



**THE DATASHEET OF  
WK73S3ATTE68LJ**

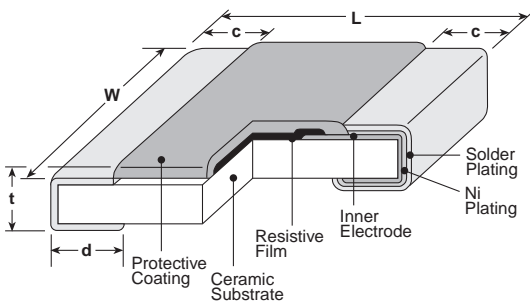




## features

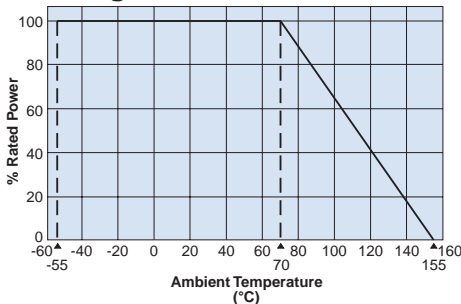
- Wide-side termination (reverse-geometry) type flat chip resistor
- High reliability and performance with T.C.R.  $\pm 100 \times 10^{-6}/K$ , resistance tolerance  $\pm 0.5\%$
- Suitable for both reflow and flow solderings
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Tested

## dimensions and construction

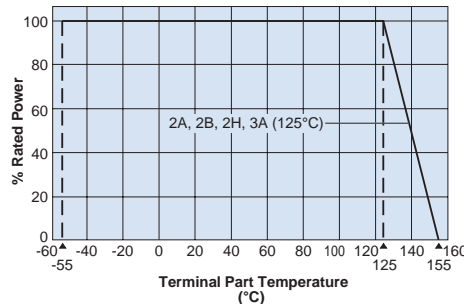


| Type<br>(Inch Size Code) | Dimensions inches (mm)   |                         |                         |                          |                         |
|--------------------------|--------------------------|-------------------------|-------------------------|--------------------------|-------------------------|
|                          | L                        | W                       | c                       | d                        | t                       |
| 2A<br>(0508)             | .049±.006<br>(1.25±0.15) | .079±.006<br>(2.0±0.15) | .016±.006<br>(0.4±0.15) | .014±.008<br>(0.35±0.2)  | .022±.004<br>(0.55±0.1) |
|                          |                          |                         | .012±.008<br>(0.3±0.2)  |                          |                         |
| 2B<br>(0612)             | .063±.006<br>(1.6±0.15)  | .126±.008<br>(3.2±0.2)  | .012±.008<br>(0.3±0.2)  | .018±.006<br>(0.45±0.15) | .024±.004<br>(0.6±0.1)  |
| 2H<br>(1020)             | .098±.006<br>(2.5±0.15)  | .197±.006<br>(5.0±0.15) | .016±.008<br>(0.4±0.2)  | .030±.006<br>(0.75±0.15) |                         |
| 3A<br>(1225)             | .122±.006<br>(3.1±0.15)  | .252±.006<br>(6.3±0.15) | .018±.008<br>(0.45±0.2) |                          |                         |

## Derating Curve

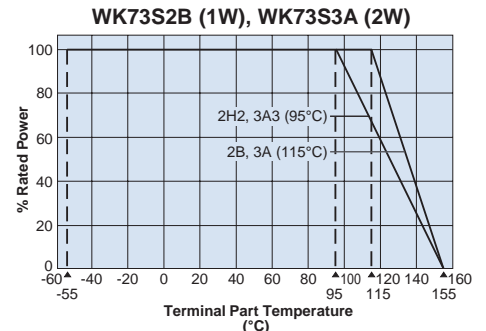


For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.



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

If you want to use at rated power (\*1), use derating curves based on the terminal part temperature on the right side graph.



