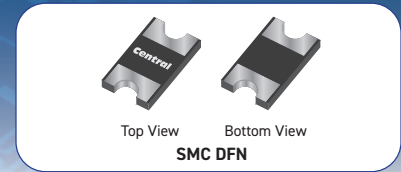


RoHS & REACH Compliant

## CMDFSHC3-100 & CMDFSHC5-100

### 100V, 3A & 5A Schottky Rectifiers in low profile SMC DFN package



Central Semiconductor's **CMDFSHC3-100** and **CMDFSHC5-100** are 3A and 5A, 100V Schottky rectifiers in the new, low profile (1.25mm) SMC DFN package, utilizing passivated silicon die. These exceptionally energy efficient devices are ideal for reverse polarity protection, boost converters and general rectification applications.

### Features

- Low forward voltage drop
- High current options (3A and 5A)
- DFN style package

### Applications

- Boost converter
- Power Factor Correction (PFC) boost converter
- Solar cell reverse blocking
- High power rectification

### Benefits

- Improved thermal efficiency
- Space savings
- Low profile package
- RoHS and REACH compliant

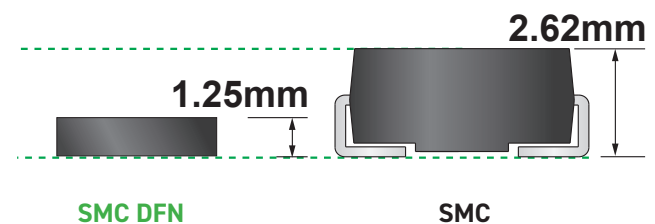
Central Item No.	Maximum Ratings ( $T_A = 25^\circ\text{C}$ )					Electrical Characteristics: ( $T_A = 25^\circ\text{C}$ )					Case Type
	$I_O$	$V_{RRM}$	$T_J$	$T_{stg}$	$I_{FSM}$	$V_F$		@ $I_F$	$I_R$	@ $V_R$	
	(A) MAX	(V) MAX	( $^\circ\text{C}$ ) MAX	( $^\circ\text{C}$ ) MAX	(A) MAX	(V) TYP	(V) MAX	(A)	( $\mu\text{A}$ ) MAX	(V)	
CMDFSHC3-100	3.0	100	-55 to +125	-55 to +150	100	0.78	0.85	3.0	500	100	SMC DFN
CMDFSHC5-100	5.0	100	-55 to +125	-55 to +150	130	0.79	0.85	5.0	500	100	SMC DFN

#### Custom solutions also available:

- custom device development
- special wafer diffusions
- custom interconnect options
- packaging options
- specialized parametric testing
- up-screening to MIL standard equivalents or to customer-specific criteria

#### Package profile comparison:

The space-saving SMC DFN has a **53% lower profile** than the SMC package.



#### SPICE Models, Package Details and other technical resources:

Engineering resources are available at [www.centrasemi.com](http://www.centrasemi.com).

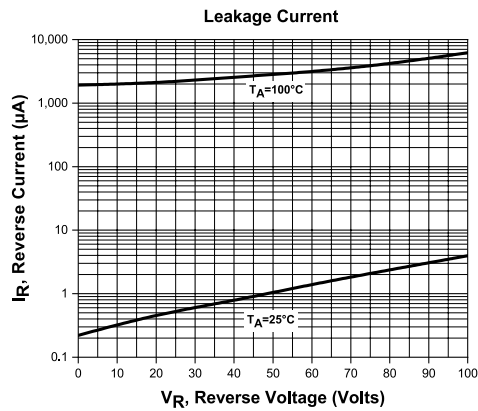
#### RoHS and REACH compliance declarations

Visit the Quality section of Central's website to access.

