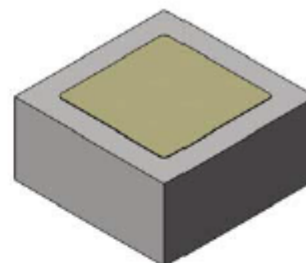


## Features

- Available as JANHCE and JANKCE per MIL-PRF-19500/477
- Electrically equivalent to 1N5807, 1N5809 and 1N5811
- Passivated junction
- Compatible with all wire bonding and die attach techniques with the exception of solder reflow



| TYPE   | $V_R$ | $V_{BR} @ 100 \mu A$ | $I_O$<br>$T_J = 75^\circ C$ |
|--------|-------|----------------------|-----------------------------|
| CD5807 | 50 V  | 60 V                 | 6.0 A                       |
| CD5809 | 100 V | 110 V                | 6.0 A                       |
| CD5811 | 150 V | 160 V                | 6.0 A                       |

## Electrical Characteristics:

| CHARACTERISTIC                                     | SYMBOL | MAXIMUM | UNITS   |
|--|--------|---------|---------|
| Reverse Current Rated $V_R, T_C = 25^\circ C$      | $I_R$  | 5       | $\mu A$ |
| Reverse Current Rated $V_R, T_C = 125^\circ C$     | $I_R$  | 525     | $\mu A$ |
| Forward Voltage Drop, $I_F = 4A, T_C = 25^\circ C$ | $V_F$  | 0.875   | Volts   |
| Junction Capacitance @ $V_R = 10V$                 | $C_j$  | 60      | pF      |

## Reverse Recovery Characteristics:

| CHARACTERISTIC   | SYMBOL       | MAXIMUM | UNITS |
|--|--------------|---------|-------|
| Reverse Recovery Time<br>$I_F = 1A, I_{RM} = 1A, I_{(REC)} = 0.1A$ | $T_{rr}$     | 30      | ns    |
| Forward Recovery Voltage @ 500 mA $T_r = 8$ ns                     | $V_{(Peak)}$ | 2.2     | V     |
| Forward Recovery Time, $I_F = 500$ mA                              | - - -        | 15      | ns    |

