

DC choke – CH4009

Special Features:

- Nominal inductance: 45 μ H
- Nominal current, RMS: 30 A
- Modulation frequency: 10 - 150 kHz
- Compliance:
 - IEC 62109-1:2010
 - UL62109-1:2014
 - RoHS and REACH
- Low profile
- Operating ambient temperature: -40°C to 85°C
- Designed for fully automated assembly process
- Design suitable for recycling
- No glue or varnish added



Figure 1. General view

Typical Applications:

- PV inverters
- DC/AC converter
- Grid connected converters

For samples or custom solutions please contact directly:
inquiry@sma-magnetics.com

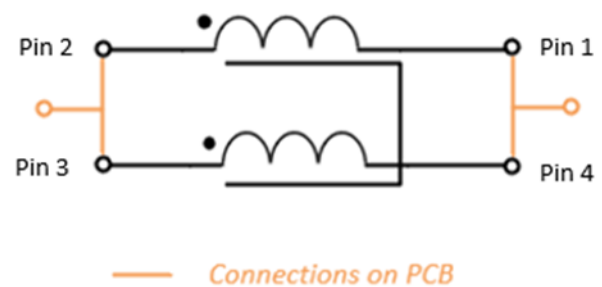


Figure 2. Electrical circuit





Table 1. Electrical parameters.

Parameter description	Parameter	Comment
Circuits	Circuit terminals are shown in Błąd! Nie można odnaleźć źródła odwołania.	-
Initial inductance	$45 \mu\text{H} \leq L_{\text{initial}} \leq 51 \mu\text{H}$ between shorted Pin 1 – Pin 3 and Pin 2 – Pin 4	Routine test @10mA, 80kHz or 100 kHz, sine voltage, parallel equivalent circuit.
Initial inductance	$45 \mu\text{H} \leq L_{\text{initial}} \leq 51 \mu\text{H}$ between shorted Pin 1 – Pin 3 and Pin 2 – Pin 4	Type test @10mA, 80kHz or 100 kHz, sine voltage, parallel equivalent circuit, 20°C ±3°C and 100°C ±3°C
DC Resistance	$\leq 9.98 \text{ m}\Omega$ between Pin 1 and Pin 2 – inner layer $\leq 12.24 \text{ m}\Omega$ between Pin 3 and Pin 4 – outer layer	Routine test given value is valid for 20°C (resistance temperature coefficient: 0.00393 1/K)
HV surge comparison test	Test voltage $\geq 2200 \text{ Vp}$	Type test
Dielectric strength	All potentials against each other 1500 V _{RMS} @50 Hz for 1 sec	Routine test
	All potentials and metal parts against each other 1500 V _{RMS} @50 Hz for 60 sec	Type test
Impulse voltage test (solid insulation)	Winding → Core 2500 Vp @2000m altitude 3016 Vp @200m altitude (SMA Magnetics)	Type test According to UL/IEC62109-1 chapter 7.5.1 (Three test pulses of each polarity 1.2μs/50μs, 1sec interval. Internal resistance (pulse generator): max. 500 Ω)
Impulse voltage test (clearances)	Winding → Core 3620 Vp @sea level 3547 Vp @200m altitude (SMA Magnetics)	Type test According to UL/IEC62109-1 chapter 7.5.1. (Three test pulses of each polarity 1.2μs/50μs, 1sec interval. Internal resistance (pulse generator): max. 500 Ω).
Insulation class	B (130 °C)	System should provide power de-rating to prevent exceeding of 110 °C on windings surface
Cooling	Forced air cooling inside of inverter housing	
Typical mass	492 g	

