PhaseCap Compact Capacitors

Series/Type: MKK400-D-5-02

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B25673A4052A000	B25675C*	2021-05-21	2021-09-30	2021-12-31

Please contact your nearest TDK sales office if you need support in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.tdk-electronics.tdk.com/sales.

Construction

- Dielectric: Polypropylene film
- Non-PCB, semi-dry biodegradable resin
- Concentric winding
- Wave cut
- Extruded round aluminium can with stud
- Provided with ceramic discharge module
- Overpressure disconnector.

Features

- Three-phase, delta connected
- Self-healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting

Typical applications

- For Power Factor Correction

Terminals

- Optimized capacitor safety terminals

Mounting

- Threaded stud at bottom of can
  (max. torque for M12 = 10 Nm)

Technical data and specifications

Characteristics	MKK400-D-5-02	
Rated capacitance C_N	3 • 33.2 µF	
Tolerance	–5 / +10%	
Connection	D (Delta)	
Rated voltage V_N	400 V AC	
Rated frequency f_N	50 Hz	60 Hz
Output	5.0 kvar	6.0 kvar
Rated current I_R	7 A	9 A
tan δ_0 (dielectric)	~0.2 W / kvar	
W_N	16 Ws	
R_S	3.19 mΩ	
R_{is} • C	30000 s	
*tan δ (50 Hz)	≤ 0.3 W / kvar	

* Without discharge resistor

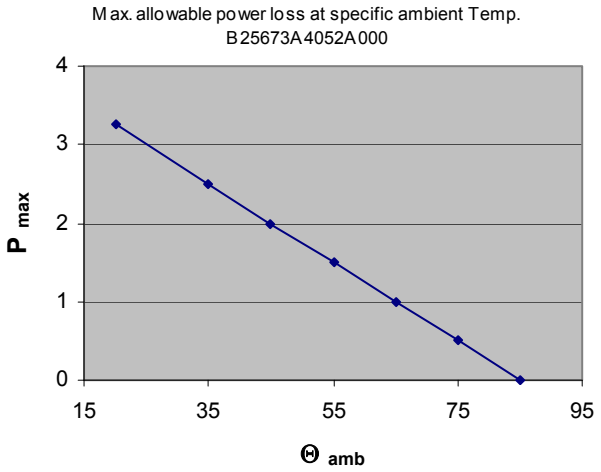
Maximum ratings	
V_{max} (up to 8 h daily)	440 V AC rms / 622 V peak
V_{max} (up to 1 min)	520 V AC rms / 735 V peak
I_{max}	Up to 2.2 • I_R (A) including combined effects of harmonics, overvoltages and capacitance tolerance*
I_S	400 • I_R (A)
$V_{TC\ imp}$	8000 Vpk (Standard 1.2/50 µs impulse)

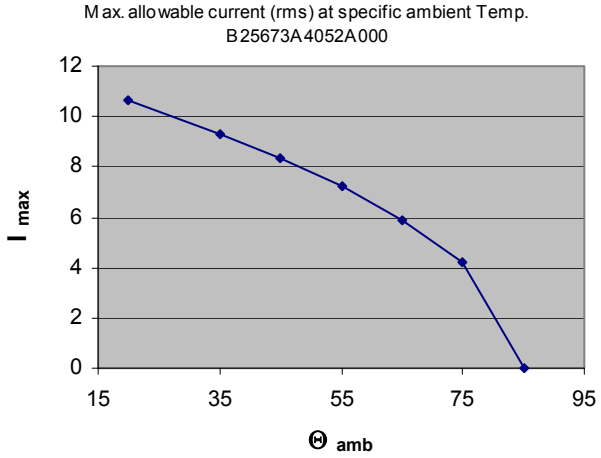
*Care must be taken to ensure that the maximum permissible voltages and operating temperatures are not exceeded

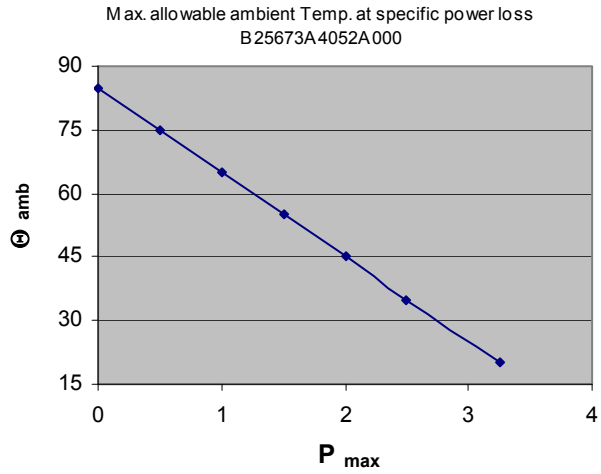
Test data	
V_{TT}	900 V AC / 50 Hz for 10 s
V_{TC}	3000 V AC / 50 Hz for 10 s

