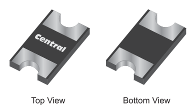
CMDFSHC3-100

SURFACE MOUNT SILICON
3.0 AMP
SCHOTTKY RECTIFIER



SMC DFN CASE

www.centralsemi.com

DESCRIPTION:
The CENTRAL SEMICONDUCTOR CMDFSHC3-100 is a 3.0 Amp silicon Schottky rectifier mounted in a durable epoxy surface mount case, utilizing glass passivated chips.

MARKING CODE: C3-100C

MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
DC Blocking Voltage	V_R	100	V
Average Forward Current	I_O	3.0	A
Peak Forward Surge Current (8.3ms)	I_{FSM}	100	A
Operating Junction Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{stg}	-55 to +150	°C
Typical Thermal Resistance (Note 1)	Θ_{JA}	55	°C/W
Typical Thermal Resistance (Note 1)	Θ_{JL}	17	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
I_R	V_R=100V		500	μA
V_F	I_F=3.0A (Note 2)	0.78	0.85	V
C_J	V_R=4.0V, f=1.0MHz	180		pF

Notes: 1) FR-4 Epoxy PC Board with copper mounting pad area of 5.0mm^2
2) Pulse test tp=300μs, Duty Cycle=1%

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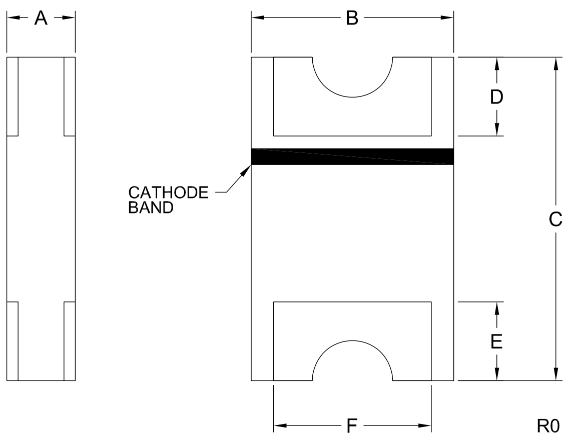
Central Semiconductor Corp.

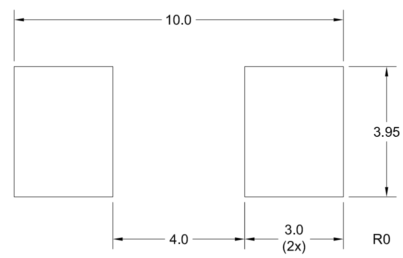
SMC DFN CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.037	0.049	0.95	1.25
B	0.193	0.201	4.90	5.10
C	0.311	0.319	7.90	8.10
D	0.073	0.081	1.85	2.05
E	0.073	0.081	1.85	2.05
F	0.154		3.90	

SMC DFN (REV: R0)

SUGGESTED MOUNTING PADS
(Dimensions in mm)



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R2 (27-January 2021)

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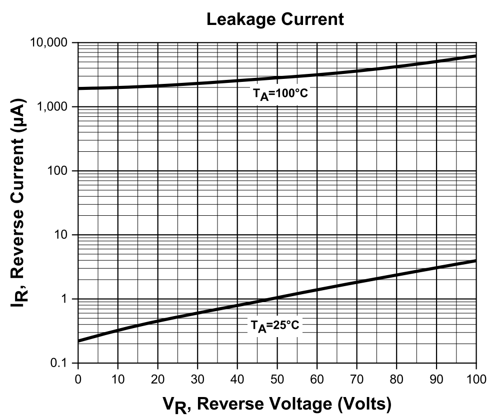
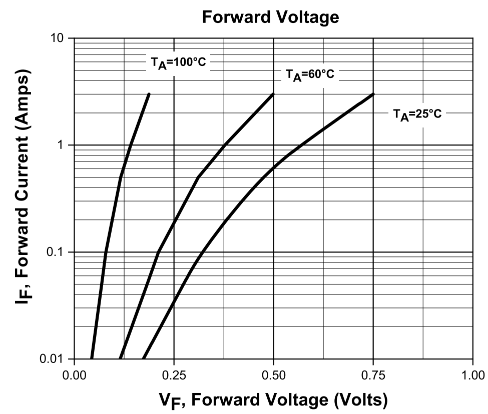
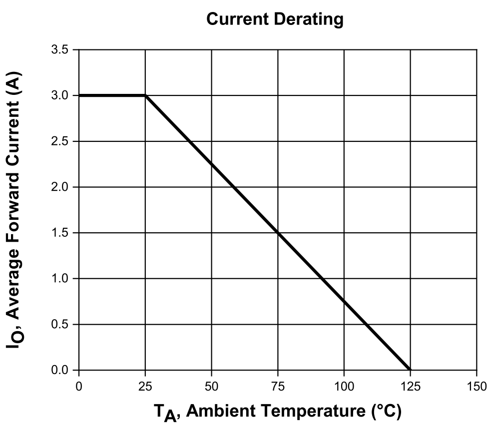
TYPICAL ELECTRICAL CHARACTERISTICS







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TYPICAL APPLICATIONS

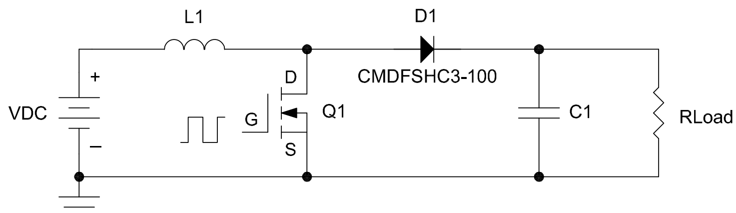

Figure 1. Boost Converter: One of the most traditional uses of the Schottky rectifier is in the boost converter, which requires a low-loss rectification element. The CMDFSH Series has been designed to highlight the main qualities of Schottky rectifiers in a space-efficient package; including a low forward voltage drop, fast turn-on time, and extremely fast recovery time. These attributes make the CMDFSH Series an excellent boost rectifier choice for any boost converter system.

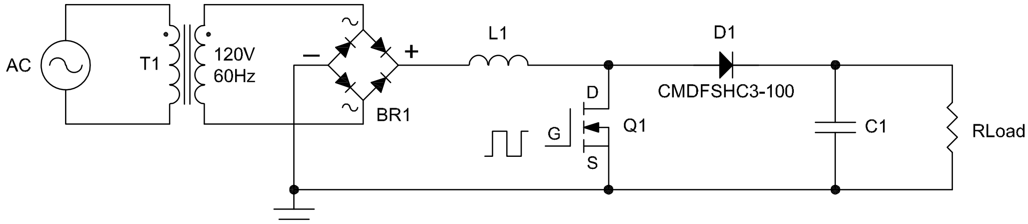

Figure 2. PFC Boost Converter: The most popular adaption of the boost converter is the power factor correction (PFC) boost converter. The power factor is the ratio of real power to actual power dissipated in a circuit. The actual power dissipation of a circuit is altered when inductive components are used in a design. This is due to the inductive reactance of the coil, which causes the current flowing through the system to lag behind the voltage in the system, causing the signals to fall out of phase. Power factor correction increases the power factor by using capacitance to create a leading current effect that compensates for the lagging current effect that is caused by the inductor.