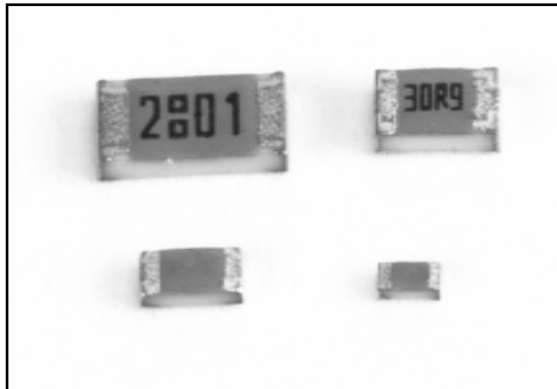


**FLAT CHIP RESISTOR - PRECISION**

FLAT CHIP  
RESISTORS



- RuO<sub>2</sub> 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.

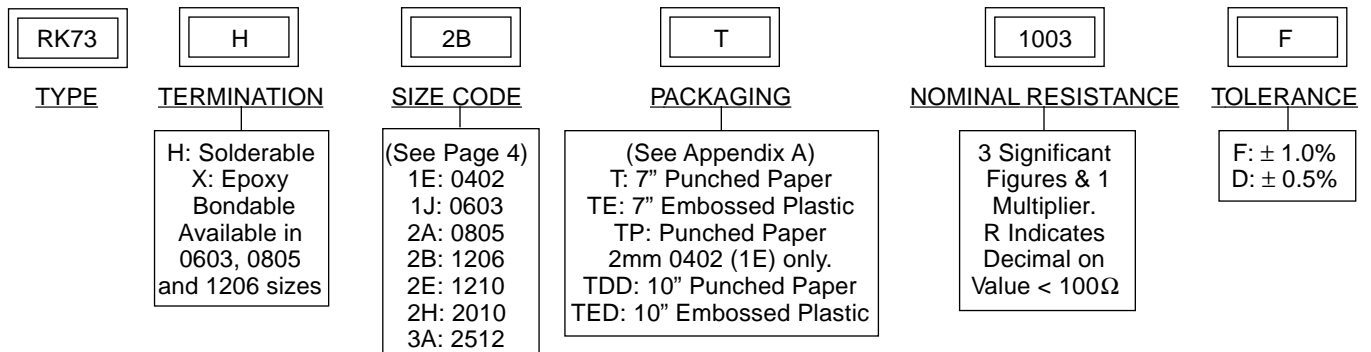
**STANDARD APPLICATIONS**

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	-55°C   +175°C
		±400		1.0Ω - 9.76Ω 1.02MΩ - 10MΩ			
RK73H2B (1206)	250 mW	±100	10Ω - 976KΩ	10Ω - 1MΩ	200V	400V	-55°C   +175°C
		±200		1.02MΩ - 5.6MΩ			
		±400		1.0Ω - 9.76Ω 5.62MΩ - 10MΩ			
RK73H2E (1210)	330 mW	±100	10Ω - 976KΩ	10Ω - 1MΩ	200V	400V	-55°C   +175°C
		±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   +175°C
		±200		1.02MΩ - 5.6MΩ			
		±400		1.0Ω - 9.76Ω 5.62MΩ - 10MΩ			
RK73H3A (2512)	1000mW	±100	10Ω - 976KΩ	10Ω - 1MΩ	200V	400V	-55°C   +175°C
		±200		1.02MΩ - 5.6MΩ			
		±400		1.0Ω - 9.76Ω 5.62 MΩ- 10MΩ			

\* Parenthesis indicates EIA Package Size Codes.

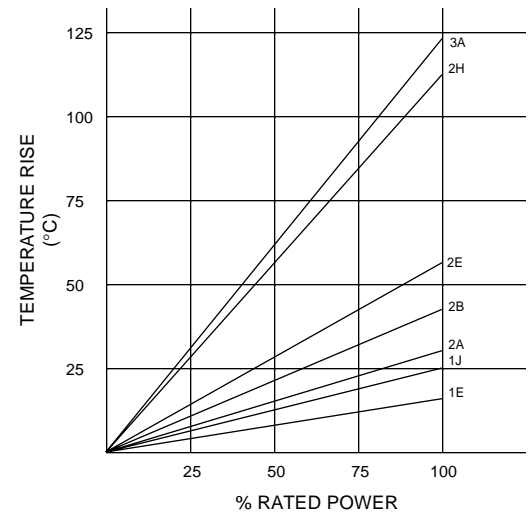
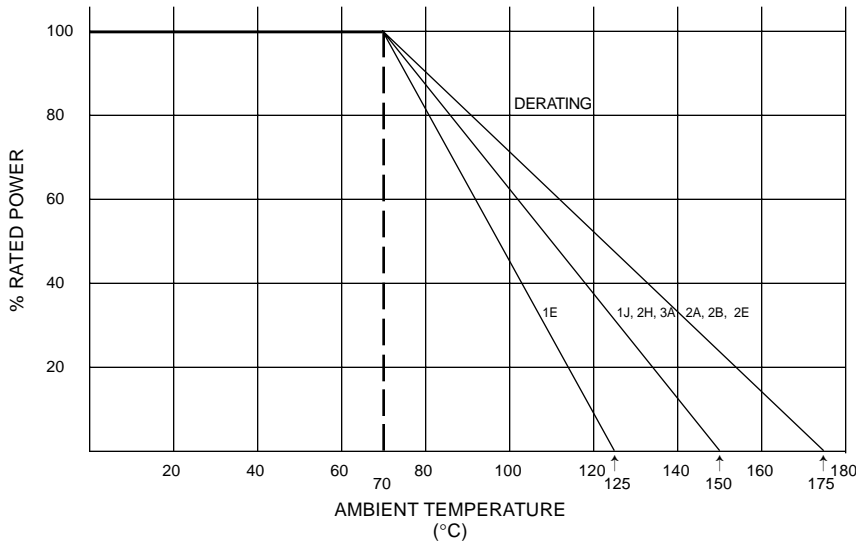
\*\*\* See Appendix A for available decade values.

