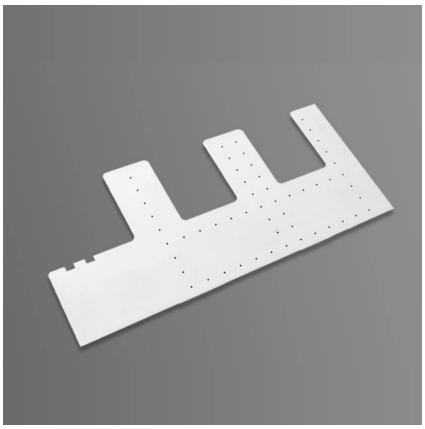

Machined alumina ceramic carrier with holes and cut-outs

Alumina Ceramic Substrates for Optical Transceivers

Product ID / SKU: FWM/CS-ALU-006

Material: Alumina

Product type: Ceramic Substrate

High-purity alumina substrates for optoelectronic transceiver packaging, precision circuits and electrically insulating carriers.

99.6% Alumina Substrate (710 C) Properties

Property	99.6% Al_2O_3 - 710 C	Test conditions / measurement tolerance ±10%
Density (g/cm³)	≥3.80	DIN EN 993-1
Bending strength, σ_0 (MPa)	≥420	ASTM C1499-08
Young’s modulus (GPa)	≥300	-
Thermal conductivity (W/(m·K))	≥25	Room temperature; DIN EN 821-2
Linear thermal expansion coefficient (10^{-6}/K)	7-9	100-800°C; DIN 51045-1
Specific heat capacity (J/(g·K))	≥0.65	20°C; DIN EN 821-3 method B
Relative permittivity	8.5-11.5	Room temperature, 1 MHz
Dielectric loss factor	≤0.010	Room temperature; 1 MHz; Ra ≤0.4 μm
Volume resistivity (Ω·cm)	$\geq 10^{14}$	Room temperature; IEC 62631-3
Breakdown strength (kV/mm)	AC≥15; DC≥15	20°C; AC / DC
Fracture toughness (MPa·m½)	≥3.0	Indentation-fracture (IF)