART DESIGNATION	COLOR		MARKING TYPE
	BODY	MARKING	
RM731H (0201)	BLACK	NONE	-----
RM73B1E (0402)	BLACK	NONE	-----
RM73B1J (0603)	BLACK	WHITE	3 DIGITS
RK73AD	BLACK	WHITE BLUE	3 DIGITS
RK73H 1J (0603)	BLUE	E-24 BLACK	E-24 3 DIGITS* E-96 NONE
RM73B2A (0805) 2B (1206) 2E (1210) 2H (2010) 3A (2512)	BLACK	WHITE	3 DIGITS
RK73H2A (0805) 2B (1206) 2E (1210) 2H (2010) 3A (2512)	BLUE	BLACK	4 DIGITS
RM73Z1H (0201) RM73Z1E (0402)	GREEN	NONE	-----
RM73Z1J (0603) 2A (0805) 2B (1206) 2E (1210) 2H (2010) 3A (2512)	BLACK	WHITE	000
RN73T2A (0805) 2B (1206) 2E (1210)	GREEN	RED	4 DIGITS
RN73E1J (0603)	BLACK	WHITE	E-24 3 DIGITS* E-96 NONE
RN73E2A (0805) 2B (1206) 2E (1210)	GREEN	YELLOW	4 DIGITS
RN73C1J (0603)	BLACK	WHITE	E-24 3 DIGITS* E-96 NONE
RN73C2A (0805) 2B (1206) 2E (1210)	GREEN	YELLOW	4 DIGITS
RK73N2A (0805) 2B (1206) 2E (1210) 2H (2010) 3A (2512)	BLACK	NONE	NONE
LT73 2A (0805) 2B (1206)	BRONZE	BLACK	4 DIGITS
LA73 1J (0603) 2A (0805) 2B (1206)	ORANGE	BLACK	3 DIGITS
RF73B2A (0805) 2B (1206)	BROWN	BLACK	3 DIGITS
NT73 2A (0805) 2B (1206)	PINK	BLACK	3 DIGITS

MARKING contd.

PT72 2A (0805) 2B (1206)	BRONZE	BLACK	4 DIGITS
SR73 2A (0805) 2B (1206) 2E (1210) 2H (2010) 3A (2512)	INDIGO	WHITE	E-96 - 4 DIGITS E-24 - 3 DIGITS
CR73 2B (1206)	BLUE/ YELLOW	NONE	

PACKAGING METHOD

SIZE CODE	7" T PUNCHED	7" TE EMBOSSED PAPER	7" TP PUNCHED PLASTIC	10" TDD PUNCHED PAPER	10" TED EMBOSSED PAPER
1H (0201)	-----	-----	10000	-----	-----
1E (0402)	-----	-----	10000	-----	-----
1J (0603)	5000	-----	-----	10000	-----
2A (0805)	5000	4000	-----	10000	10000
2B (1206)	5000	4000	-----	10000	10000
2E (1210)	5000	4000	-----	10000	-----
2H (2010)	-----	4000	-----	-----	10000
3A (2512)	-----	4000	-----	-----	10000

STANDARD E-24 (5%) DECADE VALUES

1.0 1.1 1.2 1.3 1.5 1.6 1.8 2.0 2.2 2.4 2.7 3.0
3.3 3.6 3.9 4.3 4.7 5.1 5.6 6.2 6.8 7.5 8.2 9.1

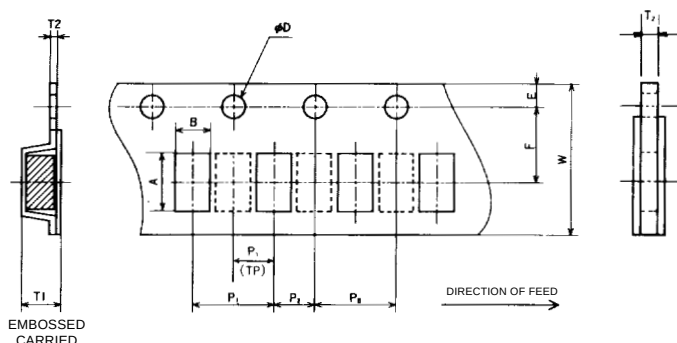
STANDARD E-96 ($\leq 1\%$) DECADE VALUES

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

* Currently in the process of changing to 4-digit marking for both E-96 and E-24.

