

TECHNICAL DATA
DATA SHEET 1156, REV. -

60CPQ020 SCHOTTKY RECTIFIER

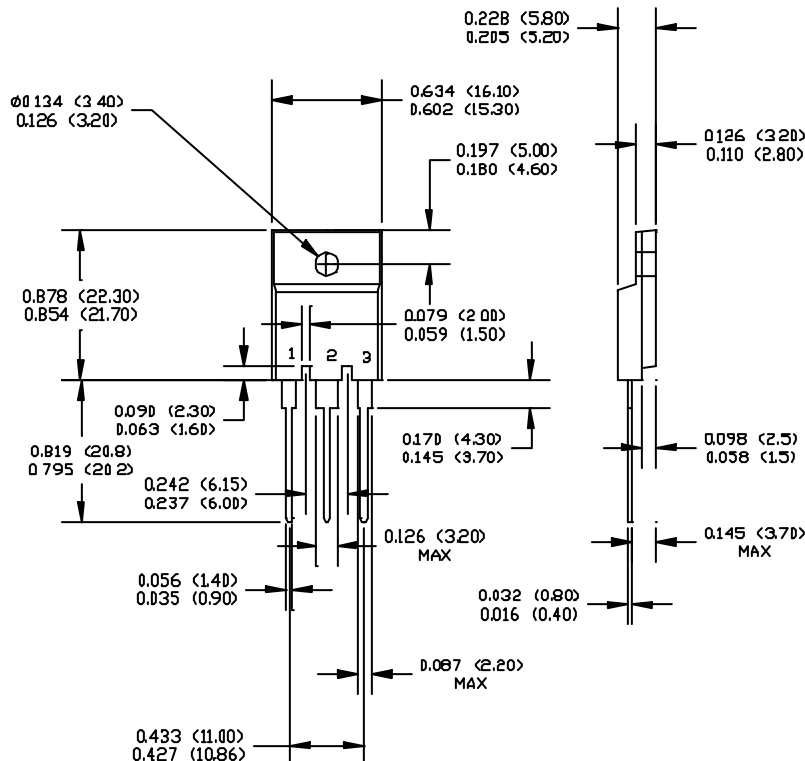
Applications:

· Switching Power Supply · Converters · Redundant Power Subsystems · Reverse Battery Protection

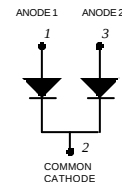
Features:

- 150 °C T_J operation
- Center tap configuration
- Optimized for 3.3V application
- Ultra low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance

Mechanical Dimensions: In Inches / mm



TO-247





SENSITRON

SEMICONDUCTOR

60CPQ020

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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	20	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 138^\circ\text{C}$, rectangular wave form	30(Per Leg) 60(Per Device)	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	400	A
Non-Repetitive Avalanche Energy (per leg)	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 2.9\text{ A}$ $L = 6.5\text{ mH}$	27.3	mJ
Repetitive Avalanche Current (per leg)	I_{AR}	I_{AS} decay linearly to 0 in 1 μs f limited by T_J max $V_A = 1.5V_R$	2.9	A

Electrical Characteristics:

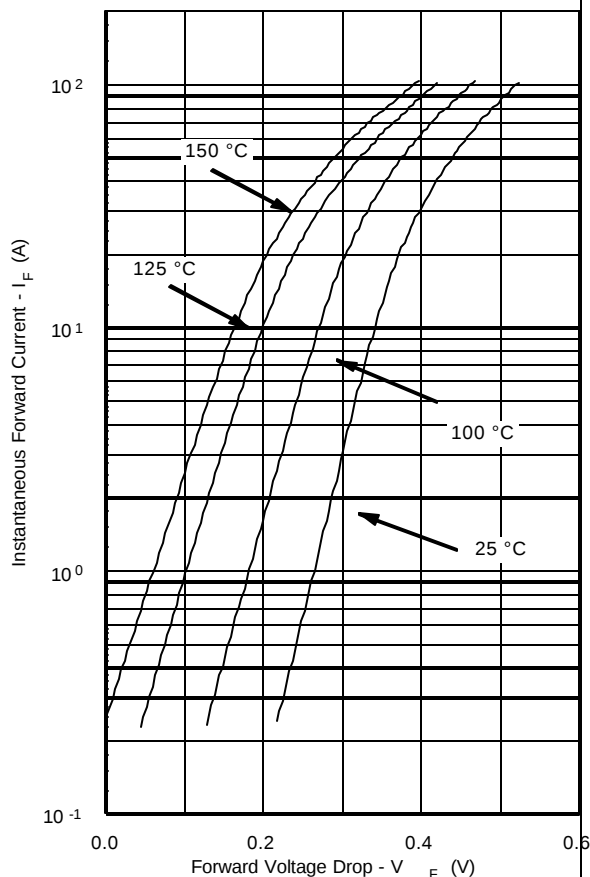
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)	V_{F1}	@ 30 A, Pulse, $T_J = 25^\circ\text{C}$	0.46	V
	V_{F2}	@ 60 A, Pulse, $T_J = 25^\circ\text{C}$	0.55	V
Max. Reverse Current (per leg)	I_{R1}	@ $V_R = \text{rated } V_R$, Pulse, $T_J = 25^\circ\text{C}$	5.0	mA
	I_{R2}	@ $V_R = \text{rated } V_R$, Pulse, $T_J = 125^\circ\text{C}$	750	mA
	I_{R3}	@ $V_R = 5\text{V}$, Pulse, $T_J = 125^\circ\text{C}$	75	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV (p-p)}$	4500	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

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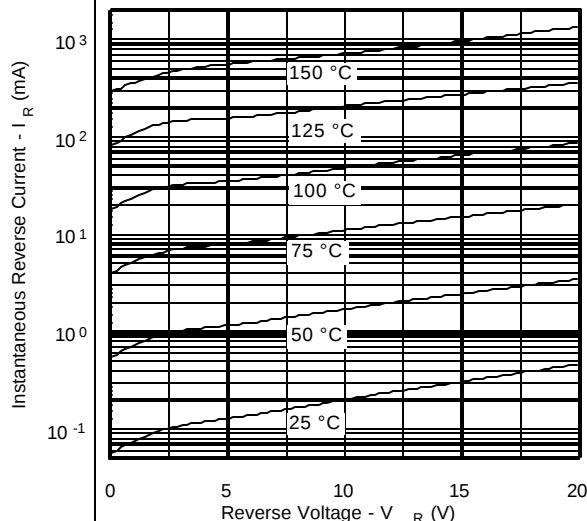
Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	°C
Max. Storage Temperature	T_{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.90	°C/W
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.45	°C/W
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.25	°C/W
Approximate Weight	wt	-	6	g
Mounting Torque	T_M	-	6(min) 12 (max)	Kg-cm
Case Style	TO247			

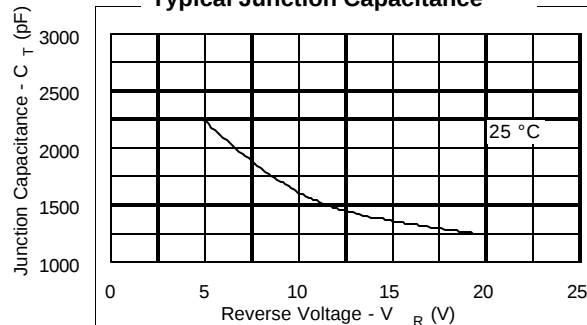
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



The V_F curves are from un-packaged Schottky die.