**ORDERING & SPECIFYING INFORMATION\***



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

**ENVIRONMENTAL APPLICATIONS**



FLAT CHIP RESISTORS

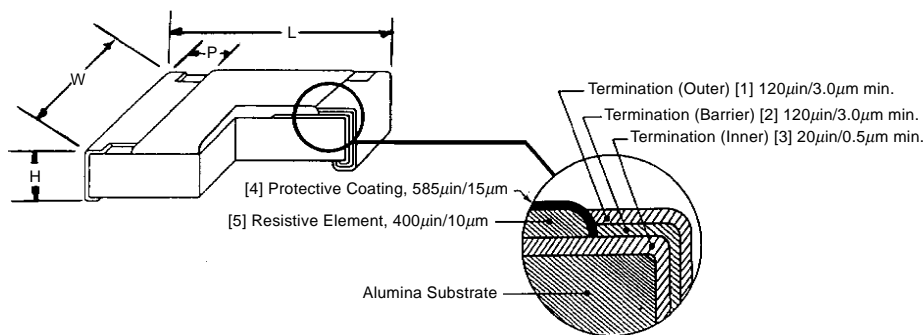
PARAMETER	MAXIMUM Δ R	TEST METHOD
Thermal Shock	±0.2%	MIL-STD-202, Method 107 -55°C ~ +125°C, 5 cycles
Low Temperature Operation	±0.2%	MIL - R - 55342 π 4.7.4 1 Hour @ -55°C followed by 45 minutes of RCWV**
High Temperature Exposure	±0.5%	MIL - R - 55342 π 4.7.6 100 Hours @ 125°C
Short Time Overload	±2.0%	MIL - R - 55342 π 4.7.5 2.5 X RCWV for 5 seconds
Resistance to Solder Heat	±0.2%	MIL - R - 55342 π 4.7.7 260°C for 10 seconds
Terminal Strength-Push	±0.75%	1.2 Kg for 1 minute
Terminal Strength-Bend	±0.5%	5mm Deflection in Either Direction for 10 Seconds
Moisture Resistance	±0.5%	MIL - STD - 202, Method 103 40°C, 90 - 95%RH, 1000 Hours
Life	±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 <a href="http://www.koaspeer.com">www.koaspeer.com</a>		
Pulse	±1.5%	2.5 X RCWV**, Not Exceeding Maximum Overload Voltage 1 Second ON, 25 Seconds OFF 10,000 Cycles
Temperature Cycling	±0.75%	30 Minutes at -55°C; 15 Minutes at +25°C, 30 Minutes at + 125°C, 15 Minutes at +25°C, 5 Cycles
<b>MINIMUM</b>		
Terminal Adhesion	15 Grams	Axial Pull, One Terminal at a Time
Dielectric Withstanding Voltage		MIL - STD - 202, Method 301
	1E 100V 1J 100V 2A 400V 2B 400V 2E 400V 2H 400V 3A 400V	
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 EMBOSSSED PAPER	7" TP PUNCHED PLASTIC	10" TDD PUNCHED PAPER	10" TED EMBOSSSED 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

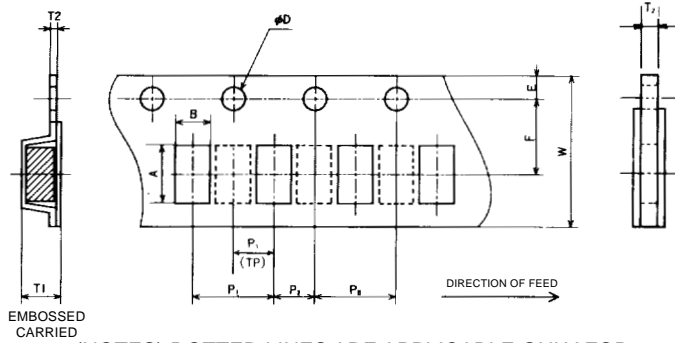
### STANDARD E-96 ( $\leq 1\%$ ) DECADE VALUES

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**

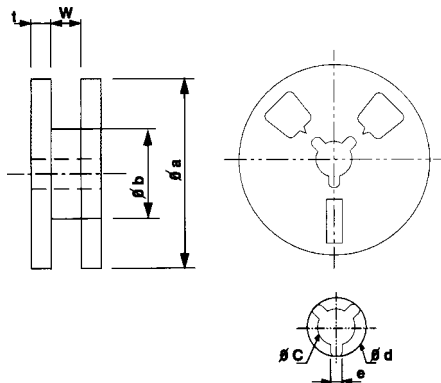


(NOTES) DOTTED LINES ARE APPLICABLE ONLY FOR 1E, 1J AND 2A SIZES ON 1000 PIECE REELS.

**DIMENSIONS (mm)**

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

**REEL SPECIFICATIONS**



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