# CD5807, CD5809 & CD5811



Rectifier Diode Chips  
Ultrafast Recovery

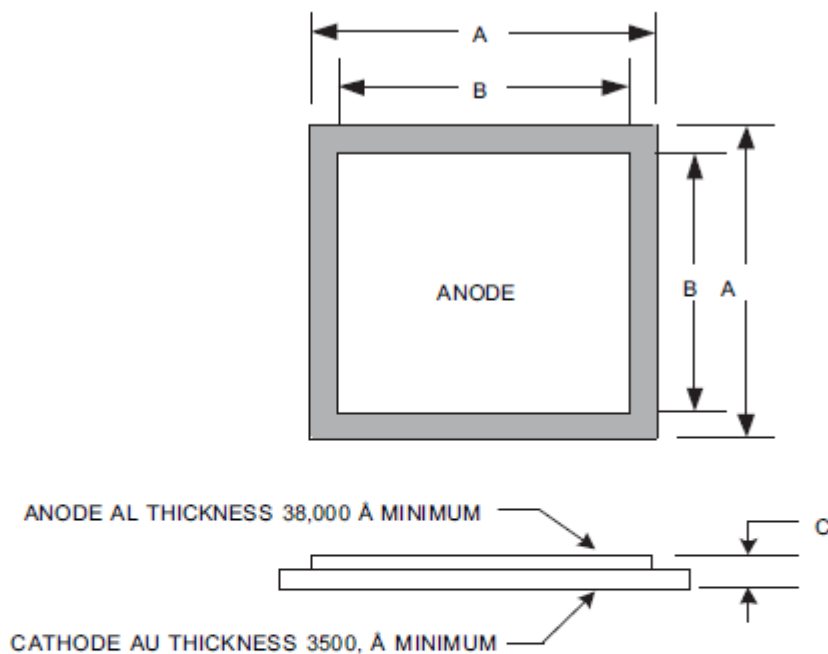
Rev. V1

## Group A Electricals:

DRAWING NUMBER: MIL-S-19500/477, NUMBER: JANHCE1N5807/5809/5811, JANKCE1N5807/5809/5811

| SYMBOL             | TEST CONDITIONS  | MINIMUM                    | MAXIMUM          | UNIT        |
|--------------------|--|----------------------------|------------------|-------------|
| V <sub>FM1</sub>   | I <sub>FM</sub> = 3.0 A, T <sub>p</sub> = 8.3 ms (maximum)   |                            | 0.865            | V           |
| V <sub>FM2</sub>   | I <sub>FM</sub> = 4.0 A, T <sub>p</sub> = 8.3 ms (maximum)   |                            | 0.875            | V           |
| V <sub>FM3</sub>   | I <sub>FM</sub> = 6.0 A, T <sub>p</sub> = 8.3 ms (maximum)   |                            | 0.925            | V           |
| I <sub>R1</sub>    | V <sub>R</sub> = 50 V (CD5807)<br>V <sub>R</sub> = 100 V (CD5809)<br>V <sub>R</sub> = 150 V (CD5811)             |                            | 5.0              | μA          |
| V <sub>(BR)1</sub> | I <sub>(BR)</sub> = 100 μA, T <sub>p</sub> = 20 mS (maximum)   | CD5807<br>CD5809<br>CD5811 | 60<br>110<br>160 | V<br>V<br>V |
| I <sub>R2</sub>    | V <sub>R</sub> = 50 V (CD5807)<br>V <sub>R</sub> = 100 V (CD5809)<br>V <sub>R</sub> = 150 V (CD5811)             | T <sub>A</sub> = +125 °C   | 525              | μA          |
| V <sub>FM4</sub>   | I <sub>FM</sub> = 4.0 A, T <sub>A</sub> = +125 °C, T <sub>p</sub> = 8.3 mS (maximum)                             |                            | 0.830            | V           |
| V <sub>FM5</sub>   | I <sub>FM</sub> = 4.0 A, T <sub>A</sub> = -65 °C, T <sub>p</sub> = 8.3 mS (maximum)                              |                            | 1.075            | V           |
| V <sub>(BR)2</sub> | I <sub>(BR)</sub> = 100 μA, T <sub>A</sub> = -65 °C, T <sub>p</sub> = 20 ms (maximum)                            | CD5807<br>CD5809<br>CD5811 | 50<br>100<br>150 | V<br>V<br>V |
| t <sub>rr</sub>    | I <sub>F</sub> = I <sub>FM</sub> = 1.0 A, I <sub>RM</sub> (REC) = 0.1 A, di/dt = 100 A/us (minimum)              |                            | 30               | nS          |
| C <sub>J</sub>     | V <sub>R</sub> = 10 V, f = 1 MHz, V <sub>sig</sub> = 50 mV (P-P) (maximum)                                       |                            | 60               | pF          |
| V <sub>FRM</sub>   | t <sub>r</sub> = 8 nS, I <sub>FM</sub> = 500 mA  |                            | 2.2              | V           |
| t <sub>fr</sub>    | t <sub>p</sub> ≥ 20 nS, t <sub>r</sub> = 8 nS, V <sub>FR</sub> = 1.1 x V <sub>F</sub> , I <sub>FM</sub> = 500 mA |                            | 15               | nS          |

## Outline Drawing



| Ltr | Dimensions |      |             |      |
|-----|------------|------|-------------|------|
|     | Inches     |      | Millimeters |      |
|     | Min        | Max  | Min         | Max  |
| A   | .068       | .072 | 1.73        | 1.83 |
| B   | .057       | .061 | 1.45        | 1.55 |
| C   | .008       | .012 | 0.20        | 0.30 |

### Notes:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

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