Technical Data
Data Sheet 3496, Rev. A

40CPQ080-G/40CPQ100-G SCHOTTKY RECTIFIER

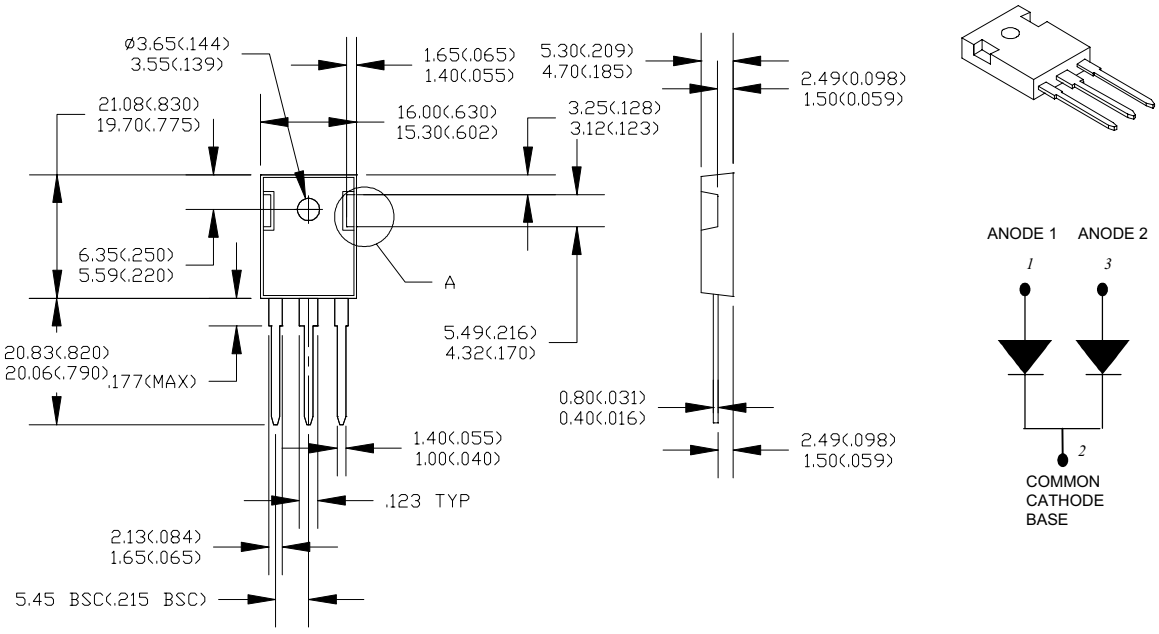
Applications:

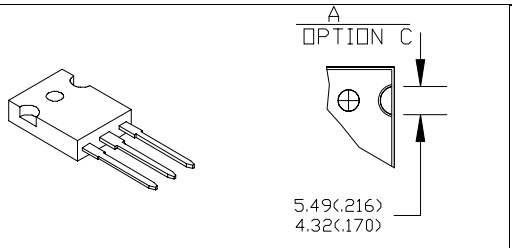
- **Switching power supply • Converters • Free-Wheeling diodes • Reverse battery protection**

Features:

- **175 °C T_J operation**
- **Center tap TO-247AD package**
- **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**
- **Green Products in Compliance with the RoHS Directive**

Mechanical Dimensions: In Inches / mm





Option C is also available.
To order specifically the option C, please add suffix "–C" to the part number:
To order specifically the standard option, please add suffix "–S" to the part number.

If there is no suffix to the part number, the part could come with either option.

TO-247AD

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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	80(40CPQ080-G) 100(40CPQ100-G)	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =145 °C, rectangular wave form	40	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	360	A
Non-Repetitive Avalanche Energy (per leg)	E_{AS}	T_J = 25 °C, I_{AS} = 0.75 A, L =40 mH	11.25	mJ
Repetitive Avalanche Current (per leg)	I_{AR}	Current decaying linearly to zero in 1 µsec Frequency limited by T_J max. V_A = 1.5 x V_R typical	0.75	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 20 A, Pulse, T_J = 25 °C @ 40 A, Pulse, T_J = 25 °C	0.79 0.91	V
	V_{F2}	@ 20 A, Pulse, T_J = 125 °C @ 40 A, Pulse, T_J = 125 °C	0.61 0.75	V
Max. Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R T_J = 25 °C	1.25	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	15	mA
Max. Junction Capacitance (per leg)	C_T	@V_R = 5 V, T_C = 25 °C f_{SIG} = 1MHz	600	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	7.5	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 Case	$R_{\theta JC}$	DC operation	1.25(per leg) 0.63(per device)	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.24	°C/W
Approximate Weight	wt	-	6	g
Mounting Torque	T_M	-	6 (min) 12 (max)	Kg-cm
Case Style	TO-247AD			

