

Technical Data
Data Sheet 3003, Rev. A

30CPQ050/30CPQ060 SCHOTTKY RECTIFIER

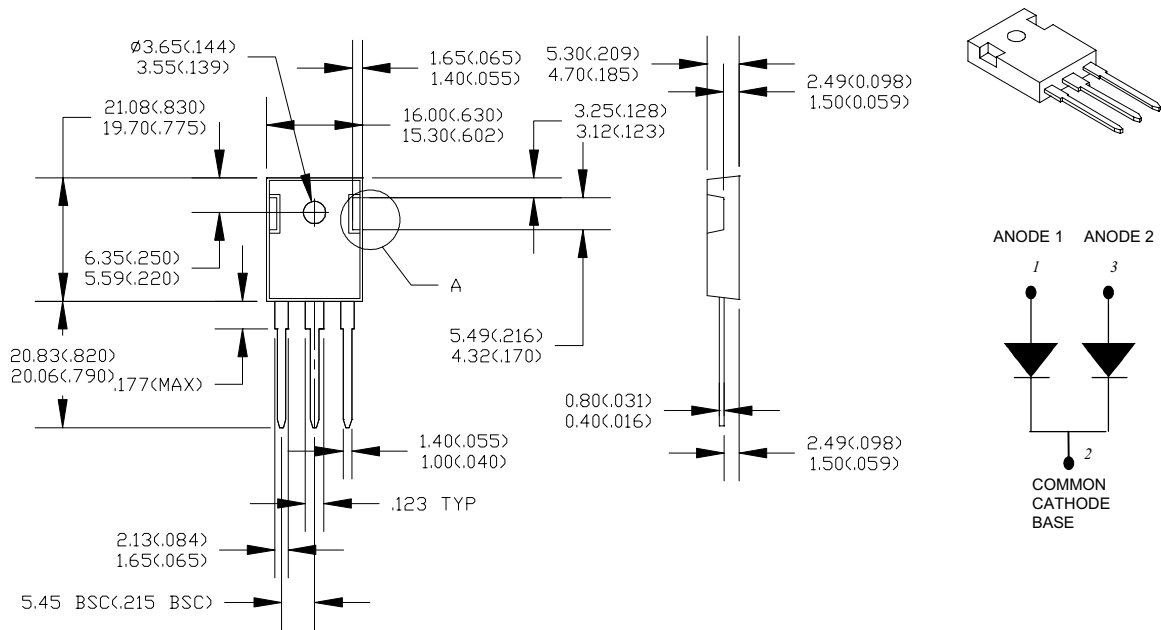
Applications:

- 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

Mechanical Dimensions: In Inches / mm



	<p>OPTION C</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. If there is no suffix to the part number, the part could come with either option.</p>
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TO-247AD

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Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	50(30CPQ050) 60(30CPQ060)	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 112^\circ\text{C}$, rectangular wave form	30	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	315	A
Non-Repetitive Avalanche Energy (per leg)	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 1.50\text{ A}$, $L = 11.5\text{ mH}$	13	mJ
Repetitive Avalanche Current (per leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	1.50	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 15 A, Pulse, $T_J = 25^\circ\text{C}$ @ 30 A, Pulse, $T_J = 25^\circ\text{C}$	0.60 0.80	V
	V_{F2}	@ 15 A, Pulse, $T_J = 125^\circ\text{C}$ @ 30 A, Pulse, $T_J = 125^\circ\text{C}$	0.56 0.70	V
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	0.80	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	45	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	720	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

