

## RTI PRODUCT SOLUTIONS



### UNIVERSAL WLCSP TEST SOCKETS & QUARTZ/SAPPHIRE LIDS

#### PRODUCT OVERVIEW:

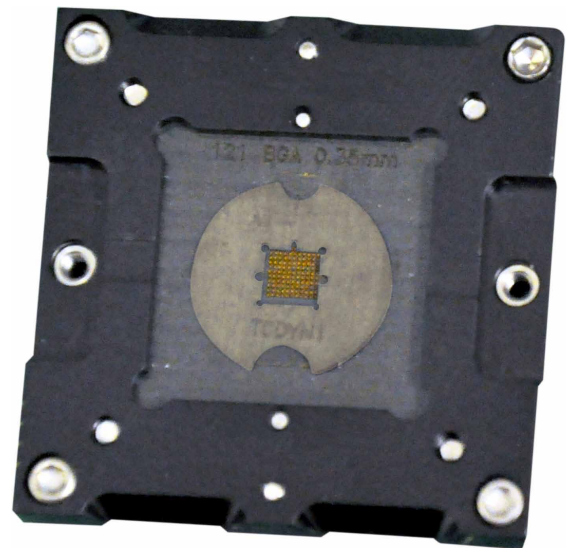
With RTI's line of wafer level test sockets and Failure Analysis lids you have full visibility of the most intricate bumped wafer level packages. Traditional FA lids that rely on making contact with a package using the lead frame around an exposed die. the Quartz FA lids use a piece of quartz or sapphire glass that makes direct contact to the wafer, allowing 100% edge to edge visibility of the DUT to the interconnect. Wafer level CSP sockets are truly low profile and are designed for use with EMMI and Laser optical testing, but not SEM electron testing which may charge up the glass and possibly cause white out. The glass disc is easily replaceable, should the need arise. Test various sized bumped and unbumped die level CSP in the same universal socket body (see Universal BGA data sheet) to save time and money.

#### WLCSP OPTICAL LID FEATURES:

- ◆ Replaceable quartz or sapphire swatches
- ◆ Average 94% consistent transmissivity
- ◆ Designed for 1.5" and larger socket bodies
- ◆ Ideal for EMMI and Laser test applications
- ◆ Socket + lid = 1cm total thickness
- ◆ Single lid may be used with multiple devices
- ◆ Universal socket body - test multiple device sizes with a single socket body.



910-1063 Quartz Glass  
Screw Down FA Lid  
For Wafer Level Testing



Universal WLCSP test socket body with  
device specific alignment plate. Lid not shown.



## LOW PROFILE OPTICAL FA LID FOR EMMI AND LASER (CONTINUED)

| Wavelength (nm) | Intensity w/<br>Glass (W/cm <sup>2</sup> ) | Intensity w/out<br>Glass (W/cm <sup>2</sup> ) | Glass<br>transmissivity (%) |
|-----------------|--|---|-----------------------------|
| 280             | 4.21E-06                                   | 4.48E-06                                      | 94.13%                      |
| 290             | 5.23E-06                                   | 5.65E-06                                      | 92.72%                      |
| 300             | 6.80E-06                                   | 7.33E-06                                      | 92.75%                      |
| 310             | 9.18E-06                                   | 9.81E-06                                      | 93.56%                      |
| 320             | 1.22E-05                                   | 1.30E-05                                      | 94.02%                      |
| 330             | 1.61E-05                                   | 1.72E-05                                      | 93.66%                      |
| 340             | 2.09E-05                                   | 2.21E-05                                      | 94.31%                      |
| 350             | 2.65E-05                                   | 2.81E-05                                      | 94.31%                      |
| 360             | 3.34E-05                                   | 3.56E-05                                      | 93.80%                      |
| 370             | 4.09E-05                                   | 4.34E-05                                      | 94.22%                      |
| 380             | 4.86E-05                                   | 5.17E-05                                      | 94.06%                      |
| 390             | 5.67E-05                                   | 5.99E-05                                      | 94.64%                      |
| 400             | 6.55E-05                                   | 6.97E-05                                      | 93.92%                      |
| 410             | 7.48E-05                                   | 7.93E-05                                      | 94.30%                      |
| 420             | 8.46E-05                                   | 8.98E-05                                      | 94.19%                      |
| 430             | 9.34E-05                                   | 9.88E-05                                      | 94.54%                      |
| 440             | 0.000102                                   | 0.000109                                      | 93.58%                      |
| 450             | 0.00011                                    | 0.000117                                      | 94.02%                      |
| 460             | 0.000118                                   | 0.000126                                      | 93.65%                      |
| 470             | 0.000126                                   | 0.000133                                      | 94.74%                      |
| 480             | 0.000133                                   | 0.000142                                      | 93.66%                      |
| 490             | 0.000142                                   | 0.000151                                      | 94.04%                      |
| 500             | 0.00015                                    | 0.00016                                       | 93.75%                      |
| 510             | 0.000156                                   | 0.000166                                      | 93.98%                      |
| 520             | 0.000162                                   | 0.000174                                      | 93.10%                      |
| 530             | 0.000167                                   | 0.000178                                      | 93.82%                      |
| 540             | 0.000171                                   | 0.000183                                      | 93.44%                      |
| 550             | 0.000175                                   | 0.000186                                      | 94.09%                      |
| 560             | 0.000177                                   | 0.00019                                       | 93.16%                      |
| 570             | 0.00018                                    | 0.000192                                      | 93.75%                      |
| 580             | 0.000181                                   | 0.000193                                      | 93.78%                      |
| 590             | 0.000181                                   | 0.000193                                      | 93.78%                      |
| 600             | 0.000181                                   | 0.000192                                      | 94.27%                      |
| 610             | 0.000179                                   | 0.000191                                      | 93.72%                      |
| 620             | 0.000178                                   | 0.000189                                      | 94.18%                      |
| 630             | 0.000175                                   | 0.000185                                      | 94.59%                      |
| 640             | 0.00017                                    | 0.000181                                      | 93.92%                      |
| 650             | 0.000163                                   | 0.000174                                      | 93.68%                      |
| 660             | 0.000157                                   | 0.000166                                      | 94.58%                      |
| 670             | 0.000165                                   | 0.000175                                      | 94.29%                      |
| 680             | 0.000178                                   | 0.00019                                       | 93.68%                      |
| 690             | 0.000187                                   | 0.000199                                      | 93.97%                      |
| 700             | 0.000189                                   | 0.0002  | 94.50%                      |
| 710             | 0.000186                                   | 0.000198                                      | 93.94%                      |
| 720             | 0.00018                                    | 0.000191                                      | 94.24%                      |
| 730             | 0.000173                                   | 0.000184                                      | 94.02%                      |
| 740             | 0.000166                                   | 0.000176                                      | 94.32%                      |
| 750             | 0.000157                                   | 0.000168                                      | 93.45%                      |

