

Technical Data  
Data Sheet 2858, Rev. -

## 31DQ05/31DQ06 SCHOTTKY RECTIFIER

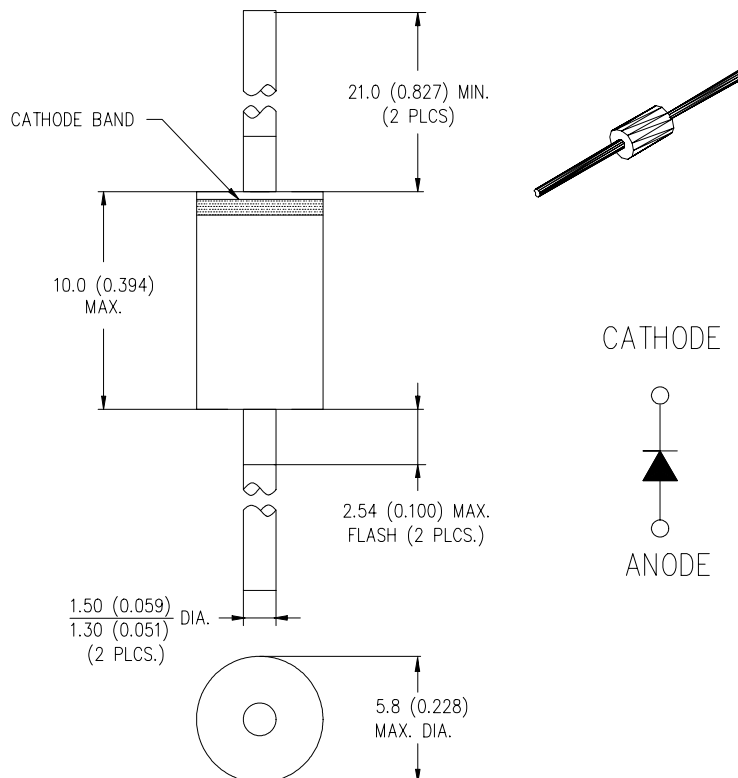
### Applications:

- 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	$V_{RWM}$	-	50	V
			(30DQ05)	
			60	(30DQ06)
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 40^\circ\text{C}$ , rectangular wave form	3.3	A
Max. Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine pulse	66	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	$V_{F1}$	@3 A, Pulse, $T_J = 25^\circ\text{C}$	0.62	V
		@6 A, Pulse, $T_J = 25^\circ\text{C}$	0.78	
	$V_{F2}$	@3 A, Pulse, $T_J = 125^\circ\text{C}$	0.54	V
		@6 A, Pulse, $T_J = 125^\circ\text{C}$	0.65	
Max. Reverse Current *	$I_{R1}$	@ $V_R = \text{Rated } V_R$ , Pulse, $T_J = 25^\circ\text{C}$	2	mA
	$I_{R2}$	@ $V_R = \text{Rated } V_R$ , Pulse, $T_J = 125^\circ\text{C}$	15	mA
Max. Junction Capacitance	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	160	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/ $\mu\text{s}$

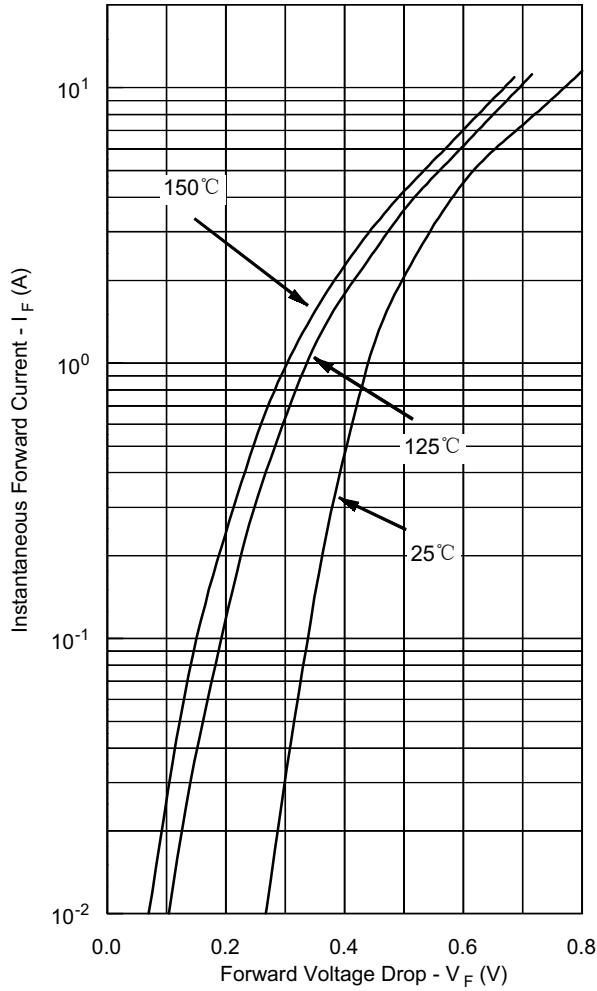
\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle < 2%

**Thermal-Mechanical Specifications:**

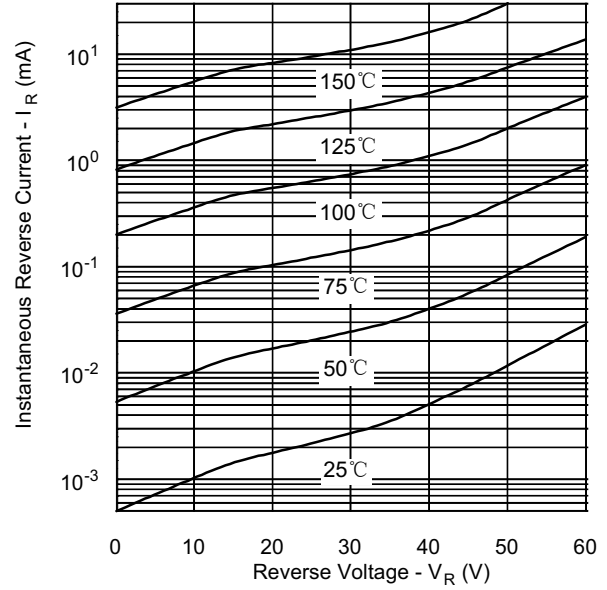
Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	$T_J$	-	-40 to +150	$^\circ\text{C}$
Max. Storage Temperature	$T_{stg}$	-	-40 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Ambient	$R_{\theta JA}$	DC operation	80	$^\circ\text{C/W}$
Typical Thermal Resistance 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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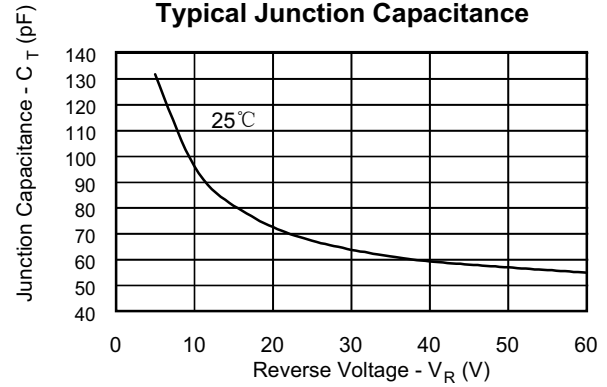
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



**TECHNICAL DATA**

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