

Technical Data
Data Sheet 2857, Rev. -

31DQ03/31DQ04 SCHOTTKY RECTIFIER

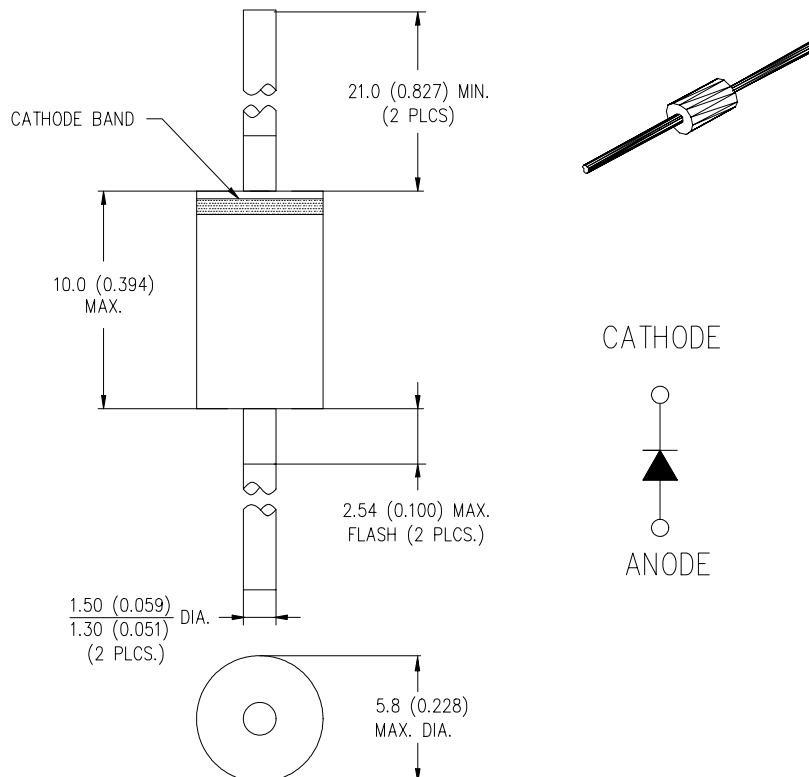
Applications:

- Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection

Features:

- Low profile, axial leaded outline
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Very low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Mechanical Dimensions: In Inches / mm



DO-201AD

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Maximum Ratings:

| Characteristics | Symbol | Condition | Max. | Units |
|--|-------------|---|------|----------|
| Peak Inverse Voltage | V_{RWM} | - | 30 | (31DQ03) |
| | | | 40 | (31DQ04) |
| Max. Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 73^\circ\text{C}$, rectangular wave form | 3.3 | A |
| Max. Peak One Cycle Non-Repetitive Surge Current | I_{FSM} | 8.3 ms, half Sine pulse | 110 | A |

Electrical Characteristics:

| Characteristics | Symbol | Condition | Max. | Units |
|---|----------|--|--|------------------|
| Max. Forward Voltage Drop* | V_{F1} | @3 A, Pulse, $T_J = 25^\circ\text{C}$ | 0.57 | V |
| | | @6 A, Pulse, $T_J = 25^\circ\text{C}$ | 0.71 | |
| | V_{F2} | @3 A, Pulse, $T_J = 125^\circ\text{C}$ | 0.51 | V |
| | | @6 A, Pulse, $T_J = 125^\circ\text{C}$ | 0.62 | |
| Max. Reverse Current * | I_{R1} | @ $V_R = \text{Rated } V_R$, Pulse, $T_J = 25^\circ\text{C}$ | 1 | mA |
| | | I_{R2} | @ $V_R = \text{Rated } V_R$, Pulse, $T_J = 125^\circ\text{C}$ | 20 |
| Max. Junction Capacitance | C_T | @ $V_R = 5\text{ V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ | 190 | pF |
| Typical Series Inductance | L_S | Measured lead to lead 5 mm from package body | 9.0 | nH |
| Max. Voltage Rate of Change(Rated V_R) | dv/dt | | 10,000 | V/ μs |

