KYOCERA

POWER MODULE CERAMIC SUBSTRATE

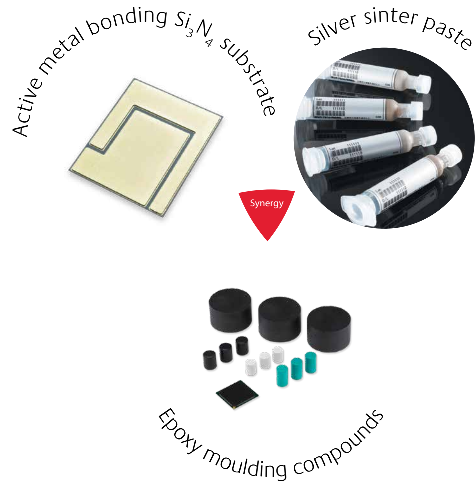
APPLICATIONS

- HEV / EV inverters
- Power switch

FEATURES

- High reliable silver plating to silver-sintering paste for SiC chip assembly
- High thermal conductivity / high flexural strength
- Si_3N_4 (ceramic): 85 W/mK / 820 MPa
- Copper thickness: ~ 0.8 mm
- Fine pitch design rule: 1.0 mm gap between copper patterns

Kyocera provides advanced Si_3N_4 power module substrate to innovate highly efficient automotive inverters.



AMB SUBSTRATE ROADMAP AUTOMOTIVE INVERTERS

New Si_3N_4 85 W/mK (2016 → 2020)

	CY	2015	2016	2017	2018	2019	2020
Product roadmap	AMB Silicon nitride substrate	Case type (substrate size > 20 mm): 0.3 t Cu/0.32 t Si_3N_4 Au plating	0.3 t Cu/0.32 t Si_3N_4 Ag plating; 0.5 t Cu/0.32 t Si_3N_4 Ag plating				0.5t Cu/0.25 Si_3N_4 Ag plating (all in mm)
		Mould type (substrate size < 20 mm)	0.8 t Cu/0.32 t Si_3N_4 Ag plating				4 t Cu/0.32 t Si_3N_4 Ag plating
Tech. trend	Thermal conductivity	58 W	58 W/85 W				
	Insulation voltage	400 V–4 kV					
	TCT	-40 ~ 175 °C					200 °C
	Plating	NiPdAu	NiPdAg				Electrolytic Ag
		full	full/selective				selective

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