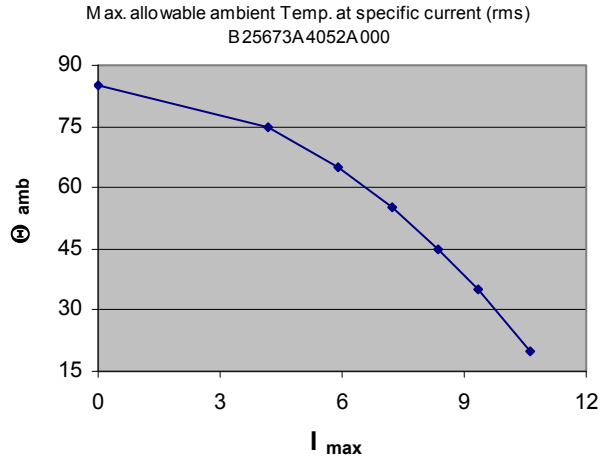
Design data	
Dimensions (d x h)	85 x 125 mm
Weight approx	0.7 kg
Impregnation	Non PCB, semi-dry biodegradable resin
Fixing	Threaded bolt M12
Max. torque (Al can stud)	10 Nm
Mounting position	Any mounting position possible. See “Maintenance and Installation Manual” for further details.

Climatic category –40/60		
Θ min	–40 °C	
Θ max	60 °C	
Storage temperature	–40 °C….+85 °C	
$\Theta_{hotspot}$ Max.	85 °C	
Maximum power loss at $\Theta_{ambient}$	P max	at $\Theta_{ambient}$
	1.5 W	55 °C
	1.0 W	65 °C
	0.5 W	75 °C
	0 W	85 °C
Humidity	av. rel. < 95%	
Degree of protection	IP 20	
Maximum altitude	4,000 m	









Mean life expectancy	
t_{LD}	Up to 200 000 hours (temperature class –40/C) ; $\Theta_{HS} \leq 70°C$ Up to 150 000 hours (temperature class –40/60) ; $\Theta_{HS} \leq 70°C$
Max. 10000 switchings per year	

Terminals	
Protection degree	Isolated terminals, IP20
Max. torque	1.2 Nm
Terminal cross section	16 mm^2
Maximum terminal current	50 A
Creepage distance (min)	12.7 mm
Clearance (min)	9.6 mm

Safety	
Mechanical safety	Overpressure disconnector
Max. short circuit current	(AFC: 10 kA)
Discharge resistor time	≤ 60 s to 75 V or less

Reference standards
IEC 60831–1/2, UL 810-5th edition

Label design

EPCOS
Power Quality Solutions

PhaseCap®
Compact

MKK400-D-5-02
B25673A4052A000

C_N = 3X33.2 µF +10/-5 % Δ SH

U_N	Q_N/50Hz	Q_N/60Hz
400V	5.0 kvar	6.0 kvar
380V	4.5 kvar	5.4 kvar
240V	1.8 kvar	2.2 kvar

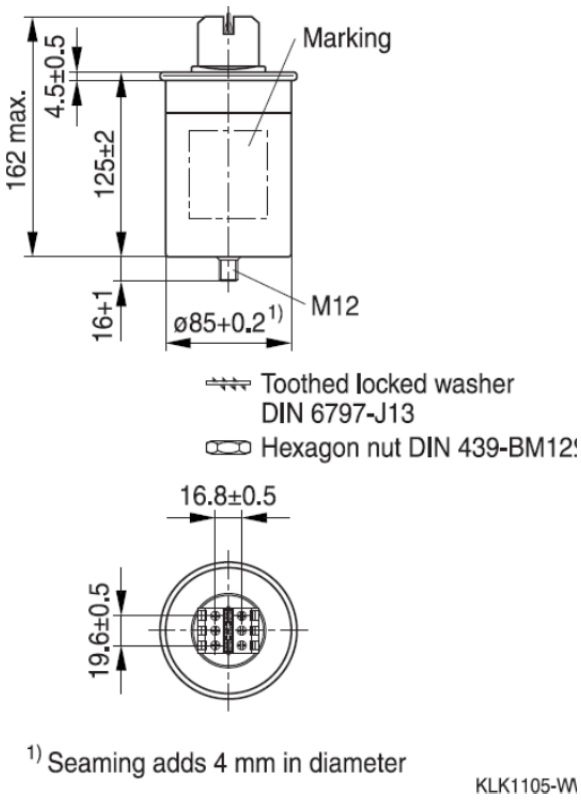
U_i = 3/-kV -40/60

Overpressure disconnector Non PCB

IEC 60831(96) CE

Made by EPCOS 09.11

DISCHARGE CAPACITOR BEFORE HANDLING



1) Seaming adds 4 mm in diameter

KLK1105-W

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The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application.** As a rule we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified.** In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.tdk-electronics.tdk.com/material). Should you have any more detailed questions, please contact our sales offices.
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