

80CPQ020-G SCHOTTKY RECTIFIER

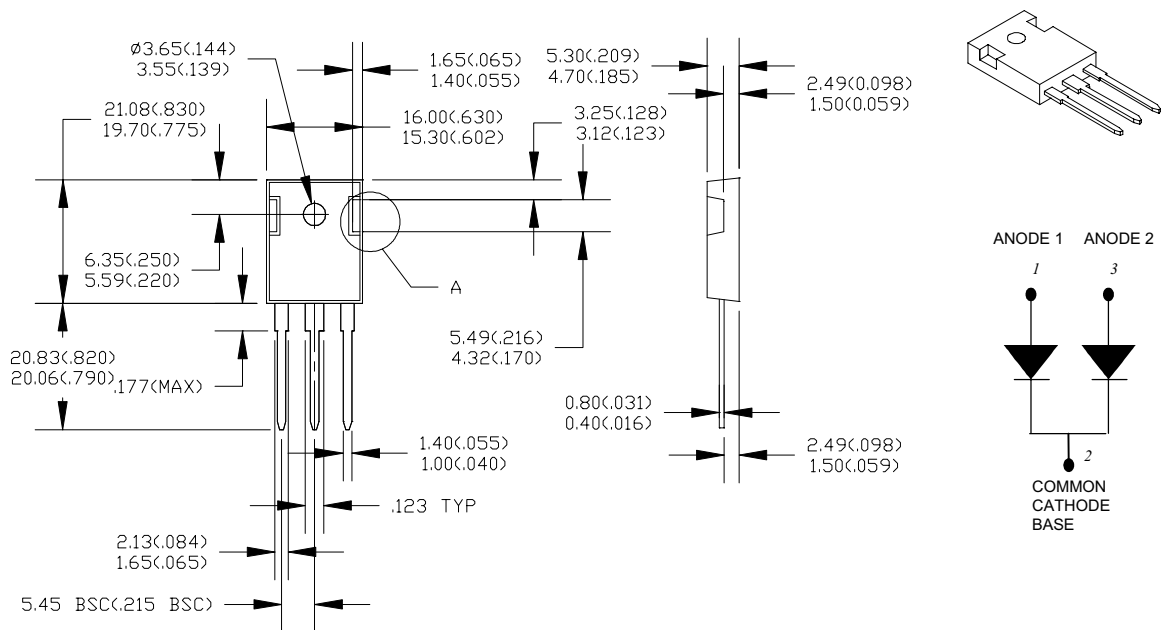
Applications:

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

Features:

- 150 °C T_J operation
- Center tap TO-247AD package
- Very 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



	<p>OPTION C</p> <p>$5.49(.216)$ $4.32(.170)$</p>	<p>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.</p> <p>If there is no suffix to the part number, the part could come with either option.</p>
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TO-247AD

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Max. DC Reverse Voltage	V_R	-	20	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 138^\circ\text{C}$, rectangular wave form	40(Per Leg)	A
			80(Per Device)	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	600	A
Non-Repetitive Avalanche Energy (per leg)	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 6\text{ A}$, $L = 1.5\text{ mH}$	27	mJ
Repetitive Avalanche Current (per leg)	I_{AR}	I_{AS} decay linearly to 0 in 1 μs f limited by T_J max. $V_A = 1.5 V_R$	6	A

Electrical Characteristics:

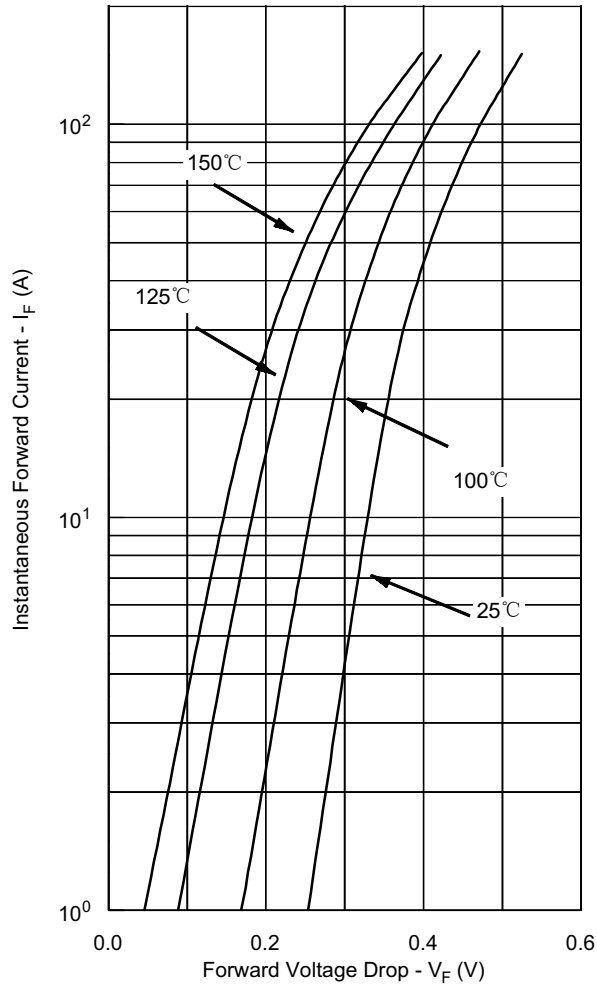
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 40 A, Pulse, $T_J = 25^\circ\text{C}$	0.46	V
		@ 80 A, Pulse, $T_J = 25^\circ\text{C}$	0.55	
	V_{F2}	@ 40 A, Pulse, $T_J = 125^\circ\text{C}$	0.36	V
		@ 80 A, Pulse, $T_J = 125^\circ\text{C}$	0.46	
	V_{F3}	@ 40 A, Pulse, $T_J = 150^\circ\text{C}$	0.32	V
		@ 80 A, Pulse, $T_J = 150^\circ\text{C}$	0.43	
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$, Pulse, $T_J = 25^\circ\text{C}$	5.5	mA
		I_{R2}	@ $V_R = \text{rated } V_R$, Pulse, $T_J = 125^\circ\text{C}$	
	I_{R3}	@ $V_R = 5\text{ V}$, Pulse, $T_J = 125^\circ\text{C}$	110	mA
	I_{R4}	@ $V_R = 10\text{ V}$, Pulse, $T_J = 150^\circ\text{C}$	600	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{ V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$, $V_{SIG} = 50\text{ mV (p-p)}$	6500	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 < 300 μs , Duty Cycle < 2%

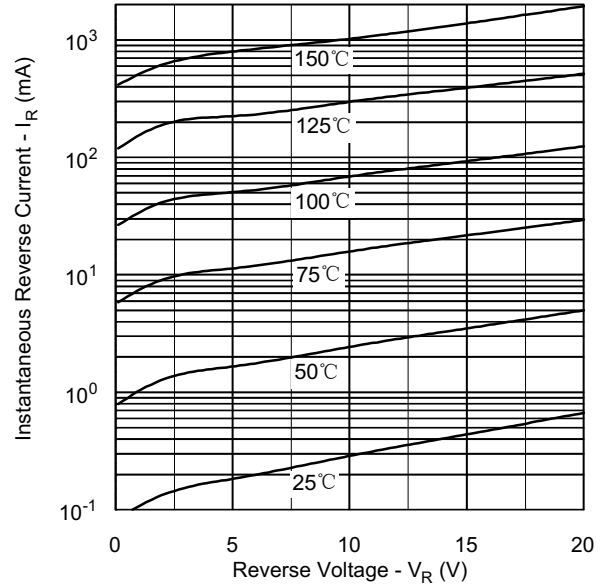
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.6	$^\circ\text{C/W}$
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.3	$^\circ\text{C/W}$
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.25	$^\circ\text{C/W}$
Approximate Weight	wt	-	6	g
Mounting Torque	T_M	-	6(min) 12 (max)	Kg-cm
Case Style	TO-247AD			

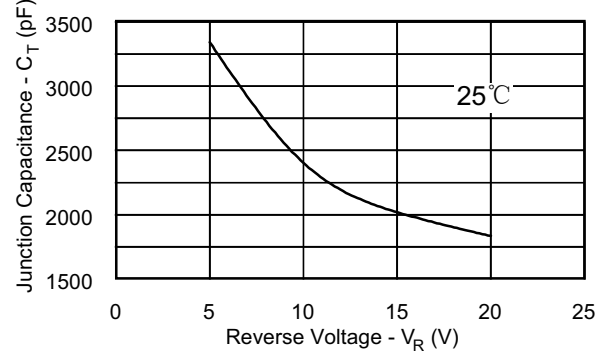
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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