| Wavelength (nm) | Intensity w/<br>Glass (W/cm <sup>2</sup> ) | Intensity w/out<br>Glass (W/cm <sup>2</sup> ) | Glass<br>transmissivity (%) |
|-----------------|--|---|-----------------------------|
| 760             | 0.000148                                   | 0.000157                                      | 94.27%                      |
| 770             | 0.00014                                    | 0.000149                                      | 93.96%                      |
| 780             | 0.000132                                   | 0.00014                                       | 94.29%                      |
| 790             | 0.000125                                   | 0.000133                                      | 93.98%                      |
| 800             | 0.000118                                   | 0.000125                                      | 94.40%                      |
| 810             | 0.000113                                   | 0.00012                                       | 94.17%                      |
| 820             | 0.000108                                   | 0.000115                                      | 93.91%                      |
| 830             | 0.000106                                   | 0.000112                                      | 94.64%                      |
| 840             | 0.000105                                   | 0.000111                                      | 94.59%                      |
| 850             | 0.000105                                   | 0.000112                                      | 93.75%                      |
| 860             | 0.000107                                   | 0.000114                                      | 93.86%                      |
| 870             | 0.00011                                    | 0.000117                                      | 94.02%                      |
| 880             | 0.000113                                   | 0.000121                                      | 93.39%                      |
| 890             | 0.000117                                   | 0.000125                                      | 93.60%                      |
| 900             | 0.00012                                    | 0.000128                                      | 93.75%                      |
| 910             | 0.000123                                   | 0.000131                                      | 93.89%                      |
| 920             | 0.000125                                   | 0.000134                                      | 93.28%                      |
| 930             | 0.000128                                   | 0.000136                                      | 94.12%                      |
| 940             | 0.000129                                   | 0.000137                                      | 94.16%                      |
| 950             | 0.000129                                   | 0.000137                                      | 94.16%                      |
| 960             | 0.000129                                   | 0.000138                                      | 93.48%                      |
| 970             | 0.000129                                   | 0.000137                                      | 94.16%                      |
| 980             | 0.000128                                   | 0.000136                                      | 94.12%                      |
| 990             | 0.000127                                   | 0.000134                                      | 94.78%                      |
| 1000            | 0.000125                                   | 0.000133                                      | 93.98%                      |
| 1010            | 0.000122                                   | 0.00013                                       | 93.85%                      |
| 1020            | 0.00012                                    | 0.000128                                      | 93.75%                      |
| 1030            | 0.000117                                   | 0.000124                                      | 94.35%                      |
| 1040            | 0.000114                                   | 0.000121                                      | 94.21%                      |
| 1050            | 0.000111                                   | 0.000118                                      | 94.07%                      |
| 1060            | 0.000109                                   | 0.000116                                      | 93.97%                      |
| 1070            | 0.000107                                   | 0.000114                                      | 93.86%                      |
| 1080            | 0.000105                                   | 0.000111                                      | 94.59%                      |
| 1090            | 0.000102                                   | 0.000109                                      | 93.58%                      |
| 1100            | 0.000101                                   | 0.000107                                      | 94.39%                      |

