

## SURFACE MOUNT

- Standard footprints
- 125 °C operation (with de-rating)

The SHJ series compliments the well-known SH for users requiring surface-mount.

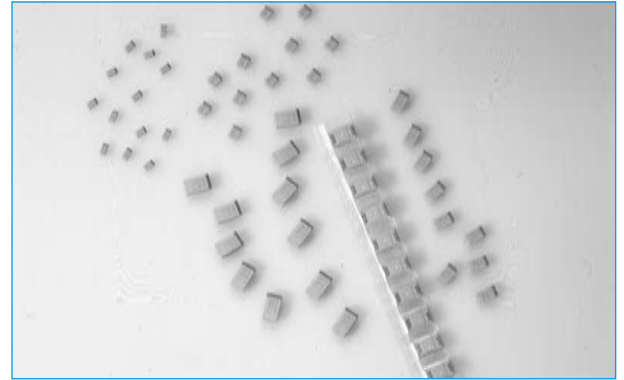
All product is supplied on plastic embossed tape as standard in full reel sizes.

Please note: as technology improves size reduction may be possible. If in doubt please call Sales office.

**Low profile available.**

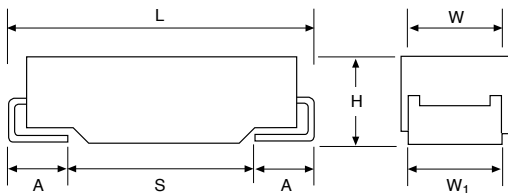
|                    |                                        |
|--------------------|----------------------------------------|
| <b>Temperature</b> | -55 to +125°C (with voltage de-rating) |
| <b>Life Time</b>   | 2,000 Hours @ +85°C                    |
| <b>Tolerance</b>   | ± 10% standard (± 20% available)       |

## TANTALUM CHIP SHJ



SECTION 1

## OUTLINE DRAWING



| Code | EIA   | W+0.2<br>Code | L±0.2<br>-0.1 | H+0.2 | W <sub>1</sub> ±0.2<br>-0.1 | A+0.3 | S Min.<br>-0.2 |
|------|-------|---------------|---------------|-------|-----------------------------|-------|----------------|
| A    | 3216  | 1.6           | 3.2           | 1.6   | 1.2                         | 0.8   | 1.1            |
| B    | 3528  | 2.8           | 3.5           | 1.9   | 2.2                         | 0.8   | 1.4            |
| C    | 6032  | 3.2           | 6.0           | 2.6   | 2.2                         | 1.3   | 2.9            |
| D    | 7343  | 4.3           | 7.3           | 2.9   | 2.4                         | 1.3   | 4.4            |
| E    | 7343H | 4.3           | 7.3           | 4.1   | 2.4                         | 1.3   | 4.4            |

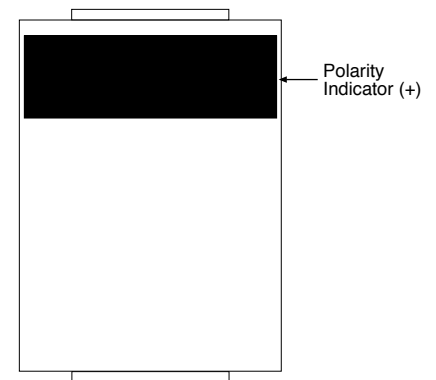
All dimensions in mm.

W1 dimension applies to the termination width for A dimensional area only.. Pad Stand-off is 0.1 ± 0.1

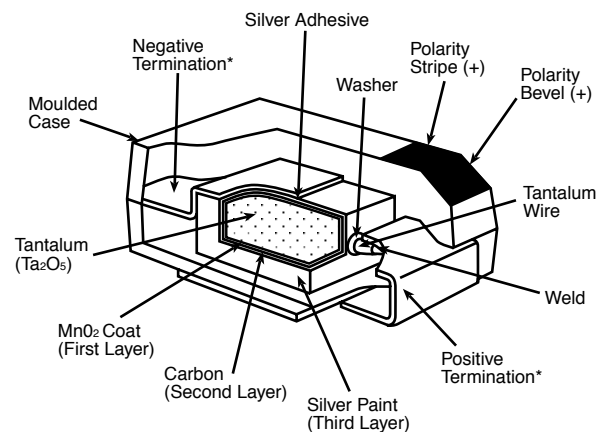
## REEL SIZES

| Case |         |
|------|---------|
| A    | 2,000   |
| B    | 2,000   |
| C    | 500     |
| D    | 500     |
| E    | 400/500 |

## POLARITY



## CONSTRUCTION DIAGRAM



\*Termination Solder Coating Sn

## ORDERING INFORMATION

| SHJ               | B         | 10       | 16      | K                  |
|-------------------|-----------|----------|---------|--------------------|
| Dubilier Tant SMT | Case size | µf value | Voltage | Tolerance          |
|                   |           |          |         | K = 10%<br>M = 20% |

# RANGE & CASE CODES

| Capacitance $\mu\text{F}$ | Rated Voltage DC |         |         |         |         |         |         |         |
|---------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|
|                           | 4V               | 6.3V    | 10V     | 16V     | 20V     | 25V     | 35V     | 50V     |
|                           | std/ext          | std/ext | std/ext | std/ext | std/ext | std/ext | std/ext | std/ext |
| 0.1                       |                  |         |         |         |         |         | A       | A       |
| 0.15                      |                  |         |         |         |         |         | A       | B/A     |
| 0.22                      |                  |         |         |         |         |         | A       | B       |
| 0.33                      |                  |         |         |         |         |         | A       | B       |
| 0.47                      |                  |         |         |         |         | A       | B/A     | C/B     |
| 0.68                      |                  |         |         |         | A       | A       | B/A     | C/B     |
| 1.0                       |                  |         |         | A       | A       | A       | B/A     | C       |
| 1.5                       |                  |         | A       | A       | A       | B/A     | C/B     | D/C     |
| 2.2                       |                  | A       | A       | A       | B/A     | B       | C/B     | D/C     |
| 3.3                       | A                | A       | A       | B/A     | B/A     | C/B     | C/B     | D       |
| 4.7                       | A                | A       | B/A     | B/A     | C/B/A   | C/B/A   | D/C/B   | D       |
| 6.8                       | A                | B/A     | B/A     | C/B/A   | C/B/A   | C/B     | D/C     | E/D     |
| 10                        | B/A              | B/A     | C/B/A   | C/B/A   | C/B     | D/C     | D/C     | E/D     |
| 15                        | B/A              | C/B/A   | C/B/A   | C/B/A   | D/C     | D/C     | D/C     | E       |
| 22                        | C/B/A            | C/B/A   | C/B/A   | D/C/B   | D/C     | D/C     | E/D     |         |
| 33                        | C/B/A            | C/B/A   | D/C/B   | D/C     | D       | E/D     | E       |         |
| 47                        | C/B/A            | D/C/B   | D/C/B   | D/C     | D       | E/D     | E       |         |
| 68                        | D/CB             | D/C     | D/C/B   | D       | E/D     | E       |         |         |
| 100                       | D/CB             | D/C/B   | D/C     | E/D     | E       |         |         |         |
| 150                       | D/C              | D/C     | E/D/C   | E/D     |         |         |         |         |
| 220                       | B                | E/D/C   | E/D     | E       |         |         |         |         |
| 330                       | D/C              | E/D     | E       |         |         |         |         |         |
| 470                       | E/D              | E/D     | E       |         |         |         |         |         |

# RATINGS & NUMBER REFERENCE

| Part No. | Case Size | Capacitance $\mu\text{F}$ | IL ( $\mu\text{A}$ ) | DF % max | ESR max ( $\Omega$ ) @100KHz |
|----------|-----------|---------------------------|----------------------|----------|------------------------------|
| 4 volts  |           |                           |                      |          |                              |
| SHJA3.34 | A         | 3.3                       | 0.5                  | 6.0      | 9.0                          |
| SHJA4.74 | A         | 4.7                       | 0.5                  | 6.0      | 8.0                          |
| SHJA6.84 | A         | 6.8                       | 0.5                  | 6.0      | 6.5                          |
| SHJA104  | A         | 10                        | 0.5                  | 6.0      | 6.0                          |
| SHJA154  | A         | 15                        | 0.6                  | 6.0      | 4.0                          |
| SHJA224  | A         | 22                        | 0.9                  | 6.0      | 4.0                          |
| SHJA334  | A         | 33                        | 1.3                  | 6.0      | 4.0                          |
| SHJA474  | A         | 47                        | 1.9                  | 12.0     | 2.5                          |
| SHJB104  | B         | 10                        | 0.5                  | 6.0      | 4.0                          |
| SHJB154  | B         | 15                        | 0.6                  | 6.0      | 3.0                          |
| SHJB224  | B         | 22                        | 0.9                  | 6.0      | 3.5                          |
| SHJB334  | B         | 33                        | 1.4                  | 6.0      | 3.5                          |
| SHJB474  | B         | 47                        | 1.9                  | 6.0      | 3.0                          |
| SHJB684  | B         | 68                        | 2.7                  | 6.0      | 3.5                          |
| SHJB1004 | B         | 100                       | 4.0                  | 8.0      | 0.9                          |
| SHJB2204 | B         | 220                       | 8.8                  | 18.0     | 0.5                          |
| SHJC224  | C         | 22                        | 1.4                  | 6.0      | 2.3                          |
| SHJC334  | C         | 33                        | 1.9                  | 6.0      | 2.0                          |
| SHJC474  | C         | 47                        | 1.9                  | 6.0      | 1.8                          |
| SHJC684  | C         | 68                        | 2.7                  | 6.0      | 1.6                          |
| SHJC1004 | C         | 100                       | 4.0                  | 6.0      | 1.2                          |
| SHJC1504 | C         | 150                       | 6.0                  | 8.0      | 1.2                          |
| SHJC3304 | C         | 330                       | 13.2                 | 10.0     | 0.9                          |
| SHJD684  | D         | 68                        | 2.7                  | 6.0      | 0.8                          |
| SHJD1004 | D         | 100                       | 4.0                  | 6.0      | 0.9                          |
| SHJD1504 | D         | 150                       | 6.0                  | 6.0      | 0.9                          |
| SHJD3304 | D         | 330                       | 21.0                 | 8.0      | 0.8                          |
| SHJD4704 | D         | 470                       | 18.8                 | 8.0      | 0.8                          |
| SHJD6804 | D         | 680                       | 27.0                 | 12.0     | 0.9                          |
| SHJE6804 | E         | 680                       | 27.0                 | 12.0     | 0.6                          |
| SHJE4704 | E         | 470                       | 29.6                 | 8.0      | 0.6                          |

| Part No.   | Case Size | Capacitance $\mu\text{F}$ | IL ( $\mu\text{A}$ ) | DF % max | ESR max ( $\Omega$ ) @100KHz |
|------------|-----------|---------------------------|----------------------|----------|------------------------------|
| 6.3 volts  |           |                           |                      |          |                              |
| SHJA2.26.3 | A         | 2.2                       | 0.5                  | 6.0      | 9.0                          |
| SHJA3.36.3 | A         | 3.3                       | 0.5                  | 6.0      | 7.0                          |
| SHJA156.3  | A         | 15                        | 1.0                  | 6.0      | 3.5                          |
| SHJA226.3  | A         | 22                        | 1.4                  | 6.0      | 4.0                          |
| SHJA336.3  | A         | 33                        | 2.0                  | 12.0     | 2.5                          |
| SHJB6.86.3 | B         | 6.8                       | 0.5                  | 6.0      | 4.0                          |
| SHJB106.3  | B         | 10                        | 0.6                  | 6.0      | 3.0                          |
| SHJB1006.3 | B         | 100                       | 6.3                  | 15.0     | 3.0                          |
| SHJB336.3  | B         | 33                        | 2.1                  | 6.0      | 3.0                          |
| SHJB476.3  | B         | 47                        | 3.0                  | 6.0      | 2.0                          |
| SHJC156.3  | C         | 15                        | 1.0                  | 6.0      | 1.9                          |
| SHJC226.3  | C         | 22                        | 1.4                  | 6.0      | 2.0                          |
| SHJC1006.3 | C         | 100                       | 6.3                  | 6.0      | 0.9                          |
| SHJC1506.3 | C         | 150                       | 9.0                  | 8.0      | 1.2                          |
| SHJC2206.3 | C         | 220                       | 13.2                 | 10.0     | 1.2                          |
| SHJD476.3  | D         | 47                        | 3.0                  | 6.0      | 0.9                          |
| SHJD686.3  | D         | 68                        | 4.3                  | 6.0      | 0.9                          |
| SHJD2206.3 | D         | 220                       | 13.9                 | 8.0      | 0.9                          |
| SHJD3306.3 | D         | 330                       | 19.8                 | 8.0      | 0.5                          |
| SHJD4706.3 | D         | 470                       | 28.2                 | 12.0     | 0.4                          |
| SHJE2206.3 | E         | 220                       | 13.2                 | 8.0      | 0.9                          |
| SHJE3306.3 | E         | 330                       | 19.8                 | 8.0      | 0.5                          |
| SHJE4706.3 | E         | 470                       | 29.6                 | 8.0      | 0.5                          |