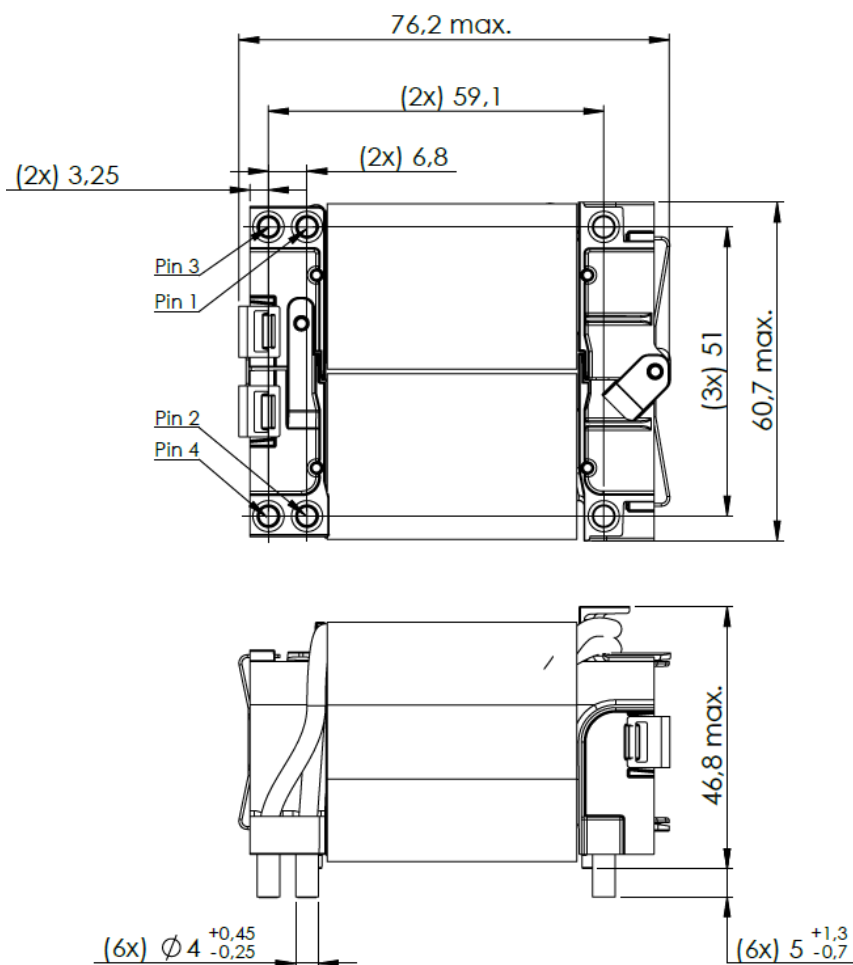


Figure 3. DC choke dimensions in mm

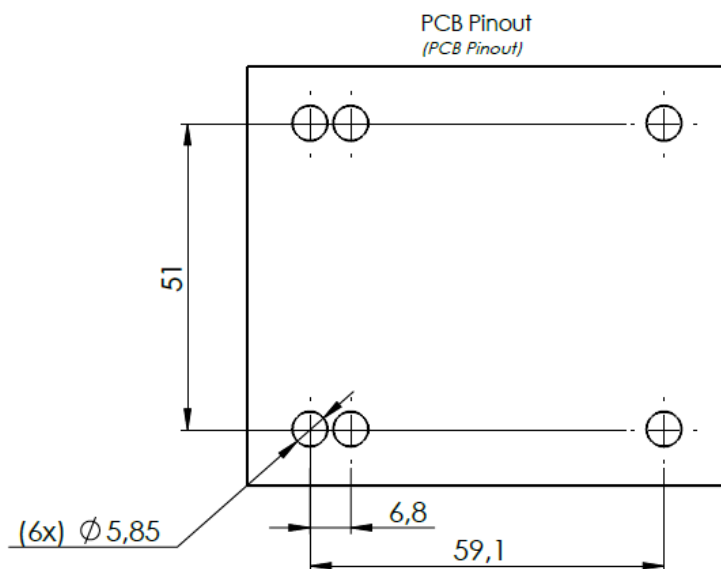


Figure 4. PCB Pinout

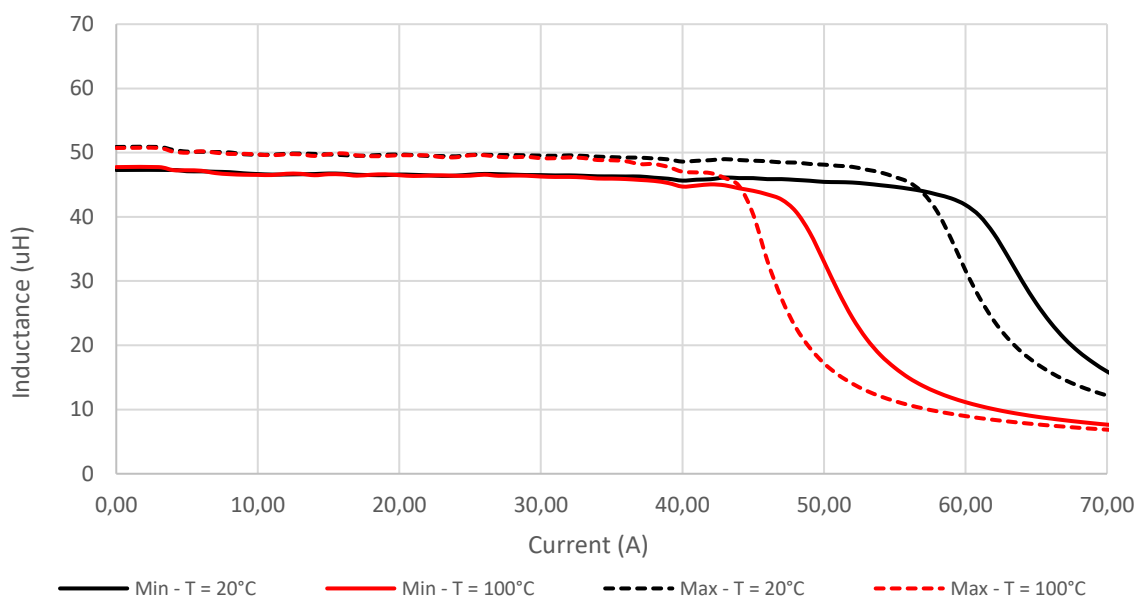


Figure 5. Inductance vs. DC bias @20°C and @100°C