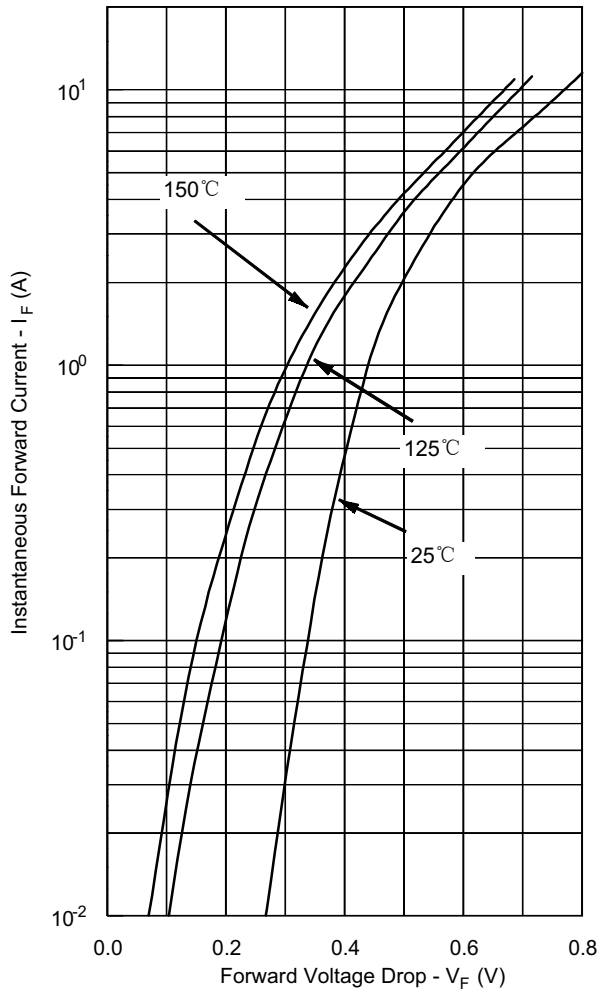
* Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications:

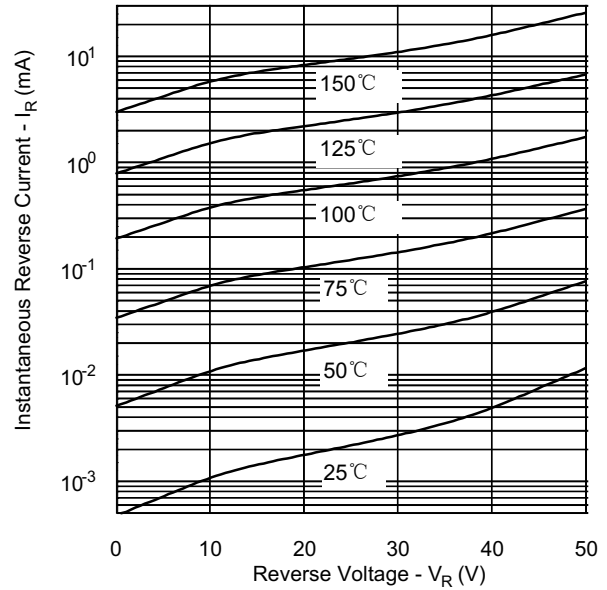
| Characteristics | Symbol | Condition | Specification | Units |
|--|-----------------|--------------|---------------|--------------------|
| Max. Junction Temperature | T_J | - | -40 to +150 | $^\circ\text{C}$ |
| Max. Storage Temperature | T_{stg} | - | -40 to +150 | $^\circ\text{C}$ |
| Maximum Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | DC operation | 80 | $^\circ\text{C/W}$ |
| Typical Thermal Resistance Junction to Lead | $R_{\theta JL}$ | DC operation | 34 | $^\circ\text{C/W}$ |
| Approximate Weight | wt | - | 1.2 | g |
| Case Style | DO-201AD | | | |

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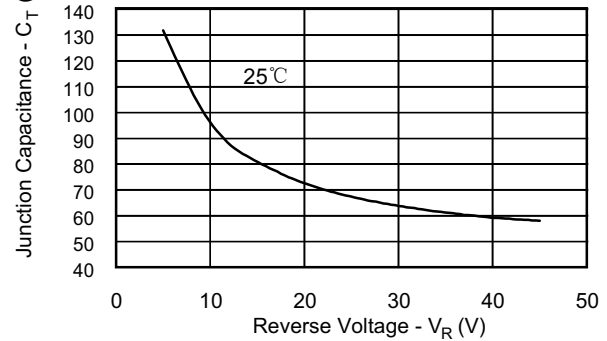
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



TECHNICAL DATA

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