

|                                                               |                |                                      |                                             |         |                    |                           |                                       |                        |          |                                              |  |
|---------------------------------------------------------------|----------------|--------------------------------------|---------------------------------------------|---------|--------------------|---------------------------|---------------------------------------|------------------------|----------|----------------------------------------------|--|
| D-ZPK1A-25                                                    |                |                                      | 620638                                      |         |                    | n <sub>d</sub> = 1.619990 |                                       | ν <sub>d</sub> = 63.76 |          | n <sub>F</sub> - n <sub>C</sub> = 0.009724   |  |
|                                                               |                |                                      |                                             |         |                    | n <sub>e</sub> = 1.622309 |                                       | ν <sub>e</sub> = 63.45 |          | n <sub>F'</sub> - n <sub>C'</sub> = 0.009808 |  |
|                                                               |                |                                      |                                             |         |                    |                           |                                       |                        |          |                                              |  |
| 折 射 率    Refractive Index**                                   |                |                                      | 相 对 部 分 色 散    Relative Partial Dispersions |         |                    |                           | 内 部 透 过 率    Internal Transmittance τ |                        |          |                                              |  |
|                                                               | λ (nm)         |                                      | P <sub>s,t</sub>                            | 0.2737  | P' <sub>s,t</sub>  | 0.2713                    | λ (nm)                                | τ (5mm)                | τ (10mm) |                                              |  |
| n <sub>2325.42</sub>                                          | 2325.42        | 1.593409                             | P <sub>C,s</sub>                            | 0.5334  | P' <sub>C',s</sub> | 0.5768                    | 2400                                  | 0.956                  | 0.913    |                                              |  |
| n <sub>1970.09</sub>                                          | 1970.09        | 1.598117                             | P <sub>d,C</sub>                            | 0.3039  | P' <sub>d,C'</sub> | 0.2534                    | 2200                                  | 0.970                  | 0.942    |                                              |  |
| n <sub>1529.58</sub>                                          | 1529.58        | 1.603168                             | P <sub>e,d</sub>                            | 0.2385  | P' <sub>e,d</sub>  | 0.2364                    | 2000                                  | 0.986                  | 0.972    |                                              |  |
| n <sub>1060.0</sub>                                           | 1060.0         | 1.608555                             | P <sub>g,F</sub>                            | 0.5433  | P' <sub>g,F'</sub> | 0.4822                    | 1800                                  | 0.992                  | 0.985    |                                              |  |
| n <sub>t</sub>                                                | 1013.98        | 1.609187                             | P <sub>i,h</sub>                            | 0.7642  | P' <sub>i,h</sub>  | 0.7576                    | 1600                                  | 0.997                  | 0.995    |                                              |  |
| n <sub>s</sub>                                                | 852.11         | 1.611848                             |                                             |         |                    |                           | 1400                                  | 0.999                  | 0.998    |                                              |  |
| n <sub>r</sub>                                                | 706.52         | 1.615358                             | 异常色散    Abnormal Dispersions                |         |                    |                           | 1200                                  | 0.999                  | 0.998    |                                              |  |
| n <sub>C</sub>                                                | 656.27         | 1.617035                             | ΔP <sub>C,t</sub>                           | -0.0396 | ΔP <sub>C,s</sub>  | -0.0191                   | 1060                                  | 0.999                  | 0.998    |                                              |  |
| n <sub>C'</sub>                                               | 643.85         | 1.617505                             | ΔP <sub>F,e</sub>                           | 0.0027  | ΔP <sub>g,F</sub>  | 0.0062                    | 1000                                  | 0.999                  | 0.998    |                                              |  |
| n <sub>He-Ne</sub>                                            | 632.8          | 1.617944                             |                                             |         |                    |                           | 950                                   | 0.999                  | 0.998    |                                              |  |
| n <sub>D</sub>                                                | 589.29         | 1.619903                             |                                             |         |                    |                           | 900                                   | 0.999                  | 0.998    |                                              |  |
| n <sub>d</sub>                                                | 587.56         | 1.619990                             | 着色度    Color Code                           |         |                    |                           | 850                                   | 0.999                  | 0.998    |                                              |  |
| n <sub>e</sub>                                                | 546.07         | 1.622309                             | λ <sub>80</sub> /λ <sub>5</sub>             |         | 360/-              |                           | 800                                   | 0.998                  | 0.997    |                                              |  |
| n <sub>F</sub>                                                | 486.13         | 1.626759                             | λ <sub>70</sub> /λ <sub>5</sub>             |         |                    |                           | 700                                   | 0.998                  | 0.997    |                                              |  |
| n <sub>F'</sub>                                               | 479.99         | 1.627313                             |                                             |         |                    |                           | 650                                   | 0.997                  | 0.995    |                                              |  |