PACKAGING SPECIFICATIONS

CARRIER TAPE

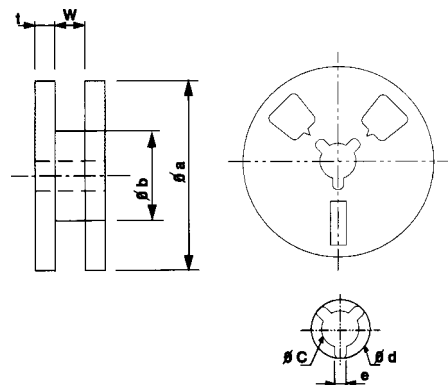


(NOTES) DOTTED LINES ARE APPLICABLE ONLY FOR 1E, 1J AND 2A SIZES ON 1000 PIECE REELS.

DIMENSIONS (mm)

PACKAGING	SIZE CODE	A	B	W	E	F	T1	T2	P0	P1	P2	ΔD
(TP) 7" PAPER TAPE (2mm PITCH)	1H (0201) 1E (0402)	1.15±0.1	0.65±0.1	8.0±0.2	1.75±0.1	3.5±0.05	----	0.45±0.1	4.0±0.1	2.0±0.05	2.0±0.05	1.5±0.1 -0
(T) 7" PAPER TAPE	1J (0603) 2A (0805) 2B (1206) 2E (1210)	1.9±0.1 2.4±0.1 3.5±0.1 3.5±0.1	1.1±0.1 1.65±0.1 1.9±0.1 2.8±0.1	≤ ≤ ≤ ≤	≤ ≤ ≤ ≤	≤ ≤ ≤ ≤	---- ---- ---- ----	0.60±0.1 0.75±0.1 ≤ ≤	≤ ≤ ≤ ≤	4.0±0.1 ≤ ≤ ≤	≤ ≤ ≤ ≤	≤ ≤ ≤ ≤
(TE) 7" EMBOSSED PLASTIC	2A (0805) 2B (1206) 2E (1210) 2H (2010) 3A (2512)	2.4±0.2 3.5±0.1 3.6±0.15 5.4±0.2 6.9±0.2	1.45±0.15 1.9±0.2 2.9±0.15 2.9±0.2 3.6±0.2	≤ ≤ ≤ 12.0±0.1 ≤	≤ ≤ ≤ ≤ ≤	≤ ≤ ≤ 5.5±0.5 ≤	0.85±0.1 1.0±0.1 " 0.85±0.1 ≤	0.25±0.1 ≤ 0.2±0.1 ≤ ≤	≤ ≤ ≤ ≤ ≤	≤ ≤ ≤ ≤ 4.0±0.1	≤ ≤ ≤ ≤ ≤	≤ ≤ ≤ ≤ ≤
(TDD) 10" PAPER TAPE	1J (0603) 2A (0805) 2B (1206) 2E (1210)	1.9±0.1 2.4±0.1 3.5±0.1 3.5±0.1	1.1±0.1 1.65±0.1 1.9±0.1 2.8±0.1	≤ ≤ ≤ ≤	≤ ≤ ≤ ≤	≤ ≤ ≤ ≤	---- ---- ---- ----	0.60±0.1 0.75±0.1 ≤ ≤	≤ ≤ ≤ ≤	≤ ≤ ≤ ≤	≤ ≤ ≤ ≤	≤ ≤ ≤ ≤
(TED) 10" EMBOSSED PLASTIC	2A (0805) 2B (1206) 2E (1210) 2H (2010) 3A (2512)	2.4±0.2 3.5±0.1 3.6±0.15 5.4±0.2 6.9±0.2	1.45±0.15 1.9±0.2 2.9±0.15 2.9±0.2 3.6±0.2	≤ ≤ ≤ 12±0.1 ≤	≤ ≤ ≤ ≤ ≤	≤ ≤ ≤ 5.5±0.5 ≤	0.85±0.1 1.0±0.1 ≤ 0.85±0.1 ≤	0.25±0.1 ≤ 0.2±0.1 ≤ ≤	≤ ≤ ≤ ≤ ≤	≤ ≤ ≤ ≤ 4.0±0.1	≤ ≤ ≤ ≤ ≤	≤ ≤ ≤ ≤ ≤

REEL SPECIFICATIONS



SIZE CODE	DIMENSION (mm)							
	Øa max.		Øb	w	t	Øc	Ød	e
	7"	10"						
1H (0201) 1E (0402) 1J (0603) 2A (0805) 2B (1206) 2E (1210) 2H (2010) 3A (2512)	178	255	80±2.0	10±1.0	1.5±0.05	13±0.5	27±20	3.0±0.5
			60±2.0	14±1.0			21±2.0	2.0±0.5