

convex termination with square corners resistor array



features

- Manufactured to type RK73 standards
- Less board space than individual chips
- Isolated resistor elements
- Convex terminations with square corners (CN_K)
- Flat termination with square corners (CN_N)
- Marking: Body color black
 - 1FN8K, 1E no marking
 - 1F8K: $\pm 1\%$: white four-digit marking, $\pm 5\%$: white three-digit marking
 - 1J white three-digit marking
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Qualified: CN1J4K only

dimensions and construction



| Size Code | Dimensions inches (mm) | | | | | | | | |
|---------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|----------------|
| | L | W | c | d | t | a | a2 | b | P |
| 1E2K (0402x2) | .039 \pm .004 (1.0 \pm 0.1) | .039 \pm .004 (1.0 \pm 0.1) | .006 \pm .004 (0.15 \pm 0.1) | .010 \pm .004 (0.25 \pm 0.1) | .014 \pm .004 (0.35 \pm 0.1) | .013 \pm .004 (0.33 \pm 0.1) | — | .007 \pm .002 (0.17 \pm 0.05) | .026 (0.67) |
| 1E4K (0402x4) | .079 \pm .004 (2.0 \pm 0.1) | | .006 \pm .004 (0.15 \pm 0.1) | .010 \pm .008 (0.25 \pm 0.2) | | .012 \pm .006 (0.3 \pm 0.15) | .016 \pm .006 (0.4 \pm 0.15) | .006 \pm .004 (0.15 \pm 0.1) | .020 (0.5) |
| 1J2K (0603x2) | .063 \pm .006 (1.6 \pm 0.15) | .063 \pm .006 (1.6 \pm 0.15) | .012 \pm .008 (0.3 \pm 0.2) | .010 \pm .004 (0.25 \pm 0.1) | .020 \pm .004 (0.5 \pm 0.1) | .024 \pm .006 (0.6 \pm 0.15) | — | .012 \pm .004 (0.3 \pm 0.1) | 0.031 (0.8) |
| 1J4K (0603x4) | .126 \pm .006 (3.2 \pm 0.15) | | .020 \pm .006 (0.5 \pm 0.15) | .026 \pm .006 (0.65 \pm 0.15) | | | | | |
| 1F8K 1FN8K (0602x8) | .149 \pm .004 (3.8 \pm 0.1) | .063 \pm .004 (1.6 \pm 0.1) | .012 \pm .004 (0.3 \pm 0.1) | .012 \pm .004 (0.3 \pm 0.1) | .018 \pm .004 (0.45 \pm 0.1) | .012 \pm .004 (0.30 \pm 0.1) | — | .006 (0.15) | .020 (0.5) |

ordering information

| New Part # | CN | 1J | 4 | K | T | TD | 101 | J |
|------------|----|----------|----------|--|--|--|--|------------------------------|
| Type | | Size | Elements | Terminal Convex | Termination Material | Packaging | Nominal Resistance | Tolerance |
| | | 1E 1J | 2 4 | K: Convex type with square corners N: Flat type with square corners | T: Sn (1E, 1J: Other termination styles may be available, please contact factory for options) | TD: 7" paper tape TDD: 10" paper tape | 2 significant figures + 1 multiplier for $\pm 5\%$ 3 significant figures + 1 multiplier for $\pm 1\%$ | F: $\pm 1\%$ J: $\pm 5\%$ |

| New Part # | CN | 1F | N | 8 | K | T | TD | 101 | J |
|------------|----|------|------------------------------------|----------|------------------------------------|--|----------------------|--|------------------------------|
| Type | | Size | Marking | Elements | Terminal Convex | Termination Material | Packaging | Nominal Resistance | Tolerance |
| | | | Blank: Marking N: No Marking | | K: Convex type with square corners | T: Sn (Other termination styles may be available, please contact factory for options) | TD: 7" paper tape | 2 significant figures + 1 multiplier for $\pm 5\%$ 3 significant figures + 1 multiplier for $\pm 1\%$ | F: $\pm 1\%$ J: $\pm 5\%$ |

For further information on packaging, please refer to Appendix A.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

11/12/15

applications and ratings

| Part Designation | Power Rating @ 70°C (Per Element) | Rated Ambient Temp. | Rated Terminal Temp. | Resistance Range | | T.C.R. (ppm/°C) Max. | | Absolute Maximum Working Voltage | Maximum Overload Voltage (5 Secs. Max.) | Operating Temp Range |
|------------------|------------------------------------|---------------------|----------------------|-------------------|-------------|----------------------|--------------------------|----------------------------------|---|----------------------|
| | | | | E-24, E-96 (F±1%) | E-24 (J±5%) | (F±1%) | (J±5%) | | | |
| CN1E2K | 1/16W (.063W) | +70°C | +125°C | 10Ω - 100kΩ | 10Ω - 1MΩ | ±200:R≥10Ω | ±200:R>10Ω ±400:R<10Ω | 25V | 50V | -55°C to +155°C |
| CN1E4K | | | | | 1Ω - 1MΩ | ±100:R≥10Ω | | | | |
| CN1J2K | | | | | | | | | | |
| CN1J4K | 1/16W (.063W) 0.25W per package | — | — | 10Ω - 100kΩ | 10Ω - 1MΩ | ±200:R≥10Ω | 25V | 50V | -55°C to +125°C | |
| CN1F8K | | | | | CN1FN8K | | | | | |

Note that network resistors generate higher heat rather than single flat chip resistor under rated power output

If any questions should arise whether to use the "Rated Ambient Temperature" or the "Rated Terminal Part Temperature," please give priority to the "Rated Terminal Part Temperature." Prior to use and for more details refer to "Introduction of the derating curves on the terminal part temperature" in the beginning of the catalog.

environmental applications

Derating Curve



For resistors operated at a terminal part temperature of described for each size or above, a power rating shall be derated in accordance with the derating curve. Please refer to "Introduction of the derating curve based on the terminal part temperature" on the beginning of our catalog before use.

For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.

circuit schematic

CN1E2K, CN1J2K



CN1E4K, CN1J4K



CN1F8K, CN1FN8K



Circuit Board Application



Performance Characteristics

| Parameter | Requirement Δ R | | Test Method |
|-----------------------------|----------------------------|-------------------------------------|--|
| | Limit | Typical | |
| Resistance | Within regulated tolerance | — | 25°C |
| T.C.R. | Within specified T.C.R. | — | +25°C/-55°C, +25°C/+125°C |
| Overload (Short time) | ±2.0% | ±0.25% | Rated voltage x 2.5 for 5 seconds |
| Resistance to Solder Heat | ±1.0% | ±0.75% | 260°C ± 5°C, 10 seconds ± 1 second |
| Rapid Change of Temperature | ±1.0% | ±0.5% | -55°C (30 minutes), +125°C (30 minutes), 5 cycles |
| Moisture Resistance | ±5.0% | ±1.0% | 40°C ± 2°C, 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| Endurance at 70°C | ±5.0% | ±0.5% | 70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| High Temperature Exposure | ±1.0% | ±0.15%: CN1F8K +0.25: All others | +125°C, 100 hours: CN1F8K +155°C, 100 hours: CN1E2K, CN1E4K, CN1J2K, CN1J4K |



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