

**POWER DISCRETES**
**Description**

Quick reference data

$$V_R = 200 - 1000V$$

$$I_F = 1.5 - 2.0 A$$

$$t_{rr} = 30 - 60ns$$

$$V_F = 1.6 - 1.95V$$

**Features**

- ◆ Low reverse leakage current
- ◆ Hermetically sealed in fused metal oxide
- ◆ Good thermal shock resistance
- ◆ Low forward voltage drop
- ◆ Avalanche capability

**Absolute Maximum Ratings**

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

|   | Symbol      | 1N6620      | 1N6621 | 1N6622 | 1N6623 | 1N6624 | 1N6625 | Units |
|---|-------------|-------------|--------|--------|--------|--------|--------|-------|
| Working Reverse Voltage   | $V_{RWM}$   | 200         | 400    | 600    | 800    | 900    | 1000   | V     |
| Average Forward Current<br>@ 55°C in free air, lead length<br>0.375"  | $I_{F(AV)}$ | 2.0         | 2.0    | 2.0    | 1.5    | 1.5    | 1.5    | A     |
| Non-Repetitive Surge Current<br>( $t_p = 8.3mS @ V_R \text{ \& } T_{JMAX}$ )<br>( $t_p = 8.3mS, @ V_R \text{ \& } 25^\circ C$ ) | $I_{FSM}$   | 20          | 20     | 20     | 20     | 20     | 15     | A     |
| Storage Temperature Range   | $T_{STG}$   | -65 to +175 |        |        |        |        |        | °C    |

**POWER DISCRETES**
**Electrical Specifications**

|   | Symbol         | 1N6620                  | 1N6621                  | 1N6622                  | 1N6623                    | 1N6624                    | 1N6625                     | Units         |
|---|----------------|-------------------------|-------------------------|-------------------------|---------------------------|---------------------------|----------------------------|---------------|
| Forward Voltage Drop max.<br>@ $I_F$ , $T_J = 25^\circ\text{C}$   | $V_F$          | 1.6 @ $I_F = 2\text{A}$ | 1.6 @ $I_F = 2\text{A}$ | 1.6 @ $I_F = 2\text{A}$ | 1.8 @ $I_F = 1.5\text{A}$ | 1.8 @ $I_F = 1.5\text{A}$ | 1.95 @ $I_F = 1.5\text{A}$ | V             |
| Reverse Current max.<br>@ $V_{RWM}$ , $T_J = 25^\circ\text{C}$<br>@ $V_{RWM}$ , $T_J = 150^\circ\text{C}$ | $I_R$<br>$I_R$ | 0.5<br>150              | 0.5<br>150              | 0.5<br>150              | 0.5<br>150                | 0.5<br>150                | 1.0<br>200                 | $\mu\text{A}$ |
| Reverse Recovery Time max.<br>0.5A $I_F$ to 1.0A $I_{RM}$ recovers to 0.25A $I_{RM(REC)}$                 | $t_{rr}$       | 30                      | 30                      | 30                      | 50                        | 50                        | 60                         | ns            |
| Junction Capacitance typ.<br>@ $V_R = 10\text{V}$ , $f = 1\text{MHz}$                                     | $C_j$          | 10                      |                         |                         |                           |                           |                            | pF            |

**Thermal Characteristics**

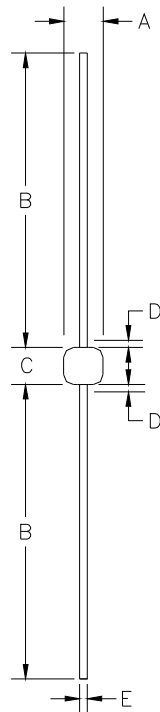
|   | Symbol                             | 1N6620 | 1N6621 | 1N6622 | 1N6623 | 1N6624 | 1N6625 | Units              |
|---|------------------------------------|--------|--------|--------|--------|--------|--------|--------------------|
| Thermal Resistance-Junction to Lead<br>Lead length = 0.375"<br>Lead length = 0.0" | $R_{\theta JL}$<br>$R_{\theta JL}$ | 38     |        |        |        |        |        | $^\circ\text{C/W}$ |

**POWER DISCRETES**
**Ordering Information**

| Part Number | Description                                     |
|-------------|---|
| 1N6620      | Axial leaded hermetically sealed <sup>(1)</sup> |
| 1N6621      |   |
| 1N6622      |   |
| 1N6623      |   |
| 1N6624      |   |
| 1N6625      |   |

Note:

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

**Outline Drawing**


G4

| DIM <sup>N</sup> | Dimensions |       |             |       | Note |
|------------------|------------|-------|-------------|-------|------|
|                  | Inches     |       | Millimeters |       |      |
|                  | MIN        | MAX   | MIN         | MAX   |      |
| A                | 0.065      | 0.085 | 1.65        | 2.16  | -    |
| B                | 0.7        | 1.3   | 17.78       | 33.02 | -    |
| C                | 0.125      | 0.25  | 3.18        | 6.35  | -    |
| D                | -          | 0.03  | -           | 0.8   | 1    |
| E                | 0.027      | 0.032 | 0.69        | 0.81  | -    |

Note:

(1) Lead diameter uncontrolled over this region.

**Contact Information**

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