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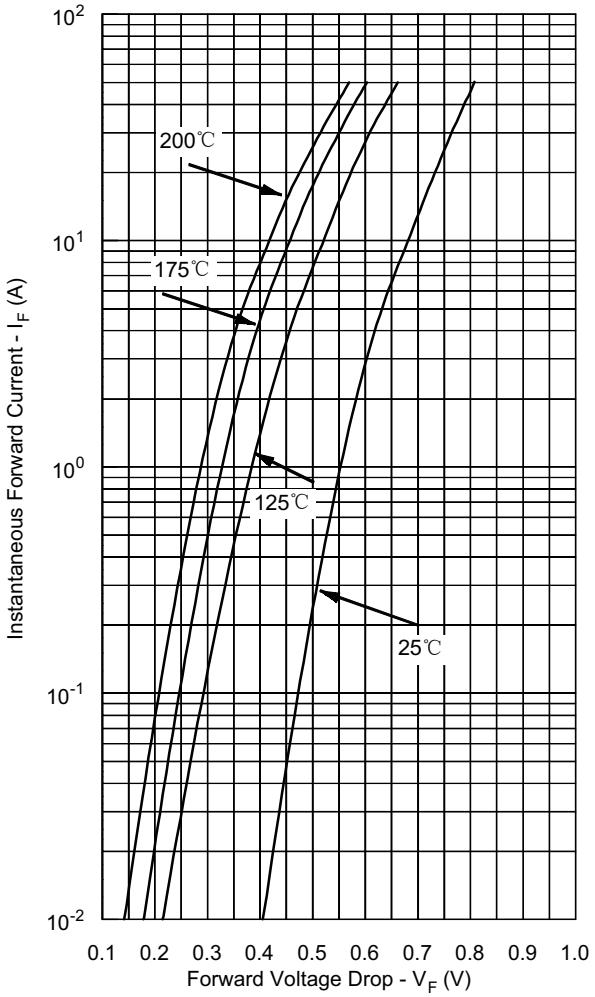
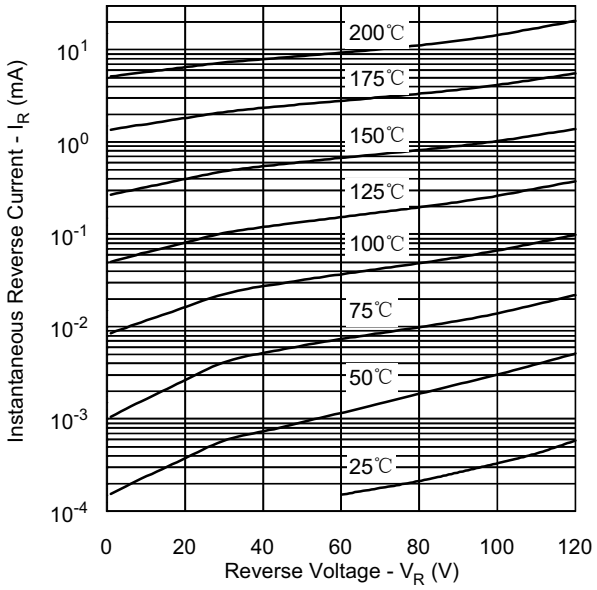
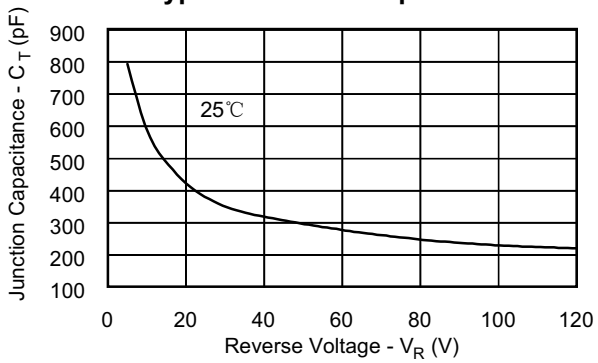
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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Green Products

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