

Technical Data

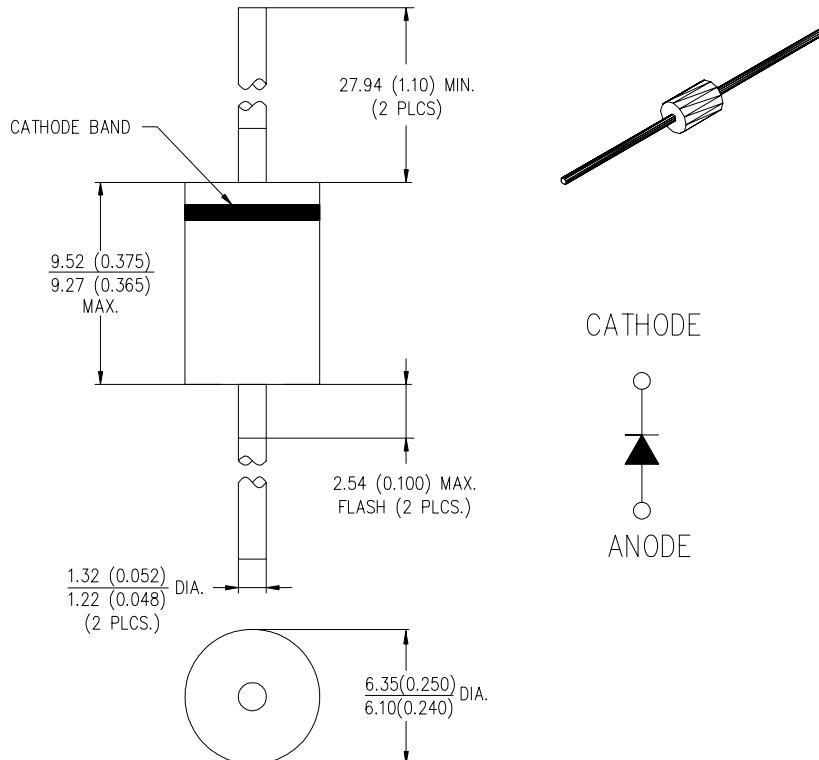
Data Sheet 2866, Rev.-

50SQ080/50SQ100 SCHOTTKY RECTIFIER**Applications:**

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

Features:

- 175°C T_J operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Mechanical Dimensions: In Inches / mm**DO-204AR**

SEMICONDUCTOR

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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	80	50SQ080
			100	50SQ100
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_c = 119^\circ C$, rectangular wave form	5	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	350	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25^\circ C$, $I_{AS} = 1.0 A$, $L = 30 mH$	15	mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	1.0	A

Electrical Characteristics:

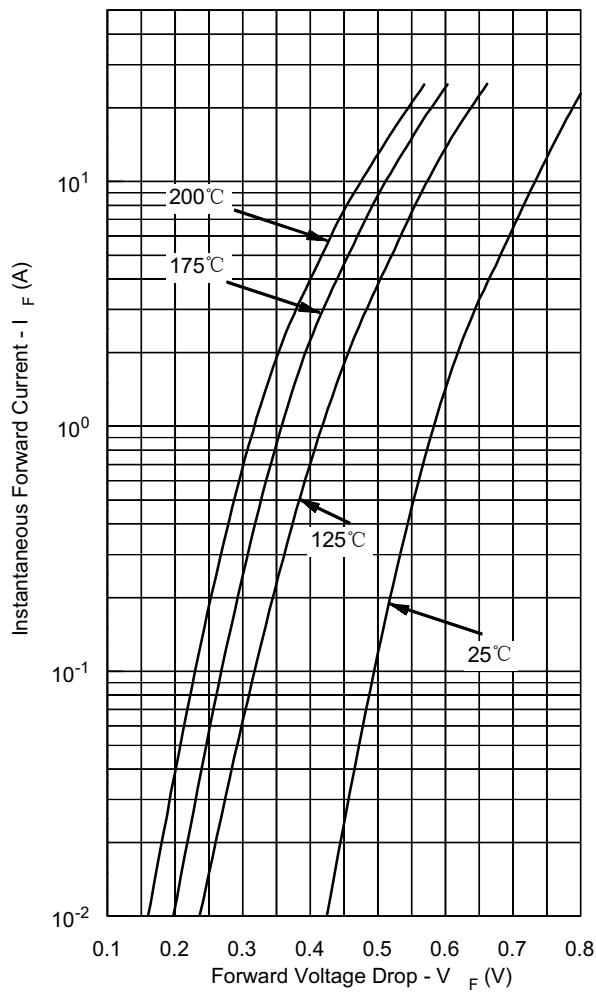
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 5A, Pulse, $T_J = 25^\circ C$	0.66	V
		@ 10 A, Pulse, $T_J = 25^\circ C$	0.77	
	V_{F2}	@ 5 A, Pulse, $T_J = 125^\circ C$	0.52	V
		@ 10 A, Pulse, $T_J = 125^\circ C$	0.62	
Max. Reverse Current	I_{R1}	@ V_R = rated $V_R, T_J = 25^\circ C$	0.55	mA
		@ V_R = rated $V_R, T_J = 125^\circ C$	7	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5V$, $T_c = 25^\circ C$ $f_{SIG} = 1MHz$	500	pF
Typical Series Inductance (per leg)	L_s	Measured lead to lead 5 mm from package body	10.0	NH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs

* Pulse Width < 300 μs , Duty Cycle <2%**Thermal-Mechanical Specifications:**

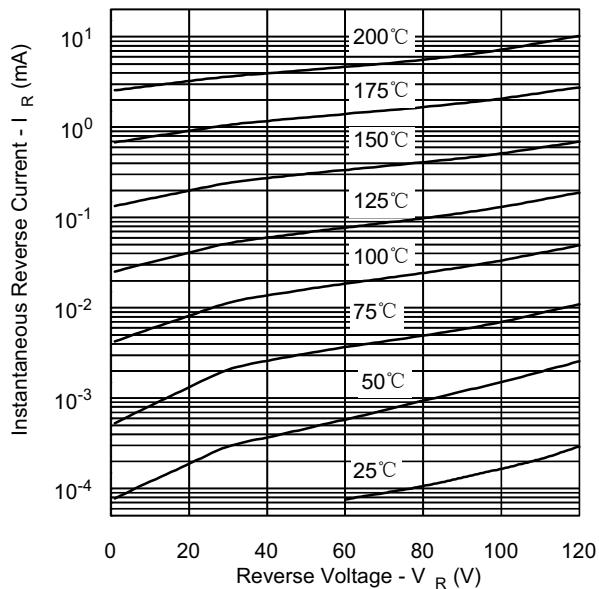
Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +175	°C
Max. Storage Temperature	T_{stg}	-	-55 to +175	°C
Maximum Thermal Resistance Junction to Lead	$R_{\theta JL}$	DC operation	8.0	°C/W
Typical Thermal Resistance Junction to Air	$R_{\theta JA}$	Mounting surface, smooth and greased	44	°C/W
Approximate Weight	wt	-	1.4	g
Case Style			DO-204AR	

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Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance

