

## POWER DISCRETES

### Description

Quick reference data

$V_R$  50 -150 V

$I_F$  1N5807US to 1N5811US = 6A

$t_{rr}$  1N5807US to 1N5811US = 30nS

$I_R$  1N5807US to 1N5811US = 5 $\mu$ A

### Features

- ◆ Very low reverse recovery time
- ◆ Hermetically sealed non-cavity construction
- ◆ Soft, non-snap, off recovery characteristics
- ◆ Very low forward voltage drop

These products are qualified to MIL-PRF-19500/477 and are preferred parts as listed in MIL-HDBK-5961. They can be supplied fully released as JANTX and JANTXV versions.

## Electrical Specifications

Electrical specifications @  $T_A = 25^\circ\text{C}$  unless otherwise specified.

|   | Symbol                     | 1N5807US    | 1N5809US | 1N5811US | Units              |
|---|----------------------------|-------------|----------|----------|--------------------|
| Working Reverse Voltage   | $V_{RWM}$                  | 50          | 100      | 150      | V                  |
| Repetitive Reverse Voltage  | $V_{RRM}$                  | 50          | 100      | 150      | V                  |
| Average Forward Current<br>(@ $75^\circ\text{C}$ lead length = 0.375')  | $I_{F(AV)}$                | 6.0         |          |          | A                  |
| Repetitive Surge Current<br>(@ $55^\circ\text{C}$ in free air lead length = 0.375')                           | $I_{FRM}$                  | 25          |          |          | A                  |
| Non-Repetitive Surge Current<br>( $t_p = 8.3\text{mS}$ @ $V_r$ & $T_{JMAX}$ )                                 | $I_{FSM}$                  | 125         |          |          | A                  |
| Storage Temperature Range   | $T_{STG}$                  | -65 to +175 |          |          | $^\circ\text{C}$   |
| Average Forward Current Max<br>(pcb mounted: $T_A = 55^\circ\text{C}$ )<br>Sine wave<br>Square wave (d = 0.5) | $I_{F(AV)}$<br>$I_{F(AV)}$ | 1.7<br>1.8  |          |          | A                  |
| $I^2t$ for fusing (t = 8.3mS) max   | $I^2t$                     | 32          |          |          | A <sup>2</sup> S   |
| Forward Voltage Drop max<br>@ $T_J = 25^\circ\text{C}$  | $V_F$                      | 0.875 @ 4A  |          |          | V                  |
| Reverse Current max<br>@ $V_{WRM}$ , $T_J = 25^\circ\text{C}$<br>@ $V_{WRM}$ , $T_J = 100^\circ\text{C}$      | $I_R$<br>$I_R$             | 5.0<br>150  |          |          | $\mu\text{A}$      |
| Reverse Recovery Time max<br>(1.0A $I_F$ to 1.0A $I_{RM}$ recover to 0.25A $I_{RM(REC)}$ )                    | trr                        | 30          |          |          | nS                 |
| Junction Capacitance typ<br>@ $V_R = 5\text{V}$ f = 1MHz  | $C_J$                      | 60          |          |          | pF                 |
| Thermal Resistance to end cap   | $R_{\theta JEC}$           | 6.5         |          |          | $^\circ\text{C/W}$ |

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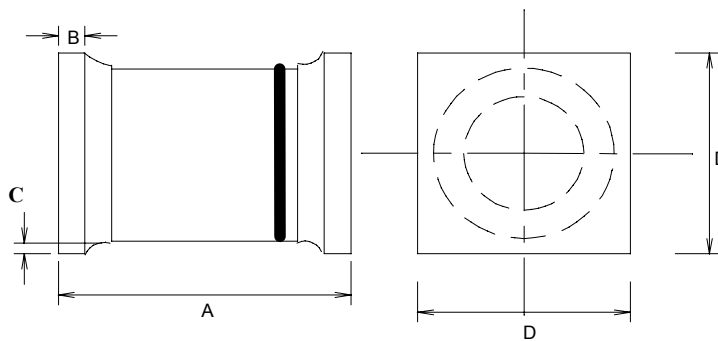
### Ordering Information

| Part Number                        | Description                  |
|------------------------------------|------------------------------|
| 1N5807US,<br>1N5809US,<br>1N5811US | Surface Mount <sup>(1)</sup> |

Note:

(1) Available in trays and tape and reel packaging. Please consult factory for quantities.

### Outline Drawing



\*Cathode is denoted by a black band on a white body.

|   | Dimensions in Inches |       |
|---|----------------------|-------|
|   | 1N5807US - 1N5811US  |       |
|   | MIN                  | MAX   |
| A | 0.2                  | 0.225 |
| B | 0.019                | 0.028 |
| C | 0.003                | -     |
| D | 0.137                | 0.148 |

### Contact Information

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