Technical Data
Data Sheet 2869, Rev.-

80SQ035/80SQ040/80SQ045 SCHOTTKY RECTIFIER

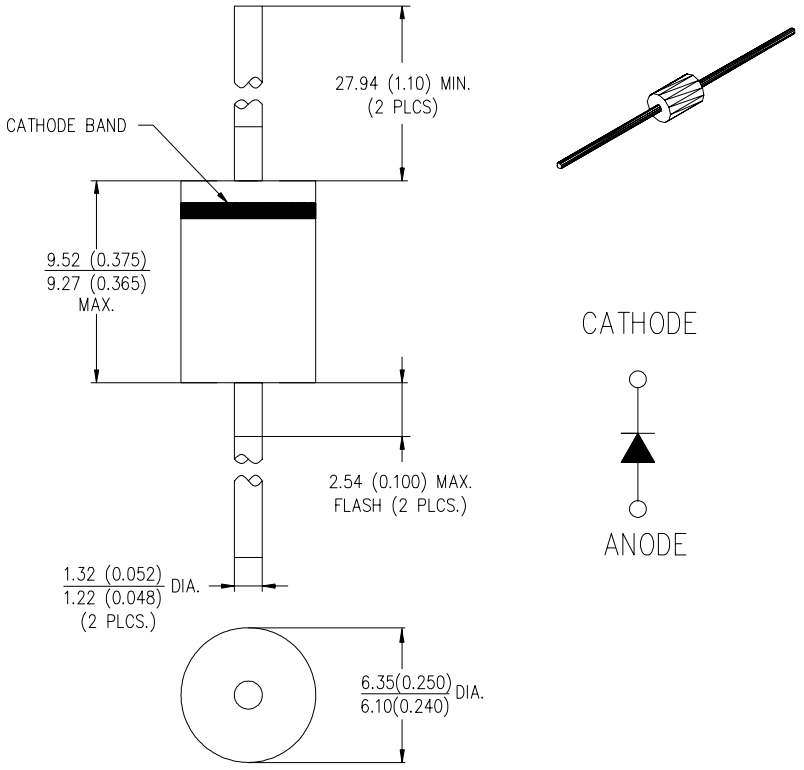
Applications:

- **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

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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	35(80SQ035) 40(80SQ040) 45(80SQ045)	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =119°C, rectangular wave form	8	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	450	A
Non-Repetitive Avalanche Energy	E_{AS}	T_J = 25 °C, I_{AS} = 1.6 A, L =7.8 mH	10	mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 µsec Frequency limited by T_J max. V_A = 1.5 x V_R typical	1.6	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 8 A, Pulse, T_J = 25 °C @ 16 A, Pulse, T_J = 25 °C	0.53 0.60	V
	V_{F2}	@ 8 A, Pulse, T_J = 125 °C @ 16 A, Pulse, T_J = 125 °C	0.44 0.55	V
Max. Reverse Current	I_{R1}	@V_R = rated V_R T_J = 25 °C	2	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	15	mA
Max. Junction Capacitance	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	900	pF
Typical Series Inductance	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 < 300µs, 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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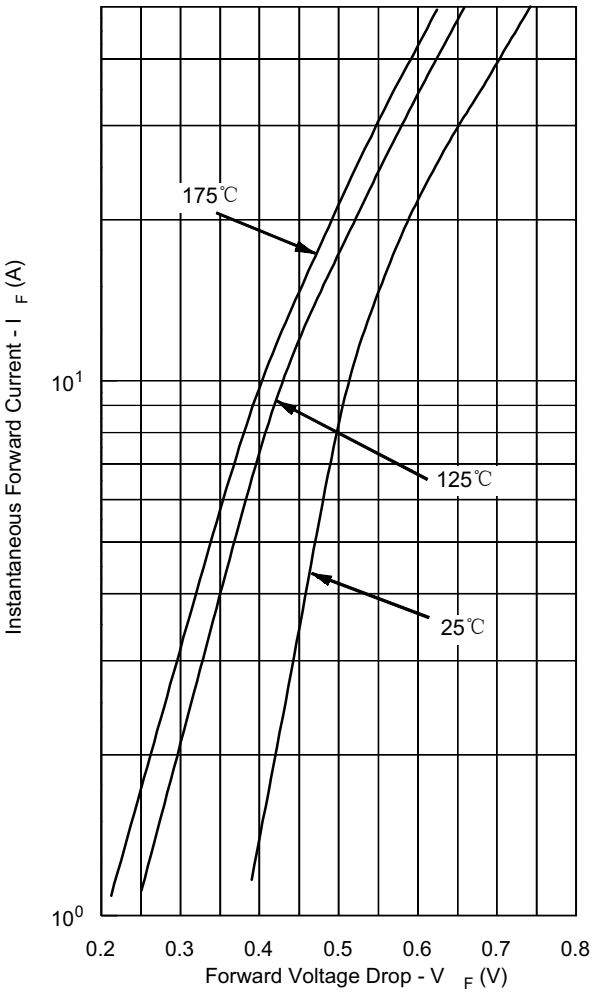
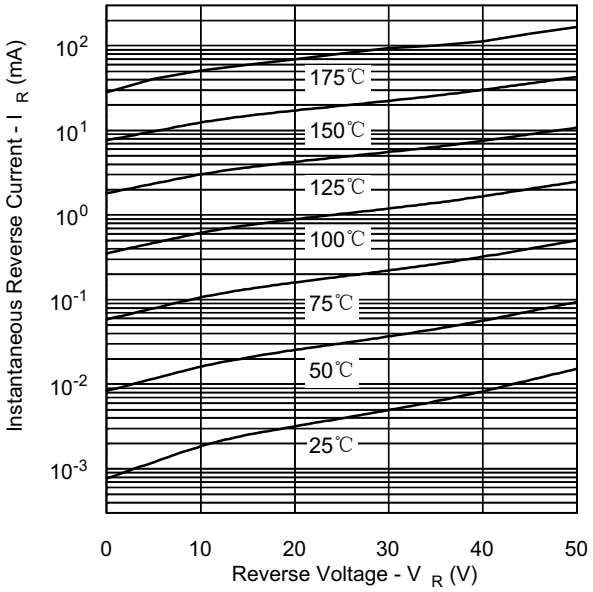
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance