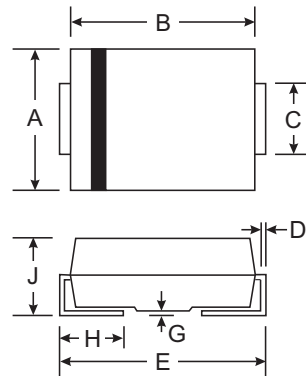


## Features

- 1500 Watts of Peak Pulse Power Dissipation
- Available in stand-off voltage range of 6.5 to 170 V
- Low Capacitance of 100 pF or less
- Molding compound flammability rating : UL94V-O
- Pb / RoHS Free

## Mechanical Data

- Case : SMC Molded plastic
- Epoxy : UL94V-O rate flame retardant
- Lead : Lead Formed for Surface Mount
- Polarity : Color band denotes cathode end except Bipolar.
- Mounting position : Any
- Weight : 0.21 gram



| SMC                  |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 5.59 | 6.22 |
| B                    | 6.60 | 7.11 |
| C                    | 2.75 | 3.18 |
| D                    | 0.15 | 0.31 |
| E                    | 7.75 | 8.13 |
| G                    | 0.10 | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.00 | 2.62 |
| All Dimensions in mm |      |      |

## Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Rating                                                                                              | Symbol          | Value         | Unit               |
|-----------------------------------------------------------------------------------------------------|-----------------|---------------|--------------------|
| Peak Pulse Power Dissipation on 10/1000 $\mu\text{s}$ waveform (Note 1, Figure 1)                   | $P_{PP}$        | 1500          | W                  |
| Steady State Power Dissipation at $T_L = 75^\circ\text{C}$<br>Lead Lengths 0.375", (9.5mm) (Note 2) | $P_D$           | 5.0           | W                  |
| Thermal Resistance (Junction to Lead)                                                               | $R_{\theta JL}$ | 20            | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range                                                             | $T_J, T_{STG}$  | - 65 to + 175 | $^\circ\text{C}$   |

## Notes :

- (1) Non-repetitive Current pulse, per Fig. 3 and derated above  $T_a = 25^\circ\text{C}$  per Fig. 2
- (2) 8.3 ms single half sine-wave, duty cycle = 4 pulses per minutes maximum.

| Type Number  | Reverse Stand-off Voltage | Breakdown Voltage @ $I_{BR}$ |      |          | Maximum Reverse Leakage @ $V_{WM}$ | Maximum Clamping Voltage @ $I_{PP}$ | Maximum Peak Pulse Current @ 10/1000 | Maximum Junction Capacitance @ 0 Volt | Working Inverse Blocking Voltage | Inverse Blocking Leakage Current | Peak Inverse Blocking Voltage |
|--------------|---------------------------|------------------------------|------|----------|------------------------------------|-------------------------------------|--------------------------------------|---------------------------------------|----------------------------------|----------------------------------|-------------------------------|
|              | $V_{WM}$                  | $V_{BR}$ (V)                 |      | $I_{BR}$ | $I_D$                              | $V_C$                               | $I_{PP}$                             |                                       | $V_{WIB}$                        | $I_{IB}$                         | $V_{PIB}$                     |
|              | (V)                       | Min.                         | Max. | (mA)     | ( $\mu$ A)                         | (V)                                 | (A)                                  | pF                                    | (V)                              | $\mu$ A                          | (V)                           |
| SMCJLCE6.5CA | 6.5                       | 7.22                         | 8.82 | 10       | 1000                               | 12.3                                | 100                                  | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE6.5A  | 6.5                       | 7.22                         | 7.98 | 10       | 1000                               | 11.2                                | 100                                  | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE7.0CA | 7.0                       | 7.78                         | 9.51 | 10       | 500                                | 13.3                                | 100                                  | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE7.0A  | 7.0                       | 7.78                         | 8.60 | 10       | 500                                | 12.0                                | 100                                  | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE7.5CA | 7.5                       | 8.33                         | 10.2 | 10       | 250                                | 14.3                                | 100                                  | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE7.5A  | 7.5                       | 8.33                         | 9.21 | 10       | 250                                | 12.9                                | 100                                  | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE8.0CA | 8.0                       | 8.89                         | 10.9 | 1        | 100                                | 15.0                                | 100                                  | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE8.0A  | 8.0                       | 8.89                         | 9.83 | 1        | 100                                | 13.6                                | 100                                  | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE8.5CA | 8.5                       | 9.44                         | 11.5 | 1        | 50                                 | 15.9                                | 94                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE8.5A  | 8.5                       | 9.44                         | 10.4 | 1        | 50                                 | 14.4                                | 100                                  | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE9.0CA | 9.0                       | 10.0                         | 12.2 | 1        | 10                                 | 16.9                                | 89                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE9.0A  | 9.0                       | 10.0                         | 11.1 | 1        | 10                                 | 15.4                                | 97                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE10CA  | 10                        | 11.1                         | 13.6 | 1        | 5                                  | 18.8                                | 80                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE10A   | 10                        | 11.1                         | 12.3 | 1        | 5                                  | 17.0                                | 88                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE11CA  | 11                        | 12.2                         | 14.9 | 1        | 5                                  | 20.1                                | 74                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE11A   | 11                        | 12.2                         | 13.5 | 1        | 5                                  | 18.2                                | 82                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE12CA  | 12                        | 13.3                         | 16.3 | 1        | 5                                  | 22.0                                | 68                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE12A   | 12                        | 13.3                         | 14.7 | 1        | 5                                  | 19.9                                | 75                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE13CA  | 13                        | 14.4                         | 17.6 | 1        | 5                                  | 23.8                                | 63                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE13A   | 13                        | 14.4                         | 15.9 | 1        | 5                                  | 21.5                                | 70                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE14CA  | 14                        | 15.6                         | 19.1 | 1        | 5                                  | 25.8                                | 58                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE14A   | 14                        | 15.6                         | 17.2 | 1        | 5                                  | 23.2                                | 65                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE15CA  | 15                        | 16.7                         | 20.4 | 1        | 5                                  | 26.9                                | 56                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE15A   | 15                        | 16.7                         | 18.5 | 1        | 5                                  | 24.4                                | 61                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE16CA  | 16                        | 17.8                         | 21.8 | 1        | 5                                  | 28.8                                | 52                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE16A   | 16                        | 17.8                         | 19.7 | 1        | 5                                  | 26.0                                | 57                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE17CA  | 17                        | 18.9                         | 23.1 | 1        | 5                                  | 30.5                                | 49                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE17A   | 17                        | 18.9                         | 20.9 | 1        | 5                                  | 27.6                                | 54                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE18CA  | 18                        | 20.0                         | 24.4 | 1        | 5                                  | 32.2                                | 46                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE18A   | 18                        | 20.0                         | 22.1 | 1        | 5                                  | 29.2                                | 51                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE20CA  | 20                        | 22.2                         | 27.1 | 1        | 5                                  | 35.8                                | 42                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE20A   | 20                        | 22.2                         | 24.5 | 1        | 5                                  | 32.4                                | 46                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE22CA  | 22                        | 24.4                         | 29.8 | 1        | 5                                  | 39.4                                | 38                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE22A   | 22                        | 24.4                         | 26.9 | 1        | 5                                  | 35.5                                | 42                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE24CA  | 24                        | 26.7                         | 32.6 | 1        | 5                                  | 43.0                                | 35                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE24A   | 24                        | 26.7                         | 29.5 | 1        | 5                                  | 38.9                                | 39                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE26CA  | 26                        | 28.9                         | 35.3 | 1        | 5                                  | 46.6                                | 32                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE26A   | 26                        | 28.9                         | 31.9 | 1        | 5                                  | 42.1                                | 36                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE28CA  | 28                        | 31.1                         | 38.0 | 1        | 5                                  | 50.1                                | 30                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE28A   | 28                        | 31.1                         | 34.4 | 1        | 5                                  | 45.5                                | 33                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE30CA  | 30                        | 33.3                         | 40.7 | 1        | 5                                  | 53.5                                | 28                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE30A   | 30                        | 33.3                         | 36.8 | 1        | 5                                  | 48.4                                | 31                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE33CA  | 33                        | 36.7                         | 44.9 | 1        | 5                                  | 59.0                                | 25.4                                 | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE33A   | 33                        | 36.7                         | 40.6 | 1        | 5                                  | 53.3                                | 28.1                                 | 100                                   | 75                               | 10                               | 100                           |

| Type Number  | Reverse Stand-off Voltage | Breakdown Voltage @ $I_{BR}$ |      |          | Maximum Reverse Leakage @ $V_{WM}$ | Maximum Clamping Voltage @ $I_{PP}$ | Maximum Peak Pulse Current @ 10/1000 | Maximum Junction Capacitance @ 0 Volt | Working Inverse Blocking Voltage | Inverse Blocking Leakage Current | Peak Inverse Blocking Voltage |
|--------------|---------------------------|------------------------------|------|----------|------------------------------------|-------------------------------------|--------------------------------------|---------------------------------------|----------------------------------|----------------------------------|-------------------------------|
|              | $V_{WM}$                  | $V_{BR}$ (V)                 |      | $I_{BR}$ | $I_D$                              | $V_C$                               | $I_{PP}$                             | pF                                    | $V_{WIB}$                        | $I_{IB}$                         | $V_{PIB}$                     |
|              | (V)                       | Min.                         | Max. | (mA)     | ( $\mu$ A)                         | (V)                                 | (A)                                  |                                       | (V)                              | $\mu$ A                          | (V)                           |
| SMCJLCE36CA  | 36                        | 40.0                         | 48.9 | 1        | 5                                  | 64.3                                | 23.3                                 | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE36A   | 36                        | 40.0                         | 44.2 | 1        | 5                                  | 58.1                                | 25.8                                 | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE40CA  | 40                        | 44.4                         | 54.3 | 1        | 5                                  | 71.4                                | 21                                   | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE40A   | 40                        | 44.4                         | 49.1 | 1        | 5                                  | 64.5                                | 23.3                                 | 100                                   | 75                               | 10                               | 100                           |
| SMCJLCE43CA  | 43                        | 47.8                         | 58.4 | 1        | 5                                  | 76.7                                | 19.5                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE43A   | 43                        | 47.8                         | 52.8 | 1        | 5                                  | 69.4                                | 21.6                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE45CA  | 45                        | 50.0                         | 61.1 | 1        | 5                                  | 80.3                                | 18.7                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE45A   | 45                        | 50.0                         | 55.3 | 1        | 5                                  | 72.7                                | 20.6                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE48CA  | 48                        | 53.3                         | 65.1 | 1        | 5                                  | 85.5                                | 17.5                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE48A   | 48                        | 53.3                         | 58.9 | 1        | 5                                  | 77.4                                | 19.4                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE51CA  | 51                        | 56.7                         | 69.3 | 1        | 5                                  | 91.1                                | 16.5                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE51A   | 51                        | 56.7                         | 62.7 | 1        | 5                                  | 82.4                                | 18.2                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE54CA  | 54                        | 60.0                         | 73.3 | 1        | 5                                  | 96.3                                | 15.6                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE54A   | 54                        | 60.0                         | 66.3 | 1        | 5                                  | 87.1                                | 17.2                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE58CA  | 58                        | 64.4                         | 78.7 | 1        | 5                                  | 103                                 | 14.6                                 | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE58A   | 58                        | 64.4                         | 71.2 | 1        | 5                                  | 93.6                                | 16                                   | 100                                   | 150                              | 10                               | 200                           |
| SMCJLCE60CA  | 60                        | 66.7                         | 81.5 | 1        | 5                                  | 107                                 | 14                                   | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE60A   | 60                        | 66.7                         | 73.7 | 1        | 5                                  | 96.8                                | 15.5                                 | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE64CA  | 64                        | 71.1                         | 86.9 | 1        | 5                                  | 114                                 | 13.2                                 | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE64A   | 64                        | 71.1                         | 78.6 | 1        | 5                                  | 103                                 | 14.6                                 | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE70CA  | 70                        | 77.8                         | 95.1 | 1        | 5                                  | 125                                 | 12.0                                 | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE70A   | 70                        | 77.8                         | 86.0 | 1        | 5                                  | 113                                 | 13.3                                 | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE75CA  | 75                        | 83.3                         | 102  | 1        | 5                                  | 134                                 | 11.2                                 | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE75A   | 75                        | 83.3                         | 92.1 | 1        | 5                                  | 121                                 | 12.4                                 | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE80CA  | 80                        | 88.7                         | 108  | 1        | 5                                  | 142                                 | 10.6                                 | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE80A   | 80                        | 88.7                         | 98.0 | 1        | 5                                  | 129                                 | 11.6                                 | 90                                    | 150                              | 10                               | 200                           |
| SMCJLCE90CA  | 90                        | 100                          | 122  | 1        | 5                                  | 160                                 | 9.4                                  | 90                                    | 300                              | 10                               | 200                           |
| SMCJLCE90A   | 90                        | 100                          | 111  | 1        | 5                                  | 146                                 | 10.3                                 | 90                                    | 300                              | 10                               | 200                           |
| SMCJLCE100CA | 100                       | 111                          | 136  | 1        | 5                                  | 179                                 | 8.4                                  | 90                                    | 300                              | 10                               | 200                           |
| SMCJLCE100A  | 100                       | 111                          | 123  | 1        | 5                                  | 162                                 | 9.3                                  | 90                                    | 300                              | 10                               | 200                           |
| SMCJLCE110CA | 110                       | 122                          | 149  | 1        | 5                                  | 196                                 | 7.7                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE110A  | 110                       | 122                          | 135  | 1        | 5                                  | 178                                 | 8.4                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE120CA | 120                       | 133                          | 163  | 1        | 5                                  | 214                                 | 7.0                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE120A  | 120                       | 133                          | 147  | 1        | 5                                  | 193                                 | 7.8                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE130CA | 130                       | 144                          | 176  | 1        | 5                                  | 231                                 | 6.5                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE130A  | 130                       | 144                          | 159  | 1        | 5                                  | 209                                 | 7.2                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE150CA | 150                       | 167                          | 204  | 1        | 5                                  | 268                                 | 5.6                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE150A  | 150                       | 167                          | 185  | 1        | 5                                  | 243                                 | 6.2                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE160CA | 160                       | 178                          | 218  | 1        | 5                                  | 287                                 | 5.2                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE160A  | 160                       | 178                          | 197  | 1        | 5                                  | 259                                 | 5.8                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE170CA | 170                       | 189                          | 231  | 1        | 5                                  | 304                                 | 4.9                                  | 90                                    | 300                              | 10                               | 400                           |
| SMCJLCE170A  | 170                       | 189                          | 209  | 1        | 5                                  | 275                                 | 5.4                                  | 90                                    | 300                              | 10                               | 400                           |

## RATING AND CHARACTERISTIC CURVES ( SMCJLCE Series )

FIG.1 - PEAK PULSE POWER VS. PULSE TIME

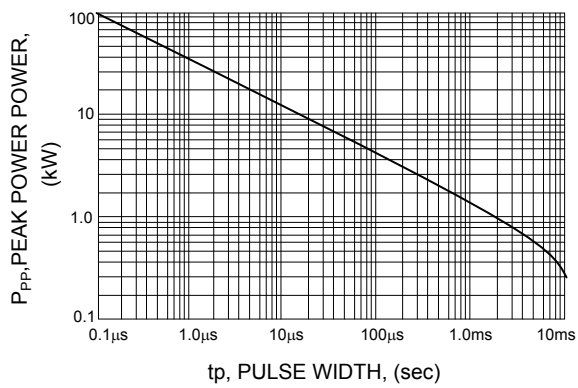


FIG.2 - DERATING CURVE

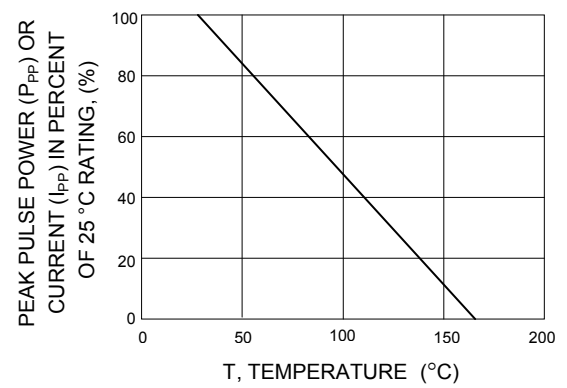


FIG.3 - PULSE WAVEFORM

