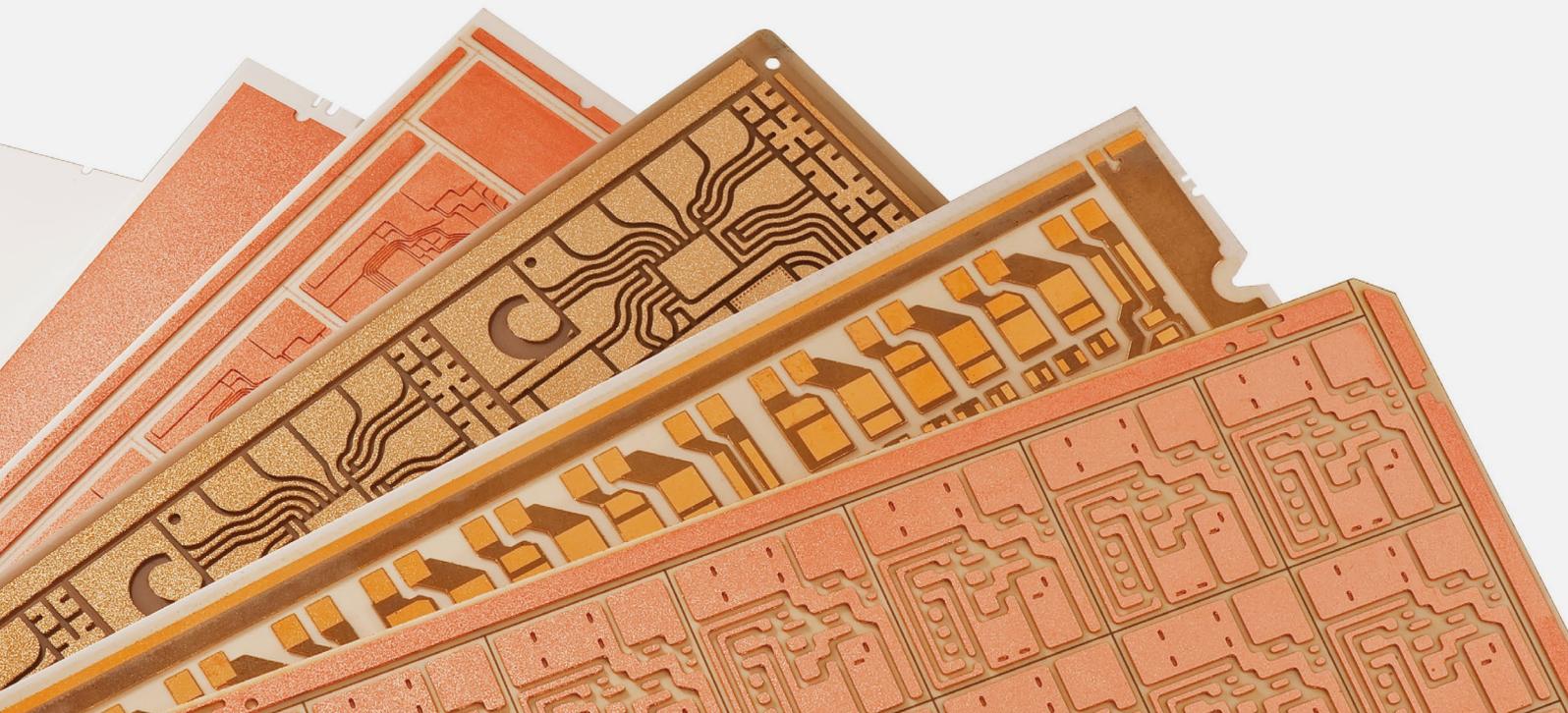


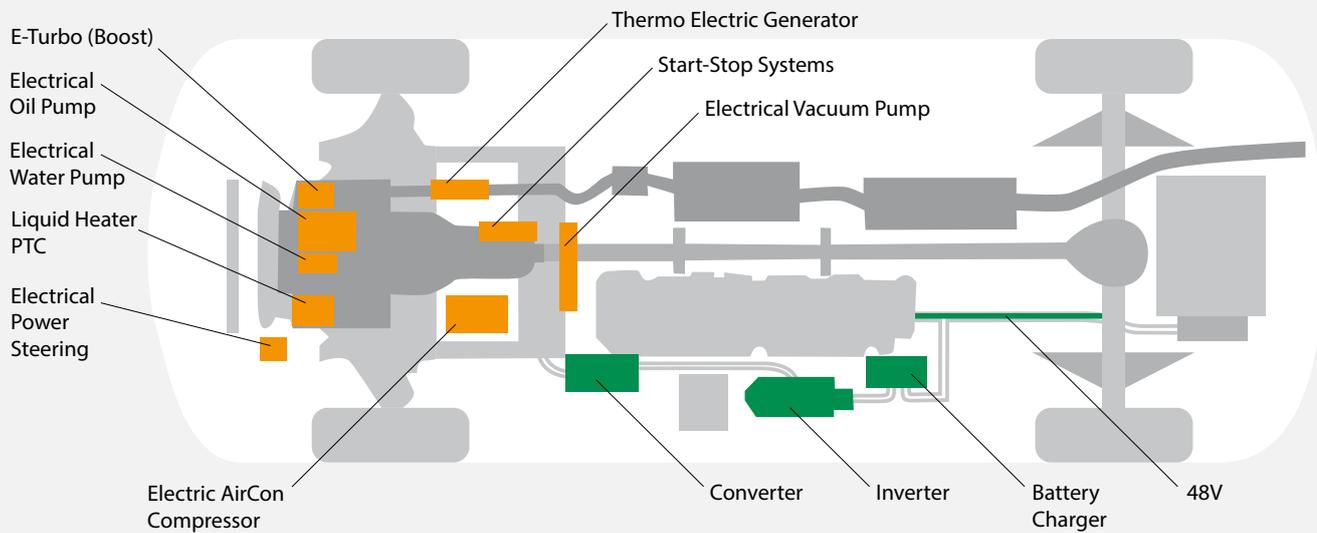


curamik® CERAMIC SUBSTRATE solutions

High Power Density for Automotive Electrification



**Internal Combustion Engines (ICE) with Vehicle Electrification (VE)
Electric Vehicles (EV) with: Range Extender (RE), Hybrid (H), Fuel Cell (FC), Plug in (P), Battery (B)**



Application	Voltage Class	Power Range	Isolation Voltage	Power Dissipation	Ambient Temperature	curamik® Substrate	
Electric vehicles	Inverter	≤ 600 V	≤ 180 kW	2.2 kV	≤ 10 kW	150 °C – 200 °C	Al ₂ O ₃ , HPS, Si ₃ N ₄ , AlN
	Converter	≤ 600 V	≤ 50 kW	2.2 kV	≤ 2.5 kW	150 °C	Al ₂ O ₃ , HPS, AlN
	Battery Charger	≤ 600 V	≤ 10 kW	2.2 kV	≤ 500 W	150 °C	Al ₂ O ₃ , HPS
