



First to Market



Datasheet



Automotive



Energy



Industrial



LED Drives



Consumer Electronics

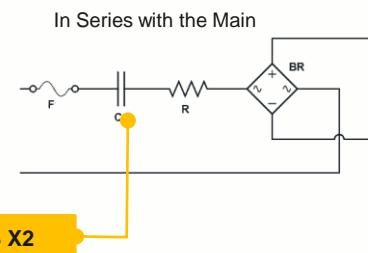
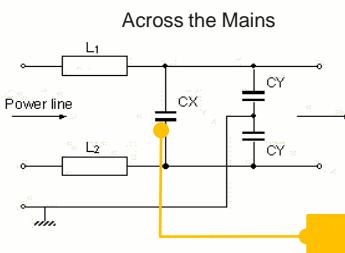
R53 Overview



- First to Market X2 technology in terms of combined THB Grade 3B level, miniaturized dimensions and the highest capacitance value.
- C: 100 nF – 22 μ F
- V: 310 VAC
- Recommended DC Voltage \leq 630VDC
- Max. Temp. 110 °C
- Lead Space: 15.0 – 37.5 mm
- Internal parallel construction
- Automotive Grade (AEC-Q200)
- Harsh Environment Capability
 - Grade IIIB in accordance with IEC 60384-14 Am.1 Ed.4
 - THB 85°C / 85% R.H. / 1000 h / 310 VAC and 560 VDC

C (μ F) **Minimum Lead Spacing (mm)**

| | |
|------|------|
| 0.10 | |
| 0.22 | |
| 0.33 | |
| 0.47 | |
| 0.56 | |
| 0.68 | |
| 0.82 | |
| 1 | 15 |
| 1.2 | |
| 1.5 | |
| 1.8 | |
| 2.2 | |
| 3.3 | |
| 3.9 | |
| 4.7 | |
| 5.6 | |
| 6.8 | |
| 8.2 | |
| 10 | |
| 15 | 22.5 |
| 22 | |
| 10 | |
| 15 | 27.5 |
| 22 | |
| 10 | |
| 15 | 37.5 |
| 22 | |





R53 Applications



Automotive

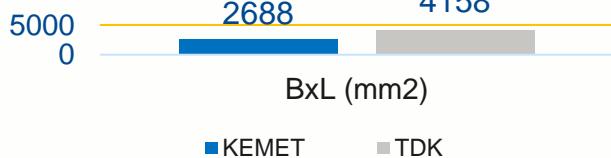


EMI filter in Wireless Power Transfer

Smaller dimensions (miniaturization) than competitor.

Use of six X2 capacitors 4.7uF in the circuit

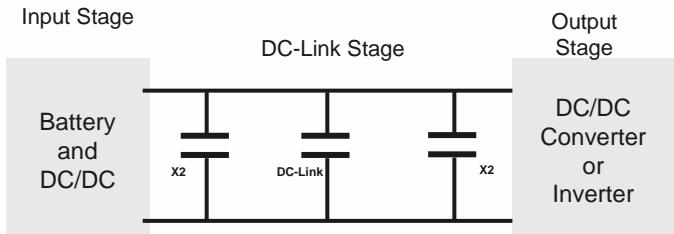
PCB occupation comparison (Considered 6 x 4.7uF)



(BxL) 35% PCB Surface saving by using R53 series

DC/DC and DC/AC conversion

- ▶ R53 is capable to work in DC applications up to 630V and is Grade IIIIB qualified 85°C / 85%R.H. 1000hrs at 560Vdc
 - These characteristics perfectly fit with 400Vdc automotive battery systems applications
- ▶ R53 may be used for high frequency filtering in parallel with the bulk capacitor when an X2 certified capacitors is required.





R53 Applications



Energy



Solar Micro Inverters

This application requires X2 capacitors with the following characteristics:

- High capacitance stability in harsh environment conditions
- Compact size
- High temperature changes capabilities

➤ R53 series offers in the same product the following characteristics:

- Grade IIIB qualification
- AECQ200 qualification
- High miniaturization





R53 Applications



Industrial



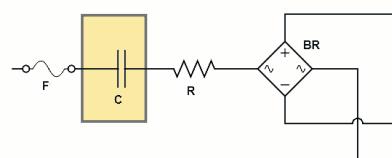
&

Energy



Smart Utility Meter

- ▶ Capacitive PS on E-Meter
- ▶ THB with Grade IIIB comply for long life stability and reliability under harsh environments.
- ▶ Miniaturization critical. R53 (0.47 μ F) provided 38% PCB surface saving vs competitor MKT solution.



In Series with the Main



Comparison in Volume of a C: 0.47 μ F, 15 mm lead space Solution with MKT competitor's series

| Company | Rated Voltage | % In Volume Larger than R53 (X,Y,Z) |
|-----------------------------|---------------|-------------------------------------|
| Faratronic MKT61(C26) | 305Vac | 65% bigger |
| TDK B32932 ... B32936 | 305Vac | 65% bigger |