## RATINGS &amp; NUMBER REFERENCE (CONTINUED)

| Part No.   | Case Size | Capacitance $\mu\text{F}$ | IL ( $\mu\text{A}$ ) | DF % max | ESR max ( $\Omega$ ) @100KHz |
|------------|-----------|---------------------------|----------------------|----------|------------------------------|
| 10 volts   |           |                           |                      |          |                              |
| SHJA1.510  | A         | 1.5                       | 0.5                  | 6.0      | 10.0                         |
| SHJA2.210  | A         | 2.2                       | 0.5                  | 6.0      | 8.0                          |
| SHJA6.810  | A         | 6.8                       | 0.7                  | 6.0      | 4.0                          |
| SHJA1010   | A         | 10                        | 1.0                  | 6.0      | 4.0                          |
| SHJA1510   | A         | 10                        | 1.5                  | 8.0      | 6.0                          |
| SHJA2210   | A         | 22                        | 2.2                  | 10.0     | 6.0                          |
| SHJB4.710  | B         | 4.7                       | 0.5                  | 6.0      | 4.0                          |
| SHJB6.810  | B         | 6.8                       | 0.7                  | 6.0      | 3.0                          |
| SHJB3310   | B         | 33                        | 3.3                  | 6.0      | 1.8                          |
| SHJB4710   | B         | 47                        | 4.7                  | 8.0      | 1.0                          |
| SHJB6810   | B         | 68                        | 6.8                  | 10.0     | 3.0                          |
| SHJC1010   | C         | 10                        | 1.0                  | 6.0      | 2.0                          |
| SHJC1510   | C         | 15                        | 1.5                  | 6.0      | 2.0                          |
| SHJC4710   | C         | 47                        | 4.7                  | 6.0      | 1.2                          |
| SHJC6810   | C         | 68                        | 6.8                  | 6.0      | 1.2                          |
| SHJC10010  | C         | 100                       | 10.0                 | 8.0      | 1.2                          |
| SHJC15010  | C         | 150                       | 15.0                 | 10.0     | 0.9                          |
| SHJD3310   | D         | 33                        | 3.3                  | 6.0      | 0.8                          |
| SHJD4710   | D         | 47                        | 4.7                  | 6.0      | 0.9                          |
| SHJD15010  | D         | 150                       | 15.0                 | 8.0      | 0.9                          |
| SHJD22010  | D         | 220                       | 22.0                 | 8.0      | 0.5                          |
| SHJE15010  | E         | 150                       | 15.0                 | 6.0      | 0.9                          |
| SHJE22010  | E         | 220                       | 22.0                 | 8.0      | 0.5                          |
| SHJE33010  | E         | 330                       | 33.0                 | 8.0      | 0.9                          |
| SHJE47010  | E         | 470                       | 47.0                 | 10.0     | 0.2                          |
| 16 volts   |           |                           |                      |          |                              |
| SHJA116    | A         | 1                         | 0.5                  | 4.0      | 11.0                         |
| SHJA1.516  | A         | 1.5                       | 0.5                  | 6.0      | 8.0                          |
| SHJA4.716  | A         | 4.7                       | 0.8                  | 6.0      | 4.0                          |
| SHJA6.816  | A         | 6.8                       | 1.1                  | 6.0      | 3.5                          |
| SHJA1016   | A         | 10                        | 1.6                  | 8.0      | 7.0                          |
| SHJA1516   | A         | 15                        | 2.4                  | 8.0      | 3.5                          |
| SHJB3.316  | B         | 3.3                       | 0.5                  | 6.0      | 4.5                          |
| SHJB4.716  | B         | 4.7                       | 0.8                  | 6.0      | 3.5                          |
| SHJB1516   | B         | 15                        | 2.4                  | 6.0      | 2.5                          |
| SHJB2216   | B         | 22                        | 3.6                  | 6.0      | 2.2                          |
| SHJC6.816  | C         | 6.8                       | 1.1                  | 6.0      | 2.5                          |
| SHJC1016   | C         | 10                        | 1.6                  | 6.0      | 2.0                          |
| SHJC3316   | C         | 33                        | 5.3                  | 6.0      | 1.5                          |
| SHJC4716   | C         | 47                        | 7.5                  | 6.0      | 1.2                          |
| SHJD2216   | D         | 22                        | 3.5                  | 6.0      | 0.8                          |
| SHJD3316   | D         | 33                        | 5.3                  | 6.0      | 0.9                          |
| SHJD10016  | D         | 100                       | 16.0                 | 6.0      | 0.9                          |
| SHJD15016  | D         | 150                       | 24.0                 | 12.0     | 0.7                          |
| SHJE10016  | E         | 100                       | 16.0                 | 6.0      | 0.9                          |
| SHJE15016  | E         | 150                       | 24.0                 | 8.0      | 0.5                          |
| SHJE22016  | E         | 220                       | 35.2                 | 8.0      | 0.5                          |
| 20 volts   |           |                           |                      |          |                              |
| SHJA0.6820 | A         | 0.68                      | 0.5                  | 4.0      | 12.0                         |
| SHJA120    | A         | 1                         | 0.5                  | 4.0      | 9.0                          |
| SHJA2.220  | A         | 2.2                       | 0.5                  | 6.0      | 7.0                          |
| SHJA3.320  | A         | 3.3                       | 0.7                  | 6.0      | 4.5                          |
| SHJA4.720  | A         | 4.7                       | 1.0                  | 6.0      | 4.0                          |
| SHJA6.820  | A         | 6.8                       | 1.4                  | 8.0      | 6.0                          |
| SHJB2.220  | B         | 2.2                       | 0.5                  | 6.0      | 3.5                          |
| SHJB3.320  | B         | 3.3                       | 0.7                  | 6.0      | 3.0                          |
| SHJB6.820  | B         | 6.8                       | 1.4                  | 6.0      | 2.5                          |
| SHJB1020   | B         | 10                        | 2.0                  | 6.0      | 2.1                          |
| SHJC4.720  | C         | 4.7                       | 1.0                  | 6.0      | 2.8                          |
| SHJC6.820  | C         | 6.8                       | 1.4                  | 6.0      | 2.0                          |
| SHJC2220   | C         | 22                        | 4.4                  | 6.0      | 1.2                          |
| SHJD1520   | D         | 15                        | 3.0                  | 6.0      | 1.1                          |
| SHJD2220   | D         | 22                        | 4.4                  | 6.0      | 0.9                          |
| SHJD3320   | D         | 33                        | 6.6                  | 6.0      | 0.9                          |
| SHJD4720   | D         | 47                        | 9.4                  | 6.0      | 0.9                          |
| SHJD6820   | D         | 68                        | 13.6                 | 8.0      | 0.7                          |
| SHJE6820   | E         | 68                        | 13.6                 | 6.0      | 0.9                          |
| SHJE10020  | E         | 100                       | 20.0                 | 8.0      | 0.5                          |