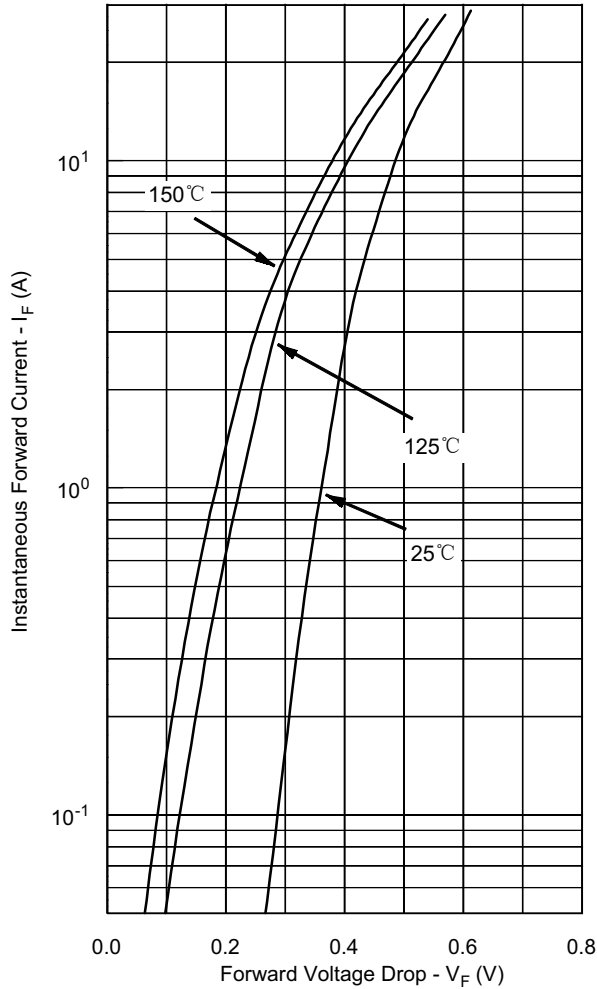
* Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications:

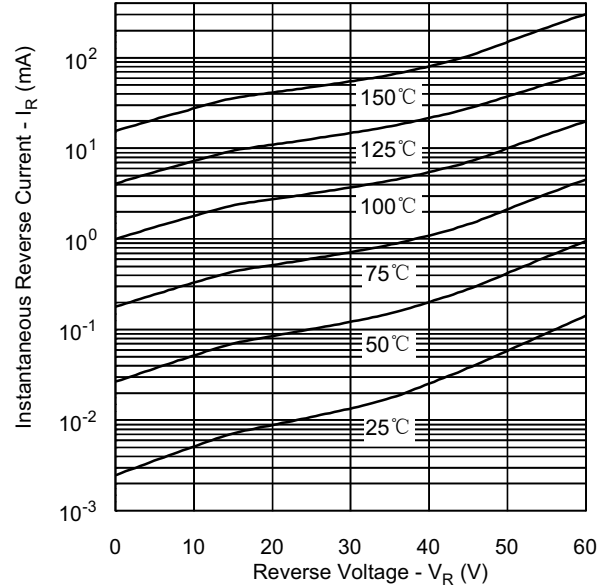
Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.20(per leg)	$^\circ\text{C/W}$
			1.10(per device)	
Maximum Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.24	$^\circ\text{C/W}$
Approximate Weight	wt	-	6	g
Mounting Torque	T_M	-	6 (min) 12 (max)	Kg-cm
Case Style	TO-247AD			

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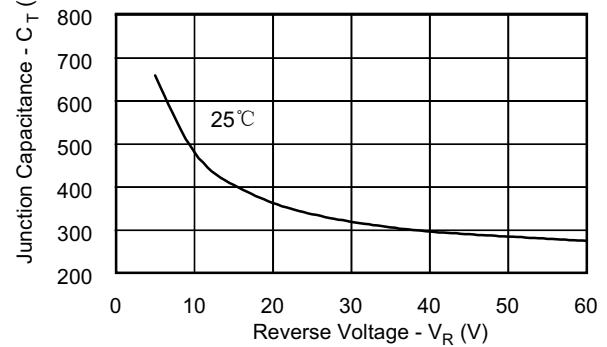
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



TECHNICAL DATA

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