| n <sub>g</sub>                                                | 435.83         | 1.632042                             |                                             |         |                    |                           | 600                                   | 0.998                  | 0.996    |                                              |  |
| n <sub>h</sub>                                                | 404.66         | 1.636417                             |                                             |         |                    |                           | 550                                   | 0.998                  | 0.996    |                                              |  |
| n <sub>i</sub>                                                | 365.01         | 1.643848                             | 热性质    Thermal Properties                   |         |                    |                           | 500                                   | 0.997                  | 0.995    |                                              |  |
| n <sub>313.18</sub>                                           | 313.18         | 1.658842                             | T <sub>g</sub> (°C)                         |         | 546                |                           | 480                                   | 0.997                  | 0.994    |                                              |  |
|                                                               |                |                                      | T <sub>s</sub> (°C)                         |         | 580                |                           | 460                                   | 0.996                  | 0.993    |                                              |  |
|                                                               |                |                                      | T <sub>10</sub> <sup>14.5</sup> (°C)        |         | 502                |                           | 440                                   | 0.995                  | 0.990    |                                              |  |
|                                                               |                |                                      | T <sub>10</sub> <sup>13</sup> (°C)          |         | 531                |                           | 420                                   | 0.994                  | 0.989    |                                              |  |
|                                                               |                |                                      | T <sub>10</sub> <sup>7.6</sup> (°C)         |         | 645                |                           | 400                                   | 0.991                  | 0.983    |                                              |  |
| n <sub>302.15</sub>                                           | 302.15         | 1.663253                             | α <sub>30/70℃</sub> (10 <sup>-7</sup> /K)   |         | 105                |                           | 390                                   | 0.986                  | 0.973    |                                              |  |
|                                                               |                |                                      | α <sub>100/300℃</sub> (10 <sup>-7</sup> /K) |         | 128                |                           | 380                                   | 0.977                  | 0.955    |                                              |  |
|                                                               |                |                                      | λ[W/(m·K)]                                  |         |                    |                           | 370                                   | 0.957                  | 0.915    |                                              |  |
|                                                               |                |                                      |                                             |         |                    |                           | 360                                   | 0.916                  | 0.839    |                                              |  |
|                                                               |                |                                      |                                             |         |                    |                           | 350                                   | 0.842                  | 0.710    |                                              |  |
| 色散公式常数    Constants of Dispersion Formula                     |                |                                      | 化学性质    Chemical Properties                 |         |                    |                           | 340                                   | 0.730                  | 0.530    |                                              |  |
| K <sub>1</sub>                                                | 8.60621496E-01 |                                      |                                             |         | Grade              |                           | 330                                   | 0.560                  | 0.310    |                                              |  |
| L <sub>1</sub>                                                | 1.42471941E-02 |                                      | D <sub>W</sub>                              |         | 1                  |                           | 320                                   | 0.400                  | 0.160    |                                              |  |
| K <sub>2</sub>                                                | 7.23408663E-01 |                                      | D <sub>A</sub>                              |         | 4                  |                           | 310                                   | 0.240                  | 0.060    |                                              |  |
| L <sub>2</sub>                                                | 2.93226364E-03 |                                      | CR                                          |         | 1                  |                           | 300                                   | 0.170                  | 0.030    |                                              |  |
| K <sub>3</sub>                                                | 9.15278780E-01 |                                      | RC(S)                                       |         | 1                  |                           | 290                                   |                        |          |                                              |  |
| L <sub>3</sub>                                                | 1.09074599E+02 |                                      | RA(S)                                       |         | 1                  |                           | 280                                   |                        |          |                                              |  |
|                                                               |                |                                      |                                             |         |                    |                           |                                       |                        |          |                                              |  |
| 折 射 率 温 度 系 数 常 数    Constants of dn/dt                       |                |                                      | 机械性质    Mechanical Properties               |         |                    |                           |                                       |                        |          |                                              |  |
