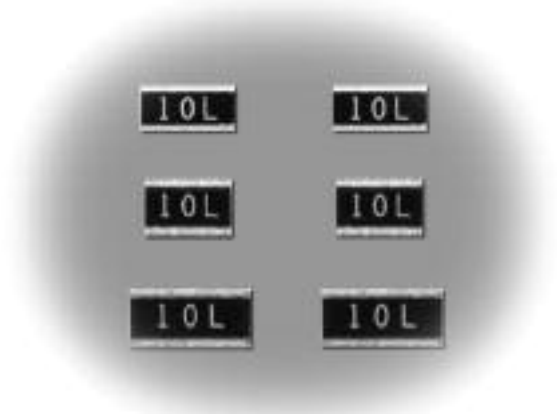
KOA SPEER ELECTRONICS, INC.

# WK73

## high power, wide terminal type flat chip resistors

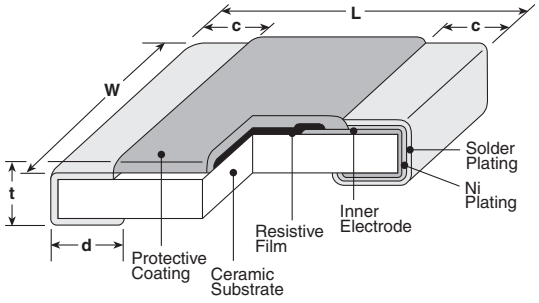
EU RoHS COMPLIANT




## features

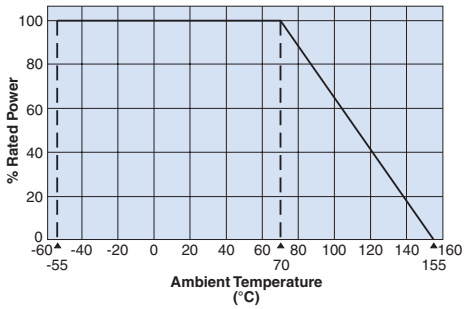
- Flat chip resistors of wide terminal type
- High reliability and performance with T.C.R. ±100 x $10^{-6}$/K, resistance tolerance ±1%
- Marking: Black protective coat
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.
- AEC-Q200 Qualified: 0612(2B), 1020(2H), 1218(2J), 1225(3A)

## dimensions and construction

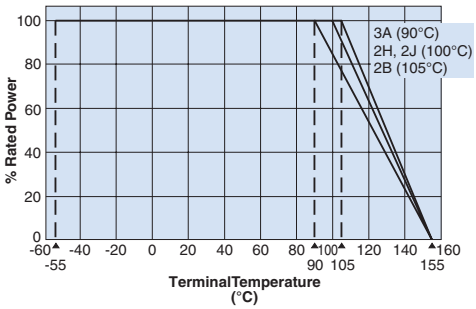



| Type (Inch Size Code) | Dimensions inches (mm) L | W | c | d | t |
|---|---|---|---|---|---|
| 2B (0612) | .063±.006 (1.6±0.15) | .126±.006 (3.2±0.2) | .012±.008 (0.3±0.2) | .018±.006 (0.45±0.15) | .024±.004 (0.6±0.1) |
| 2H (1020) | .098±.006 (2.5±0.15) | .197±.006 (5.0±0.15) | .016±.008 (0.4±0.2) | .030±.006 (0.75±0.15) | |
| 2J (1218) | .122±.006 (3.1±0.15) | .181±.006 (4.6±0.15) | .016±.008 (0.4±0.2) | | |
| 3A (1225) | .122±.006 (3.1±0.15) | .252±.006 (6.3±0.15) | .018±.008 (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.

## ordering information

New Part #

| WK73S | 2J | T | TE | 33L0 | F |
|---|---|---|---|---|---|
| **Type** | **Size** | **Termination Material** | **Packaging** | **Nominal Resistance** | **Resistance Tolerance** |
| WK73S<br>WK73R | 2B: 0.75W<br>2H: 1W<br>2J: 1W<br>3A: 1.5W | T: Sn | TD: 0612: 7" 4mm pitch punched paper<br>TE: 1020, 1218, 1225: 7" embossed plastic<br>TED: 1020, 1218, 1225: 10" 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. Ex: 33mΩ, 1% = 33L0 | F: ±1%<br>J: ±5% |



12/17/12

## applications and ratings

| | Part Designation | Power Rating @ 70°C | T.C.R. (ppm/°C) Max. | Resistance Range (Ω) E-24 (F±1%) | Resistance Range (Ω) E-24 (J±5%) | Maximum Working Voltage | Maximum Overload Voltage | Operating Temperature Range |
|---|---|---|---|---|---|---|---|---|
| NEW | WK73S2B | 0.75W | ±800 | — | 10m - 27m | 200V | 400V | -55°C to +155°C |
| | | | ±200 | 30m - 390m | 30m - 390m | | | |
| | | | ±100 | 430m - 9.1 | 430m - 9.1 | | | |
| | WK73R2B | 0.75W | ±100 | 10 - 1M | 10 - 1M | | | |
| | WK73S2H | 1.0W | ±800 | — | 10m - 24m | 200V | 400V | |
| | | | ±200 | 27m - 200m | 27m - 200m | | | |
| | | | ±100 | 220m - 9.1 | 220m - 9.1 | | | |
| | WK73R2H | 1.0W | ±100 | 10 - 430k | 10 - 430k | | | |
| | | | ±200 | 470k - 1M | 470k - 1M | | | |
| | WK73S2J | 1.0W | ±800 | — | 10m - 30m | 200V | 400V | |
| | | | ±200 | 33m - 220m | 33m - 220m | | | |
| | | | ±100 | 240m - 9.1 | 240m - 9.1 | | | |
| | WK73R2J | 1.0W | ±100 | 10 - 510k | 10 - 510k | | | |
| | | | ±200 | 560k - 1M | 560k - 1M | | | |
| | WK73S3A | 1.5W | ±800 | — | 10m - 20m | 200V | 400V | |
| | | | ±300 | 22m - 30m | 22m - 30m | | | |
| | | | ±200 | 33m - 330m | 33m - 330m | | | |
| | | | ±100 | 360m - 9.1 | 360m - 9.1 | | | |
| | WK73R3A | 1.5W (2.0W)* | ±100 | 10 - 330k | 10 - 330k | | | |
| | | | ±200 | 360k - 1M | 360k - 1M | | | |

* Please contact factory prior to use

## environmental applications

### Performance Characteristics

| Parameter | Requirement Δ R ±(%+0.005Ω) Limit | Typical | Test Method |
|---|---|---|---|
| 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 x 2.5 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 | ±0.5% | ±0.1% | -55°C (30 minutes), +155°C (30 minutes), 5 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, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle |
| High Temperature Exposure | ±2%: WK73S (±5%) ±1%: all others | ±0.5%: WK73S (±5%) ±0.2%: all others | +155°C, 1000 hours |

Additional environmental applications can also be found at www.koaspeer.com