## ordering information

|              |   |                             |   |   |                              |
|--------------|---|-----------------------------|---|---|------------------------------|
| <b>WK73S</b> | <b>2A</b>   | <b>T</b>                    | <b>TE</b>   | <b>33L0</b>   | <b>F</b>                     |
| <b>Type</b>  | <b>Size</b>                                       | <b>Termination Material</b> | <b>Packaging</b>  | <b>Nominal Resistance</b>   | <b>Resistance Tolerance</b>  |
| WK73S        | 2A: 1W<br>2B: 0.75W, 1W<br>2H: 1W<br>3A: 1.5W, 2W | T: Sn                       | TD: 0508, 0612: 7" 4mm pitch punched paper<br>TE: 1020, 1225: 7" embossed plastic<br>For further information on packaging, please refer to Appendix A | ±1%: 3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω<br>±5%: 2 significant figures + 1 multiplier "R" indicates decimal on values <10Ω<br>All values less than 0.1Ω (100mΩ) are expressed in mΩ with "L" as decimal.<br>Ex: 33mΩ, 1% = 33L0 | D: ±0.5%<br>F: ±1%<br>J: ±5% |

## applications and ratings

current sense

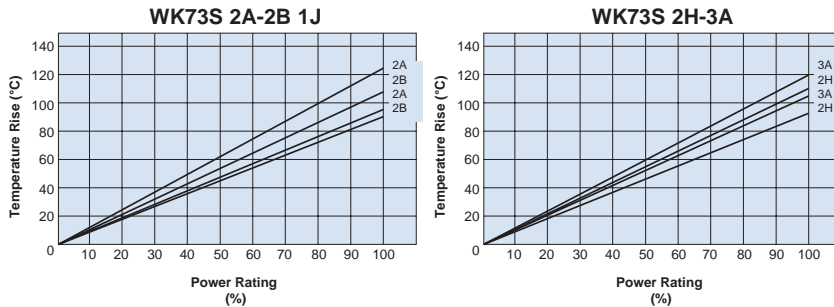
| Part Designation | Power Rating      | Rated Ambient Temp. | Rated Terminal Part Temp. | T.C.R. (X 10 <sup>-6</sup> /K) | Resistance Range (Ω) |                |            | Operating Temp. Range |
|------------------|-------------------|---------------------|---------------------------|--------------------------------|----------------------|----------------|------------|-----------------------|
|                  |                   |                     |                           |                                | D±0.5% E-24/E-96     | F±1% E-24/E-96 | J±5% E-24  |                       |
| WK73S2A          | 1.0W <sup>1</sup> | 70°C                | 125°C                     | ±100                           | —                    | 1 - 9.76       | 1 - 9.1    | -55°C to +155°C       |
|                  |                   |                     |                           | 0~+200                         | —                    | 30m - 976m     | 30m - 910m |                       |
|                  |                   |                     |                           | 0~+300                         | —                    | 20m - 29.4m    | 20m - 27m  |                       |
| WK73S2B          | 0.75W             | 70°C                | 125°C                     | ±100                           | 430m - 9.76          | 430m - 9.76    | 430m - 9.1 |                       |
|                  |                   |                     |                           | ±200                           | —                    | 30m - 422m     | 30m - 390m |                       |
|                  |                   |                     |                           | ±800                           | —                    | —              | 10m - 27m  |                       |
|                  | 1.0W <sup>1</sup> | 70°C                | 115°C                     | ±100                           | 430m - 9.76          | 430m - 9.76    | 430m - 9.1 |                       |
|                  |                   |                     |                           | ±200                           | —                    | 30m - 422m     | 30m - 390m |                       |
|                  |                   |                     |                           | ±800                           | —                    | —              | 10m - 27m  |                       |
| WK73S2H          | 1.0W              | 70°C                | 125°C                     | ±100                           | —                    | 220m - 9.76    | 220m - 9.1 |                       |
|                  |                   |                     |                           | ±200                           | —                    | 27m - 215m     | 27m - 200m |                       |
|                  |                   |                     |                           | ±800                           | —                    | —              | 10m - 24m  |                       |
| WK73S3A          | 1.5W              | 70°C                | 125°C                     | ±100                           | —                    | 360m - 9.76    | 360m - 9.1 |                       |
|                  |                   |                     |                           | ±200                           | —                    | 33m - 357m     | 33m - 330m |                       |
|                  |                   |                     |                           | ±300                           | —                    | 22m - 32.4m    | 22m - 30m  |                       |
|                  |                   |                     |                           | ±800                           | —                    | —              | 10m - 20m  |                       |
|                  | 2.0W <sup>1</sup> | 70°C                | 115°C                     | ±100                           | —                    | 360m - 9.76    | 360m - 9.1 |                       |
|                  |                   |                     |                           | ±200                           | —                    | 33m - 357m     | 33m - 330m |                       |
|                  |                   |                     |                           | ±300                           | —                    | 22m - 32.4m    | 22m - 30m  |                       |
|                  |                   |                     |                           | ±800                           | —                    | —              | 10m - 20m  |                       |

