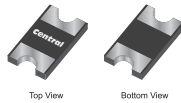


**CMDFSHC5-100**

**SURFACE MOUNT SILICON  
5.0 AMP  
SCHOTTKY RECTIFIER**



**SMC DFN CASE**



[www.centraalsemi.com](http://www.centraalsemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMDFSHC5-100 is a 5.0 Amp silicon Schottky rectifier mounted in a durable epoxy surface mount case, utilizing glass passivated chips.

**MARKING CODE: C5-100C**

**MAXIMUM RATINGS:** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	$V_{RRM}$	100	V
DC Blocking Voltage	$V_R$	100	V
Average Forward Current	$I_O$	5.0	A
Peak Forward Surge Current (8.3ms)	$I_{FSM}$	130	A
Operating Junction Temperature	$T_J$	-55 to +125	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance (Note 1)	$\Theta_{JA}$	55	$^{\circ}\text{C/W}$
Typical Thermal Resistance (Note 1)	$\Theta_{JL}$	17	$^{\circ}\text{C/W}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
$I_R$	$V_R=100\text{V}$		500	$\mu\text{A}$
$V_F$	$I_F=5.0\text{A}$ (Note 2)	0.79	0.85	V
$C_J$	$V_R=4.0\text{V}$ , $f=1.0\text{MHz}$	180		pF

Notes: 1) FR-4 Epoxy PC Board with copper mounting pad area of  $5.0\text{mm}^2$   
2) Pulse test  $t_p=300\mu\text{s}$ , Duty Cycle=1%

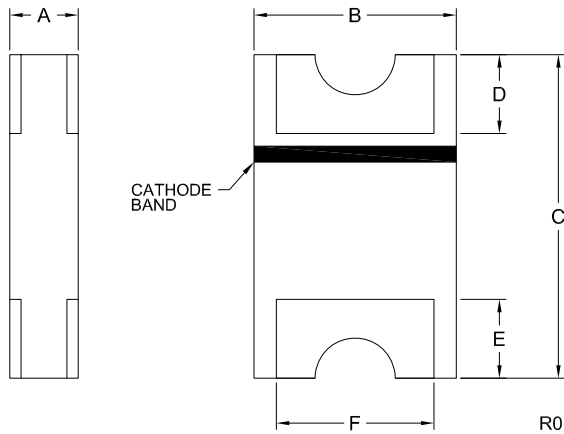
R2 (27-January 2021)

CMDFSHC5-100

SURFACE MOUNT SILICON  
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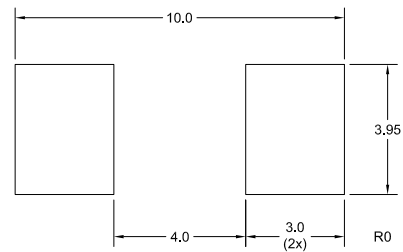
### SMC DFN CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	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)



MARKING CODE: C5-100C

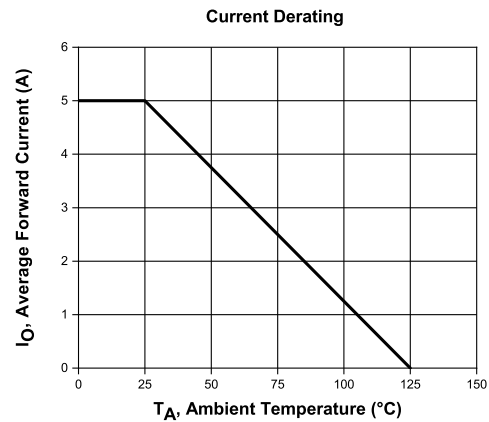
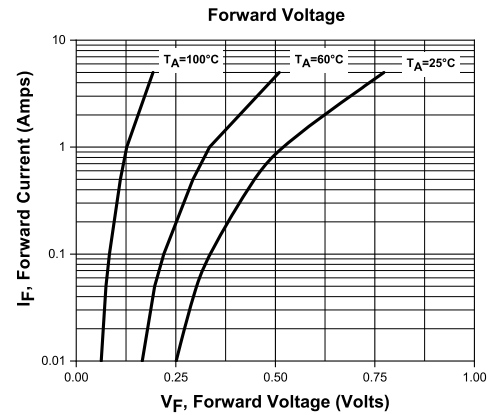
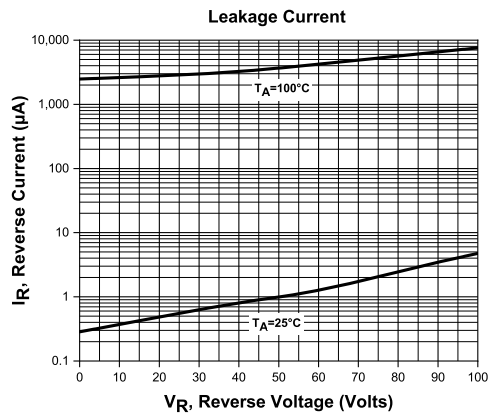
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## TYPICAL ELECTRICAL CHARACTERISTICS



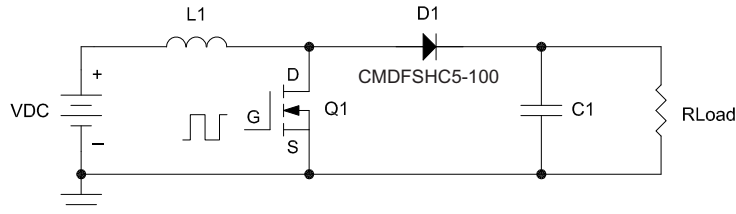
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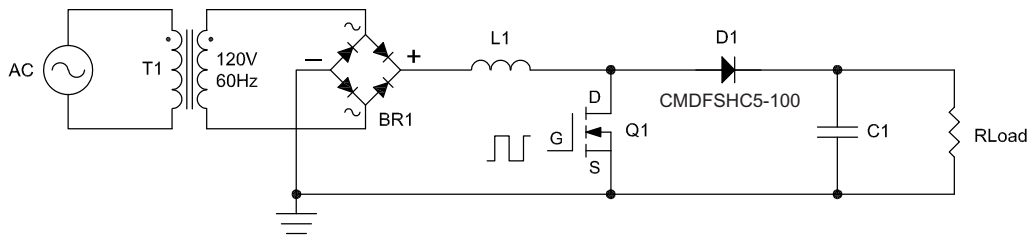
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5.0 AMP  
SCHOTTKY RECTIFIER



#### 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.

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