

# RENESAS SEMICONDUCTOR RELIABILITY REPORT

APPLICATION: Standard

SERIES: BCR10FM-12LC

DEVICE: BCR10FM-12LC#BG0  
BCR10FM-12LCA8#BG0

Quality Assurance Div.  
Renesas Electronics Corporation

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## 1.RELIABILITY TEST

| ITEM                                                                                                                                                                                                                                                                                                                                                                                                         | TEST CONDITION                                                             | Test Results      |                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-------------------|-------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                            | NUMBER OF SAMPLES | NUMBER OF FAILURE |
| Soldering Heat                                                                                                                                                                                                                                                                                                                                                                                               | Lead Solder DIP (260℃max, 10s)                                             | 22                | 0                 |
| Solderability                                                                                                                                                                                                                                                                                                                                                                                                | 245℃, 5s (Solder wetting area 95% or more)                                 | 22                | 0                 |
| High Temperature Bias                                                                                                                                                                                                                                                                                                                                                                                        | Ta=150℃, V <sub>DRM</sub> =Maximum Rating (AC-peak), 1,000h                | 22                | 0                 |
| Continuous Operation                                                                                                                                                                                                                                                                                                                                                                                         | Tj=150℃, I <sub>T(RMS)</sub> =Maximum Rating, 1,000h                       | 22                | 0                 |
| High Temperature Storage Life                                                                                                                                                                                                                                                                                                                                                                                | Ta=150℃, 1,000h                                                            | 22                | 0                 |
| Temperature Humidity Storage                                                                                                                                                                                                                                                                                                                                                                                 | Ta=85℃, 85%RH, 1,000h                                                      | 22                | 0                 |
| Temperature Cycle                                                                                                                                                                                                                                                                                                                                                                                            | Ta=-40℃ to +150℃, 200cycles                                                | 22                | 0                 |
| Electrostatic-Discharge(ESD)HBM                                                                                                                                                                                                                                                                                                                                                                              | C=100pF, R=1.5k ohm, ±1,000V                                               | 3                 | 0                 |
| Estimated failure rate                                                                                                                                                                                                                                                                                                                                                                                       | Estimated failure rate : 10Fit or less<br>・Tj= 55℃ ・Ea = 0.7eV ・C.L. = 60% |                   |                   |
| Reliability test results may include data from family representative products.                                                                                                                                                                                                                                                                                                                               |                                                                            |                   |                   |
| <Judgement criteria><br>Electrical characteristics described in the delivery specification.<br>(Solderability test is excluded.)<br>I <sub>DRM</sub> , V <sub>TM</sub> , V <sub>FGT1</sub> , V <sub>RGT1</sub> , V <sub>RGT3</sub> , I <sub>FGT1</sub> , I <sub>RGT1</sub> , I <sub>RGT3</sub><br>*However, I <sub>FGT1</sub> , I <sub>RGT1</sub> , I <sub>RGT3</sub> is I <sub>GT</sub> item free judgment. |                                                                            |                   |                   |