Rated voltage =  $\sqrt{\text{Power rating} \times \text{resistance value}}$

<sup>1</sup> If you want to use at rated power use derating curves based on the terminal part temperature on the right side graph located on previous page.

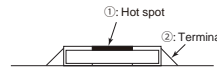
If any questions arise whether to use the "Rated Ambient Temperature" or the "Rated Terminal Part Temperature", please give priority to the "Rated Terminal Part Temperature." For more details refer to the "Introduction of the derating curves based on the terminal part temperature" in the beginning of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

### Temperature Rise

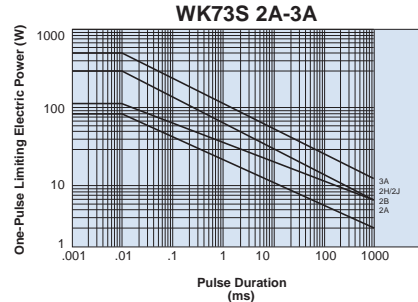


Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions.

Measurement condition  
Room temperature: 25°C  
PCB: FR-4t = 1.6mm  
Cu foil thickness: 35µm



### One-Pulse Limiting Electric Power



Please ask us about the resistance characteristic of continuous applied pulse.

## environmental applications

### Performance Characteristics

| Parameter                   | Requirement $\Delta R \pm(\%+0.005\Omega)$ |   | Test Method   |
|-----------------------------|--|---|---|
|                             | Limit                                      | Typical                                 |   |
| Resistance                  | Within specified tolerance                 | —                                       | 25°C  |
| T.C.R.                      | Within specified T.C.R.                    | —                                       | +25°C/-55°C and +25°C/+125°C  |
| Overload (Short time)       | ±2%  | ±0.2%                                   | Rated voltage x2.5 for 5 seconds (WK73S2A, WK73S2B (1W), WK73S3A (2W)): Rated voltage x2.0 for 5 seconds) |
| Resistance to Solder Heat   | ±1%  | ±0.2%                                   | 260°C ± 5°C, 10 seconds ± 1 second  |
| Bending Test                | ±1%  | ±0.1%                                   | Holding point 90mm, Bending 1 time, Bending 5mm   |
| Rapid Change of Temperature | ±2%  | ±1%                                     | -55°C (30 minutes), +125°C (30 minutes), 1000 cycles  |
| Moisture Resistance         | ±2%  | ±0.2%                                   | 40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle   |
| Endurance at 70°C           | ±2%  | ±0.2%                                   | 70°C ± 2°C or rated terminal part temperature ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle              |
| High Temperature Exposure   | ±2%: WK73S (±5%)<br>±1%: all others        | ±0.5%: WK73S (±5%)<br>±0.2%: all others | +155°C, 1000 hours  |

Additional environmental applications can also be found at [www.koaspeer.com](http://www.koaspeer.com)

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

10/20/23

## Looking for pricing, stock, or lifecycle information?

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