| Part No.   | Case Size | Capacitance $\mu\text{F}$ | IL ( $\mu\text{A}$ ) | DF % max | ESR max ( $\Omega$ ) @100KHz |
|------------|-----------|---------------------------|----------------------|----------|------------------------------|
| 25 volts   |           |                           |                      |          |                              |
| SHJA0.4725 | A         | 0.47                      | 0.5                  | 4.0      | 14.0                         |
| SHJA0.6825 | A         | 0.68                      | 0.5                  | 4.0      | 10.0                         |
| SHJA1.525  | A         | 1.5                       | 0.5                  | 6.0      | 7.5                          |
| SHJA4.725  | A         | 4.7                       | 1.2                  | 8.0      | 6.0                          |
| SHJB1.525  | B         | 1.5                       | 0.5                  | 6.0      | 5.0                          |
| SHJB2.225  | B         | 2.2                       | 0.6                  | 6.0      | 4.5                          |
| SHJB4.725  | B         | 4.7                       | 1.2                  | 6.0      | 1.5                          |
| SHJB6.825  | B         | 6.8                       | 1.7                  | 8.0      | 2.8                          |
| SHJC3.325  | C         | 3.3                       | 0.9                  | 6.0      | 2.8                          |
| SHJC4.725  | C         | 4.7                       | 1.2                  | 6.0      | 2.4                          |
| SHJC1525   | C         | 15                        | 3.8                  | 6.0      | 1.5                          |
| SHJC2225   | C         | 22                        | 5.5                  | 6.0      | 1.4                          |
| SHJD6.825  | D         | 6.8                       | 1.7                  | 6.0      | 1.9                          |
| SHJD1025   | D         | 10                        | 2.5                  | 6.0      | 1.2                          |
| SHJD1525   | D         | 15                        | 3.8                  | 6.0      | 1.0                          |
| SHJD3325   | D         | 33                        | 6.6                  | 6.0      | 0.9                          |
| SHJD4725   | D         | 47                        | 11.8                 | 10.0     | 0.7                          |
| SHJE3325   | E         | 33                        | 8.3                  | 6.0      | 0.9                          |
| SHJE4725   | E         | 47                        | 11.7                 | 8.0      | 0.9                          |
| SHJE6825   | E         | 68                        | 17.0                 | 8.0      | 0.7                          |
| 35 volts   |           |                           |                      |          |                              |
| SHJA0.135  | A         | 0.1                       | 0.5                  | 4.0      | 24.0                         |
| SHJA0.1535 | A         | 0.15                      | 0.5                  | 4.0      | 21.0                         |
| SHJA0.2235 | A         | 0.22                      | 0.5                  | 4.0      | 18.0                         |
| SHJA0.3335 | A         | 0.33                      | 0.5                  | 4.0      | 15.0                         |
| SHJA0.4735 | A         | 0.47                      | 0.5                  | 4.0      | 12                           |
| SHJA135    | A         | 1                         | 0.5                  | 4.0      | 7.5                          |
| SHJB0.4735 | B         | 0.47                      | 0.5                  | 4.0      | 10.0                         |
| SHJB0.6835 | B         | 0.68                      | 0.5                  | 4.0      | 8.0                          |
| SHJB135    | B         | 1                         | 0.5                  | 4.0      | 5.0                          |
| SHJB3.335  | B         | 3.3                       | 1.2                  | 6.0      | 3.5                          |
| SHJB4.735  | B         | 4.7                       | 1.6                  | 6.0      | 3.1                          |
