

**POWER DISCRETES**
**Description**

Quick reference data

$V_R$  50 -150 V

$I_F$  1N5802US to 1N5806US = 2.5A

$t_{rr}$  1N5802US to 1N5806US = 25nS

$I_R$  1N5802US to 1N5806US = 1 $\mu$ 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                     | 1N5802US    | 1N5804US | 1N5806US | 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')  | $I_{F(AV)}$                | 2.5         |          |          | A                    |
| Repetitive Surge Current<br>(@ $55^\circ\text{C}$ lead length = 0.375')                                       | $I_{FRM}$                  | 14          |          |          | A                    |
| Non-Repetitive Surge Current<br>( $t_p = 8.3\text{mS}$ @ $V_r$ & $T_{JMAX}$ )                                 | $I_{FSM}$                  | 35          |          |          | 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>$I_{F(AV)}$ | 1.0<br>1.1  |          |          | A                    |
| $I^2t$ for fusing (t = 8.3mS) max   | $I^2t$                     | 10          |          |          | $\text{A}^2\text{S}$ |
| Forward Voltage Drop max<br>@ $T_J = 25^\circ\text{C}$  | $V_F$                      | 0.875 @ 1A  |          |          | 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>$I_R$             | 1.0<br>50   |          |          | $\mu\text{A}$        |
| Reverse Recovery Time max<br>(1.0A $I_F$ to 1.0A $I_{RM}$ recover to 0.25A $I_{RM(REC)}$ )                    | trr                        | 25          |          |          | nS                   |
| Junction Capacitance typ<br>@ $V_R = 5\text{V}$ f = 1MHz  | $C_J$                      | 25          |          |          | pF                   |
| Thermal Resistance to end cap   | $R_{\theta JEC}$           | 13          |          |          | $^\circ\text{C/W}$   |

## POWER DISCRETES

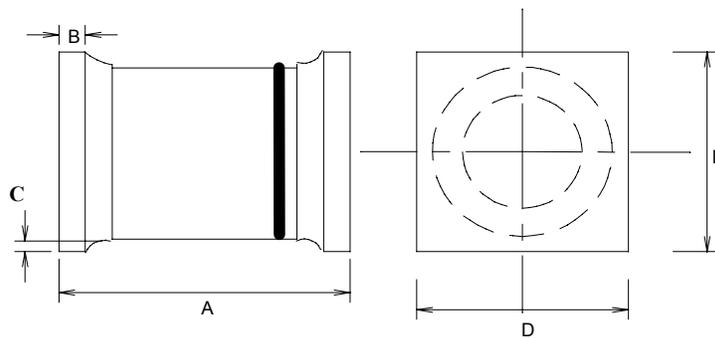
### Ordering Information

| Part Number                        | Description                  |
|------------------------------------|------------------------------|
| 1N5802US,<br>1N5804US,<br>1N5806US | 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 |       |
|---|----------------------|-------|
|   | 1N5802US - 1N5806US  |       |
|   | MIN                  | MAX   |
| A | 0.168                | 0.2   |
| B | 0.019                | 0.028 |
| C | 0.003                | -     |
| D | 0.091                | 0.103 |

### Contact Information

Semtech Corporation  
 Power Discrettes Products Division  
 200 Flynn Road, Camarillo, CA 93012  
 Phone: (805)498-2111 FAX (805)498-3804