Panasonic INDUSTRY

Any letters with parentheses ( ) at the end of a part number are for identification code in our company and are not included in the part numbers registered for UL certification.

Flexural modulus 25℃ 33GPa

CTE x, y-axis 9ppm/℃

Tg(DMA) 270℃

Applications

IC Package

CSP (DRAM, NAND/ PMIC, Mini LED, etc.), FC-CSP (APU, RF-IC, etc.)

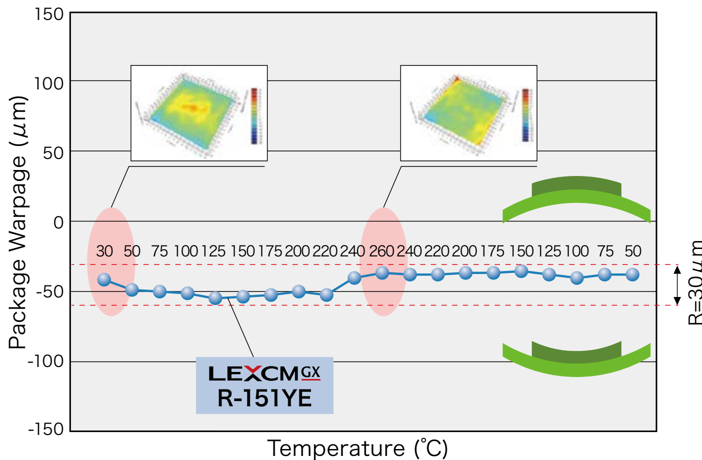
LEXCM GX

Laminate **R-151YE** Prepreg **R-141YE**

High elasticity Low CTE Ultra-thin IC substrate materials

Contribute to thin IC package by ultra-thin material and decrease the substrate warpage by low CTE property.

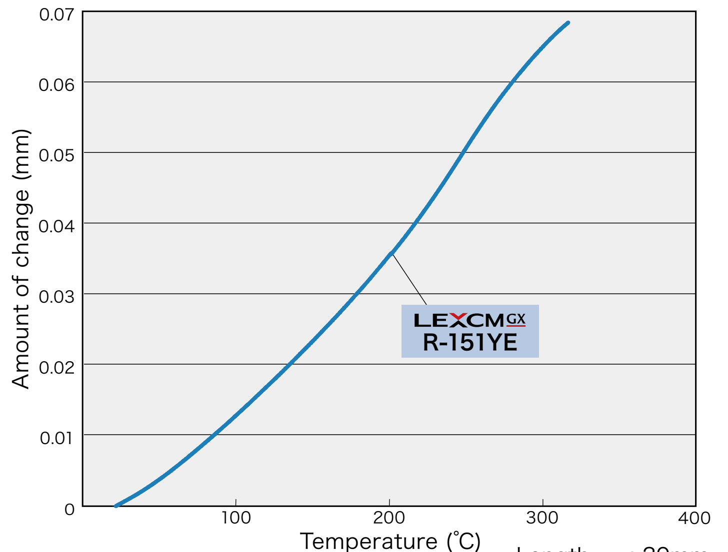
Package warpage (FBGA)



Construction

FBGA	14×14mm
Chip size	10×10×0.15mm
Substrate thickness	0.10mm (Core 0.04mm)

Thermal expansion (x-axis)



Length : 20mm
Thickness : 0.1mm
Method : TMA

General properties

Item		Test method	Condition	Unit	LEXCM GX R-151YE
Glass transition temp.(Tg)		DMA*2	A	℃	270
Thermal decomposition temp.(Td)		TGA	A	℃	390
CTE x-axis	α1	Internal method	A	ppm/℃	9
CTE y-axis					9
CTE z-axis	α1	IPC-TM-650 2.4.24	A		22*1
	α2				95*1
Flexural modulus		JIS C 6481	25℃	GPa	33*1
			250℃		18*1

The sample thickness is 0.1mm.
*1 0.8mm *2 measurement in tensile 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.

industrial.panasonic.com/ww/electronic-materials
Panasonic Industry R-151YE

Panasonic Industry Co., Ltd. Electronic Materials Business Division

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