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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore ( $\_$), the underscore ( $\_$) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild questions@onsemi.com.

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## 1N5282

Small Signal Diode


## DO-35

Color Band Denotes Cathode

## Absolute Maximum Ratings* $\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
| :---: | :--- | :---: | :---: |
| $\mathrm{V}_{\text {RRM }}$ | Maximum Repetitive Reverse Voltage | 80 | V |
| $\mathrm{I}_{\text {F(AV) }}$ | Average Rectified Forward Current | 200 | mA |
| $\mathrm{I}_{\text {FSM }}$ | Non-repetitive Peak Forward Surge Current |  |  |
|  | Pulse Width $=1.0$ second |  |  |
|  | Pulse Width $=1.0$ microsecond | 1.0 | A |
| $\mathrm{~T}_{\text {STG }}$ | Storage Temperature Range | 4.0 | A |
| $\mathrm{~T}_{J}$ | Operating Junction Temperature | -65 to +200 | ${ }^{\circ} \mathrm{C}$ |

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired. NOTES:

1) These ratings are based on a maximum junction temperature of 200 degrees $C$.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

| Symbol | Parameter | Value | Units |
| :---: | :--- | :---: | :---: |
| $\mathrm{P}_{\mathrm{D}}$ | Power Dissipation | 500 | mV |
| $\mathrm{R}_{\theta \mathrm{JJA}}$ | Thermal Resistance, Junction to Ambient | 300 | ${ }^{\circ} \mathrm{C} / \mathrm{W}$ |

Electrical Characteristics $\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$ unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units |
| :---: | :--- | :--- | :---: | :---: | :---: |
| $\mathrm{V}_{\mathrm{R}}$ | Breakdown Voltage | $\mathrm{I}_{\mathrm{R}}=5 \mu \mathrm{~A}$ | 80 |  | V |
| $\mathrm{~V}_{\mathrm{F}}$ | Forward Voltage | $\mathrm{I}_{\mathrm{F}}=0.1 \mathrm{~mA}$ | 0.45 | 0.49 | V |
|  |  | $\mathrm{I}_{\mathrm{F}}=1.0 \mathrm{~mA}$ | 0.55 | 0.60 | V |
|  |  | $\mathrm{I}_{\mathrm{F}}=10 \mathrm{~mA}$ | 0.67 | 0.725 | V |
|  |  | $\mathrm{I}_{\mathrm{F}}=100 \mathrm{~mA}$ | 0.80 | 0.90 | V |
|  | $\mathrm{I}_{\mathrm{F}}=300 \mathrm{~mA}$ | 0.92 | 1.1 | V |  |
|  |  | $\mathrm{I}_{\mathrm{F}}=500 \mathrm{~mA}$ | 1.05 | 1.3 | V |
| $\mathrm{I}_{\mathrm{R}}$ | Reverse Current | $\mathrm{V}_{\mathrm{R}}=55 \mathrm{~V}$ |  | 100 | nA |
|  |  | $\mathrm{V}_{\mathrm{R}}=55 \mathrm{~V}, \mathrm{~T}_{\mathrm{A}}=150^{\circ} \mathrm{C}$ |  | 100 | $\mu \mathrm{~A}$ |
| $\mathrm{C}_{\mathrm{T}}$ | Total Capacitance | $\mathrm{V}_{\mathrm{R}}=0, \mathrm{f}=1.0 \mathrm{MHz}$ |  | 2.5 | pF |
| $\mathrm{t}_{\mathrm{rr} 1}$ | Reverse Recovery Time | $\mathrm{I}_{\mathrm{F}}=\mathrm{I}_{\mathrm{R}}=10 \mathrm{~mA}, \mathrm{R}_{\mathrm{L}}=100 \Omega$ |  | 4 | ns |
|  |  | $\mathrm{I}_{\mathrm{rr}}=1.0 \mathrm{~mA}$ |  |  | ns |
| $\mathrm{t}_{\mathrm{rr} 2}$ | Reverse Recovery Time | $\mathrm{I}_{\mathrm{F}}=\mathrm{I}_{\mathrm{R}}=200 \mathrm{~mA}, \mathrm{R}_{\mathrm{L}}=100 \Omega$ |  | 4 |  |
|  |  | $\mathrm{I}_{\mathrm{rr}}=20 \mathrm{~mA}$ |  |  |  |




#### Abstract

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