| D <sub>0</sub>                                                | -1.27E-05      |                                      |                                             |         |                    |                           | H <sub>K</sub> (10 <sup>7</sup> Pa)   |                        | 399      |                                              |  |
| D <sub>1</sub>                                                | 7.36E-09       |                                      |                                             |         |                    |                           | F <sub>A</sub>                        |                        | 340      |                                              |  |
| D <sub>2</sub>                                                | -1.75E-13      |                                      |                                             |         |                    |                           | E (10 <sup>7</sup> Pa)                |                        | 7911     |                                              |  |
| E <sub>0</sub>                                                | 4.58E-07       |                                      |                                             |         |                    |                           | G (10 <sup>7</sup> Pa)                |                        | 3073     |                                              |  |
| E <sub>1</sub>                                                | 2.54E-10       |                                      |                                             |         |                    |                           | μ                                     |                        | 0.287    |                                              |  |
| λ <sub>TK</sub> (μm)                                          | 0.183          |                                      |                                             |         |                    |                           | B (10 <sup>-12</sup> /Pa)             |                        | 0.87     |                                              |  |
|                                                               |                |                                      |                                             |         |                    |                           |                                       |                        |          |                                              |  |
| 折 射 率 温 度 系 数    Temperature Coefficients of Refractive Index |                |                                      | 其他性质    Other Properties                    |         |                    |                           |                                       |                        |          |                                              |  |
| 温度范围 (°C)                                                     |                | dn/dt relative(10 <sup>-6</sup> /°C) |                                             |         |                    |                           |                                       |                        |          |                                              |  |
| Range of Temperature                                          |                | t                                    | C'                                          | d       | e                  | F'                        | g                                     | ρ (g/cm <sup>3</sup> ) |          | 3.69                                         |  |
| -60~-40                                                       |                | -4.1                                 | -3.6                                        | -3.8    | -3.4               | -3.3                      | -2.8                                  |                        |          |                                              |  |
| -40~-20                                                       |                | -4.3                                 | -3.9                                        | -3.9    | -3.7               | -3.5                      | -3.2                                  |                        |          |                                              |  |
| -20~0                                                         |                | -4.4                                 | -4.1                                        | -4.0    | -3.9               | -3.6                      | -3.4                                  |                        |          |                                              |  |
| 0~20                                                          |                | -4.5                                 | -4.3                                        | -4.1    | -4.0               | -3.8                      | -3.5                                  |                        |          |                                              |  |
| 20~40                                                         |                | -4.6                                 | -4.4                                        | -4.2    | -4.1               | -3.9                      | -3.5                                  |                        |          |                                              |  |
| 40~60                                                         |                | -4.7                                 | -4.4                                        | -4.2    | -4.0               | -3.7                      | -3.5                                  |                        |          |                                              |  |
| 60~80                                                         |                | -4.5                                 | -4.2                                        | -4.0    | -4.0               | -3.6                      | -3.3                                  |                        |          |                                              |  |
| 80~100                                                        |                | -4.5                                 | -4.2                                        | -4.0    | -4.0               | -3.6                      | -3.3                                  |                        |          |                                              |  |
| 100~120                                                       |                | -4.5                                 | -4.1                                        | -4.0    | -4.0               | -3.6                      | -3.3                                  |                        |          |                                              |  |
| 120~140                                                       |                | -4.5                                 | -4.1                                        | -4.0    | -4.0               | -3.6                      | -3.3                                  |                        |          |                                              |  |
|                                                               |                |                                      | 备注    Remarks                               |         |                    |                           |                                       |                        |          |                                              |  |
|                                                               |                |                                      | **: 退火速率 anneal rate 25℃/h                  |         |                    |                           |                                       |                        |          |                                              |  |