



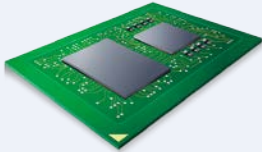
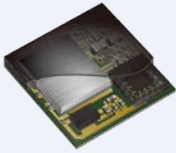
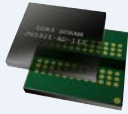
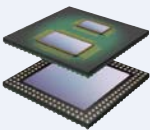
Applications
IC Package
 FC-xGA, Module, CSP,
 FC-CSP

Circuit board materials for IC substrate

LEXCMGX Series

Enables thinner and smaller IC substrates with lower warpage.

Line-up

Package Application	FC-xGA  <ul style="list-style-type: none"> • CPU for Sever/Desktop/Laptop • GPU for AI/ADAS/Gaming • FPGA 	Module  <ul style="list-style-type: none"> • AiP • PAM • FEM 	CSP  <ul style="list-style-type: none"> • DRAM • NAND/PMIC • Mini LED 	FC-CSP  <ul style="list-style-type: none"> • APU • RF-IC
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Product	LEXCMGX		
	Ultra Low CTE / High Reliability R-1515V / R-1515K • Low warpage • Stress release	Low Dk / Low Df R-G545L / R-G545E • Excellent transmission loss • Excellent low Dk/Df performance in wide frequency • Low warpage	Low CTE / Ultra Thin Material R-G515S / R-G515E • Low warpage • Fine laminate-ability • Ultra thin prepreg line-up R-1515E • Low warpage • High modulus
	Low CTE / High Heat Resistance R-1515W • Low warpage • High modulus R-1515A • Low warpage • High heat resistance		

General properties

Item	Glass transition temp.(Tg)	CTE	Dielectric constant(Dk)*1	Dissipation factor(Df)*1	Flexural modulus*1	
		x-axis / y-axis				
		α 1	1GHz			
Test method	DMA*2	Internal method	IPC-TM-650 2.5.5.9		JIS C 6481	
Condition	A	A	C-24/23/50		25°C	250°C
Unit	°C	ppm /°C	-		GPa	
R-1515V	260	3-5	4.4	0.016	30	14
R-1515K	260	7	4.6	0.015	27	12
R-G545L	230	10	3.6	0.002	23	10
R-G545E	230	10	4.1	0.002	27	13
R-1515E	270	9	4.7	0.011	33	18
R-G515S	220-240	4-6	4.2	0.008	28	-
R-G515E	220-240	6-8	4.4	0.008	24	-
R-1515W	250	9	4.8	0.015	35	21
R-1515A	205	12	4.8	0.015	27	10

The sample thickness is 0.1 mm.

*1 0.8mm *2 Measurement in tensile mode. R-1515W, R-1515A: Measurement in bending mode.

Please see our website for Notes before you use.

Our Halogen-free materials are based on JPCA-ES-01-2003 standard and others.

The above data are typical values and not guaranteed values.