Vehicle electrification	Start-Stop Systems	≤ 60 V	≤ 10 kW	1.12 kV	≤ 500 W	150 °C – 200 °C	Al ₂ O ₃
	Electrical Power Steering	≤ 60 V	≤ 5 kW	1.12 kV	≤ 250 W	150 °C	Al ₂ O ₃
	Liquid Heater PTC	≤ 600 V	≤ 10 kW	2.2 kV	≤ 500 W	150 °C	Al ₂ O ₃ , AlN, Si ₃ N ₄
	Electrical AirCon Compressor	≤ 60 V	≤ 5 kW	1.12 kV	≤ 250 W	150 °C	Al ₂ O ₃
	Electrical Vacuum Pump	≤ 60 V	≤ 1 kW	1.12 kV	≤ 50 W	150 °C	Al ₂ O ₃
	Electrical Oil Pump	≤ 60 V	≤ 0.5 kW	1.12 kV	≤ 25 W	150 °C – 200 °C	Al ₂ O ₃
	Electrical Water Pump	≤ 60 V	≤ 0.5 kW	1.12 kV	≤ 25 W	150 °C	Al ₂ O ₃
	Thermo Electric Generator	≤ 60 V	≤ 5 kW	1.12 kV	≤ 250 W	600 °C	Al ₂ O ₃ , AlN, Si ₃ N ₄
E-Turbo (Boost)	≤ 60 V	≤ 10 kW	1.12 kV	≤ 500 W	150 °C	Al ₂ O ₃ , AlN, Si ₃ N ₄	

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