| SHJC1.535  | C         | 1.5                       | 0.5                  | 6.0      | 4.5                          |
| SHJC2.235  | C         | 2.2                       | 0.8                  | 6.0      | 3.5                          |
| SHJC3.335  | C         | 3.3                       | 1.2                  | 6.0      | 2.5                          |
| SHJC6.835  | C         | 6.8                       | 2.4                  | 6.0      | 1.8                          |
| SHJC1035   | C         | 10                        | 3.5                  | 6.0      | 1.6                          |
| SHJC1535   | C         | 15                        | 5.3                  | 6.0      | 1.4                          |
| SHJD4.735  | D         | 4.7                       | 1.6                  | 6.0      | 1.5                          |
| SHJD6.835  | D         | 6.8                       | 2.4                  | 6.0      | 1.3                          |
| SHJD1035   | D         | 10                        | 3.5                  | 6.0      | 1.0                          |
| SHJD2235   | D         | 22                        | 7.7                  | 6.0      | 0.7                          |
| SHJE2235   | E         | 22                        | 7.7                  | 6.0      | 0.9                          |
| SHJE3335   | E         | 33                        | 8.3                  | 6.0      | 0.6                          |
| SHJE4735   | E         | 47                        | 16.5                 | 8.0      | 0.6                          |
| 50 volts   |           |                           |                      |          |                              |
| SHJA0.150  | A         | 0.1                       | 0.5                  | 4.0      | 22.0                         |
| SHJB0.1550 | B         | 0.15                      | 0.5                  | 4.0      | 17.0                         |
| SHJB0.2250 | B         | 0.22                      | 0.5                  | 4.0      | 14.0                         |
| SHJB0.3350 | B         | 0.33                      | 0.5                  | 4.0      | 10.0                         |
| SHJB0.4750 | B         | 0.47                      | 0.5                  | 4.0      | 10.0                         |
| SHJB0.6850 | B         | 0.68                      | 0.5                  | 4.0      | 8.0                          |
| SHJC0.4750 | C         | 0.47                      | 0.5                  | 4.0      | 8.0                          |
| SHJC0.6850 | C         | 0.68                      | 0.5                  | 4.0      | 7.0                          |
| SHJC150    | C         | 1                         | 0.5                  | 4.0      | 5.5                          |
| SHJC1.550  | C         | 1.5                       | 0.8                  | 6.0      | 4.5                          |
| SHJC2.250  | C         | 2.2                       | 1.1                  | 6.0      | 3.2                          |
| SHJD1.550  | D         | 1.5                       | 0.8                  | 6.0      | 4.0                          |
| SHJD2.250  | D         | 2.2                       | 1.1                  | 6.0      | 2.5                          |
| SHJD3.350  | D         | 3.3                       | 1.7                  | 6.0      | 2.0                          |
| SHJD4.750  | D         | 4.7                       | 2.4                  | 6.0      | 1.4                          |
| SHJD1050   | D         | 10                        | 5.0                  | 6.0      | 0.8                          |
| SHJE6.850  | E         | 6.8                       | 3.4                  | 6.0      | 1.0                          |
| SHJE1050   | E         | 10                        | 5.0                  | 8.0      | 0.7                          |
| SHJE1550   | E         | 15                        | 7.5                  | 8.0      | 0.7                          |

All technical data relates to an ambient temperature of +25°C measured at 120Hz, 0.5V RMS unless otherwise stated.

DUBILIER RESERVES THE RIGHT TO SUPPLY HIGHER VOLTAGE RATINGS IN THE SAME CASE SIZE WITH THE SAME RELIABILITY STANDARDS.