

| Model Number<br><b>357B40</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>CHARGE OUTPUT ACCELEROMETER</b> |                              | Revision: C<br>ECN #: 30123                                                                                                                                  |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|---------------------------|-------------------|---------------------|--------------|----------------------|----------------------|----------------------|----------------------|-------|-----|---|-----|----|-----|----|-----|----|
| <b>Performance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>ENGLISH</b>                     | <b>SI</b>                    | <b>OPTIONAL VERSIONS</b>                                                                                                                                     |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Sensitivity(± 20 %)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5.0 pC/g                           | 0.51 pC/(m/s <sup>2</sup> )  | Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used. |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Measurement Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ± 1000 g pk                        | ± 9810 m/s <sup>2</sup> pk   |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Frequency Range(+5 %)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 10 kHz                             | 10 kHz                       | [2]                                                                                                                                                          |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Frequency Range(+10 %)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 13 kHz                             | 13 kHz                       | [2]                                                                                                                                                          |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Resonant Frequency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ≥ 40 kHz                           | ≥ 40 kHz                     |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Non-Linearity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ≤ 1 %                              | ≤ 1 %                        | [3]                                                                                                                                                          |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Transverse Sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ≤ 5 %                              | ≤ 5 %                        |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| <b>Environmental</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Overload Limit(Shock)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ± 5000 g pk                        | ± 49,000 m/s <sup>2</sup> pk |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Temperature Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -65 to +495 °F                     | -54 to +257 °C               |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Temperature Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | See Graph                          | See Graph                    | [1]                                                                                                                                                          |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Base Strain Sensitivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.01 g/με                          | 0.1 (m/s <sup>2</sup> )/με   | [1]                                                                                                                                                          |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| <b>Electrical</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Capacitance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 680 pF                             | 680 pF                       | [1]                                                                                                                                                          |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Insulation Resistance(at 70° F [21°C])                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | >10 <sup>12</sup> ohm              | >10 <sup>12</sup> ohm        | [1]                                                                                                                                                          |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Insulation Resistance(at 495°F [257°C])                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | >10 <sup>7</sup> ohm               | >10 <sup>7</sup> ohm         | [1]                                                                                                                                                          |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Output Polarity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Negative                           | Negative                     |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| <b>Physical</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Sensing Element                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Ceramic                            | Ceramic                      |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Sensing Geometry                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Shear                              | Shear                        |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Housing Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Titanium                           | Titanium                     |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Sealing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Hermetic                           | Hermetic                     |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Size (Height x Length x Width)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.4 in x 0.63 in x 0.4 in          | 10.2 mm x 16 mm x 10.2 mm    |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.15 oz                            | 4.3 gm                       | [1]                                                                                                                                                          |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Electrical Connector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 10-32 Coaxial Jack                 | 10-32 Coaxial Jack           |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Electrical Connection Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Side                               | Side                         |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Mounting Thread                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5-40 Female                        | 5-40 Female                  |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Mounting Torque                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4 to 5 in-lb                       | 45 to 56 N-cm                |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| <div><div>Typical Sensitivity Deviation vs Temperature</div><table><caption>Typical Sensitivity Deviation vs Temperature Data</caption><thead><tr><th>Temperature (°F)</th><th>Sensitivity Deviation (%)</th></tr></thead><tbody><tr><td>-65</td><td>-20</td></tr><tr><td>15</td><td>0</td></tr><tr><td>95</td><td>2</td></tr><tr><td>175</td><td>5</td></tr><tr><td>255</td><td>8</td></tr><tr><td>335</td><td>10</td></tr><tr><td>415</td><td>12</td></tr><tr><td>495</td><td>15</td></tr></tbody></table></div> |                                    |                              |                                                                                                                                                              |              | Temperature (°F)   | Sensitivity Deviation (%) | -65               | -20                 | 15           | 0                    | 95                   | 2                    | 175                  | 5     | 255 | 8 | 335 | 10 | 415 | 12 | 495 | 15 |
| Temperature (°F)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sensitivity Deviation (%)          |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| -65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -20                                |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0                                  |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| 95                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2                                  |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| 175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5                                  |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| 255                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 8                                  |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| 335                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10                                 |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| 415                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 12                                 |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| 495                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 15                                 |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| <div><div>All specifications are at room temperature unless otherwise specified.<br/>In the interest of constant product improvement, we reserve the right to change specifications without notice.</div><div>ICP® is a registered trademark of PCB Group, Inc.</div></div>                                                                                                                                                                                                                                        |                                    |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| <div><div><div><div><b>SUPPLIED ACCESSORIES:</b></div><div>Model 081A27 Mounting Stud (5-40 to 5-40) (1)</div><div>Model ACS-1 NIST traceable frequency response (10 Hz to upper 5% point). (1)</div></div></div></div>                                                                                                                                                                                                                                                                                            |                                    |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| <table><tr><td>Entered: <i>36</i></td><td>Engineer: <i>BAM</i></td><td>Sales: <i>RJL</i></td><td>Approved: <i>EB</i></td><td>Spec Number:</td></tr><tr><td>Date: <i>2-18-09</i></td><td>Date: <i>2-18-09</i></td><td>Date: <i>2-18-09</i></td><td>Date: <i>2-18-09</i></td><td>21192</td></tr></table>                                                                                                                                                                                                             |                                    |                              |                                                                                                                                                              |              | Entered: <i>36</i> | Engineer: <i>BAM</i>      | Sales: <i>RJL</i> | Approved: <i>EB</i> | Spec Number: | Date: <i>2-18-09</i> | Date: <i>2-18-09</i> | Date: <i>2-18-09</i> | Date: <i>2-18-09</i> | 21192 |     |   |     |    |     |    |     |    |
| Entered: <i>36</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Engineer: <i>BAM</i>               | Sales: <i>RJL</i>            | Approved: <i>EB</i>                                                                                                                                          | Spec Number: |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| Date: <i>2-18-09</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Date: <i>2-18-09</i>               | Date: <i>2-18-09</i>         | Date: <i>2-18-09</i>                                                                                                                                         | 21192        |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |
| <div><div><div><div><b>PCB PIEZOTRONICS™</b></div><div>VIBRATION DIVISION</div></div><div>3425 Walden Avenue, Depew, NY 14043</div></div><div><div>Phone: 716-684-0001</div><div>Fax: 716-685-3886</div><div>E-Mail: vibration@pcb.com</div></div></div>                                                                                                                                                                                                                                                           |                                    |                              |                                                                                                                                                              |              |                    |                           |                   |                     |              |                      |                      |                      |                      |       |     |   |     |    |     |    |     |    |