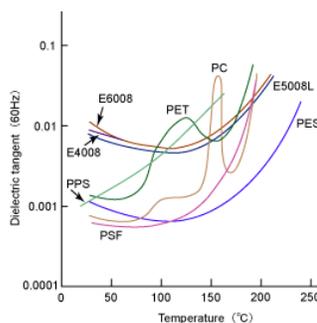


Electrical Properties of LCP

LCP products all possess low, stable values for the dependence of dielectric constant and dielectric dissipation factor on temperature and frequency. However, the absolute values for these properties are higher than those of other engineering plastics (Figures 1 and 2). In other words, although heat generation tends to be greater at higher frequencies, this does not cause problems during actual usage, due to the extremely high deflection temperature under load. Moreover, the dielectric dissipation factor for liquid crystal polymers is low within the gigahertz realm.

Figures 1 Temperature Dependency of Dielectric Tangent



Figures 2 Frequency Dependency of Dielectric Tangent

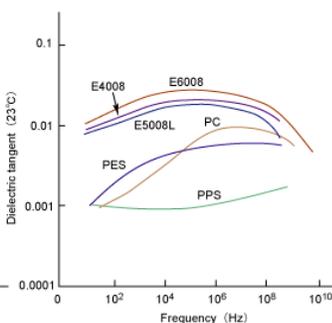


Table 1 Electric Characteristics of SUMIKASUPER LCP

Item	Test method	Unit	E5008L	E5008	E4008	E4006L	E6008	E6006L	E6807LHF	E7008	E7006L
Filler	(ASTM)		Glass fiber	Glass fiber	Glass fiber	Glass fiber	Glass fiber	Glass fiber	Glass fiber	Glass fiber	Glass fiber
Dielectric constant(10 ³ Hz)	D150		4.7	4.7	4.5	4.4	4.4	4.3	4.3	4.7	4.6
			(10 ⁶ Hz)	4.2	4.2	3.9	3.7	3.9	3.7	3.8	4.1
Dielectric tangent (10 ³ Hz)	D150						3.3	3.2			
			(10 ⁶ Hz)	0.013	0.015	0.018	0.023	0.022	0.023	0.02	0.024
			0.031	0.031	0.034	0.034	0.032	0.034	0.03	0.03	0.032
							0.005	0.005			
Specific volume resistance	D257	Ωm	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³	10 ¹³
Dielectric Breakdown voltage	Short time method	MV/m	37	>40	36	>40	26	39	-	32	35
Electric arc resistance	D495	sec	128	128	130	130	130	130	180	125	125
Tracking resistance	[EC method]	V	185	175	145	135	125	115	150	155	165

*Measurement method : Resonant Cavity method

