

Vecstar™

Vecstar™ is the world's first industrialized liquid crystal polymer film, based on Kuraray's novel technology. It is an epoch-making film combining excellent electrical properties and good processability.

Features

- Low dielectric dissipation factor
- Low water absorption, so there is little change in the dielectric properties and dimensions under humid conditions.
- Homogeneous materials, so the dielectric properties are very uniform.
- Good processability



Comparison with other materials

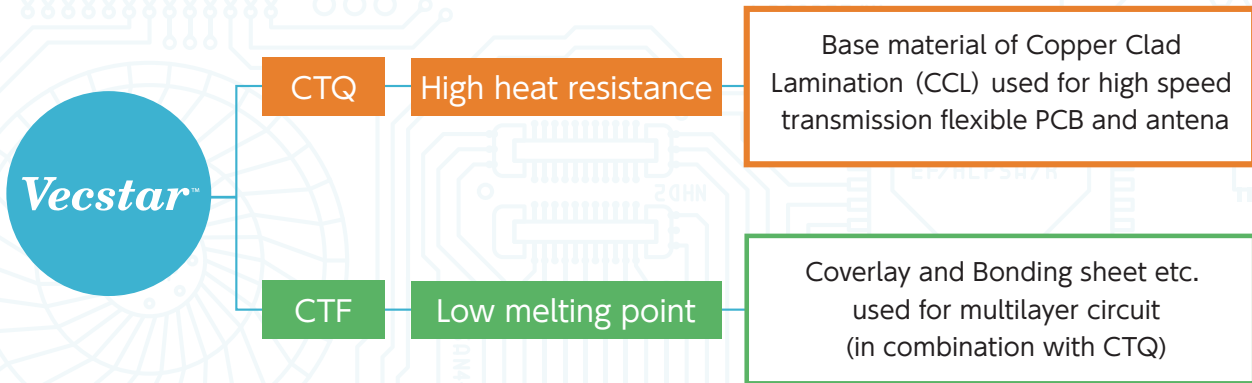
| | Water absorption | Transmission loss | | Solder heat resistance | Processing | | | Gas barrier property |
|---------------------|------------------|-------------------|-----------------------|------------------------|------------|----------|---------|----------------------|
| | | Room temperature | Under humid condition | | Lamination | Drilling | Bending | |
| Vecstar™ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Polyimide film | △ | △ | △ | ○ | △ | ○ | △ | △ |
| Fluorine-based film | ○ | ○ | ○ | ○ | △ | △ | △ | — |

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Examples of application in Printed Circuit Board (PCB)



Product specifications

| Grade | CTQ | | | | CTF | | | |
|-----------|--------|--------|--------|---------|--------|--------|--------|---------|
| | CTQ-25 | CTQ-38 | CTQ-50 | CTQ-100 | CTF-25 | CTF-38 | CTF-50 | CTF-100 |
| Thickness | 25μm | 38μm | 50μm | 100μm | 25μm | 38μm | 50μm | 100μm |

Width: 530mm

Characteristics

| Items | Unit | Method | CTQ-50 | CTF-50 |
|------------------------------------|-------|--|--------|--------|
| Tensile strength | MPa | Kuraray method | 180 | 190 |
| Elongation | % | | 30 | 40 |
| Tensile modulus | MPa | | 3600 | 3100 |
| Melting temperature | ℃ | DSC | 310 | 280 |
| Coefficient of thermal expansion | ppm/℃ | TMA | 15 | 18 |
| Surface resistivity | Ω | IEC62631-3-1/2 | 5E+16 | 4E+16 |
| Volume resistivity | Ω·cm | | 2E+16 | 3E+16 |
| Breakdown voltage | kV/mm | IEC60243-1 | 200 | 200 |
| Moisture absorption | % | Kuraray method (23℃, 50% R.H.) | 0.04 | 0.04 |
| Dielectric constant (Dk) | — | Fabry-Perot method (25℃, 28GHz, xy direction) | 3.3 | 3.3 |
| Dielectric dissipation factor (Df) | — | | 0.002 | 0.002 |
| Flammability | — | UL-94 | VTM-0 | VTM-0 |

The above data presents typical values that are not guaranteed.
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