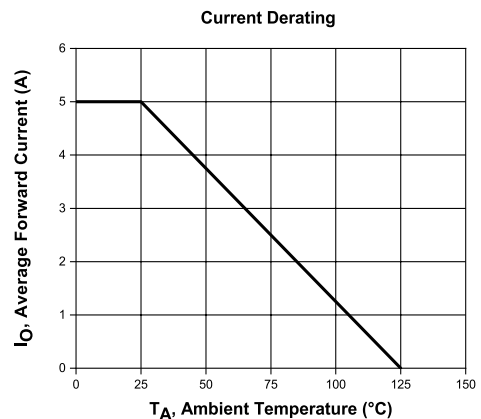
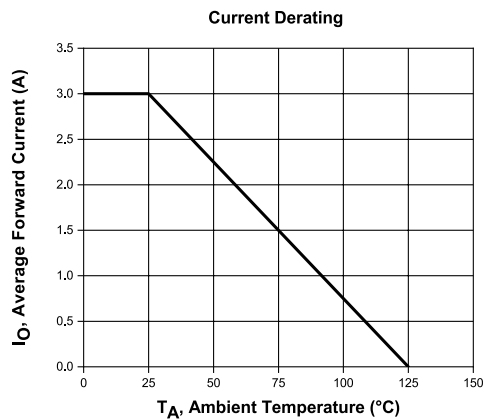
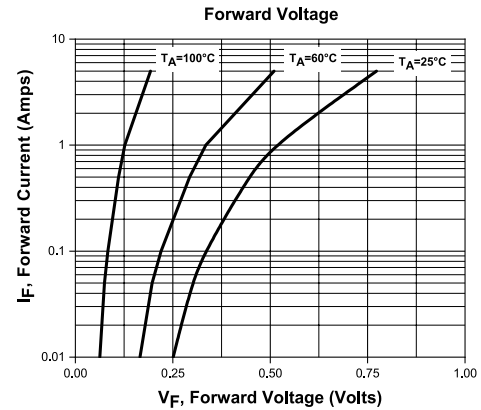
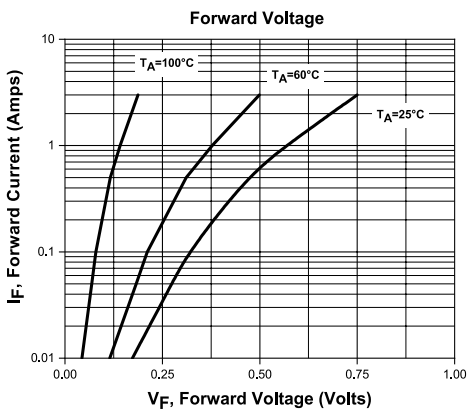
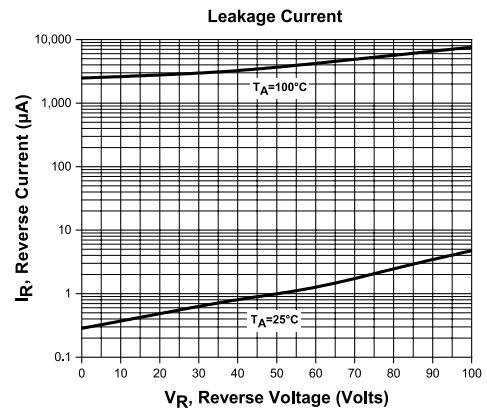
# CMDFSHC3-100 CMDFSHC5-100

100V, 3A & 5A Schottky Rectifiers in  
low profile SMC DFN package

Typical Electrical Characteristics:  
CMDFSHC3-100



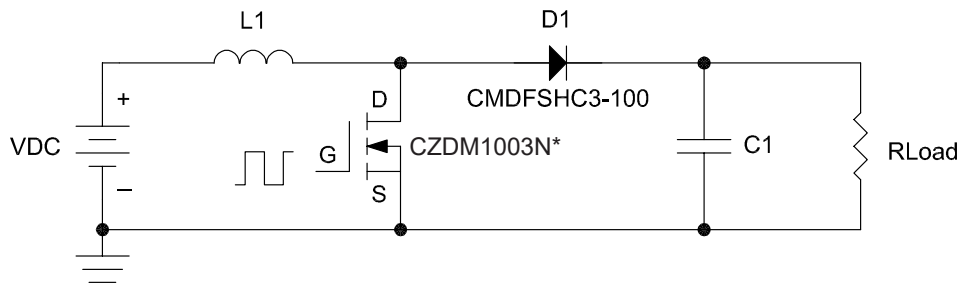
Typical Electrical Characteristics:  
CMDFSHC5-100



**Example Applications:**

**Boost Converter:**

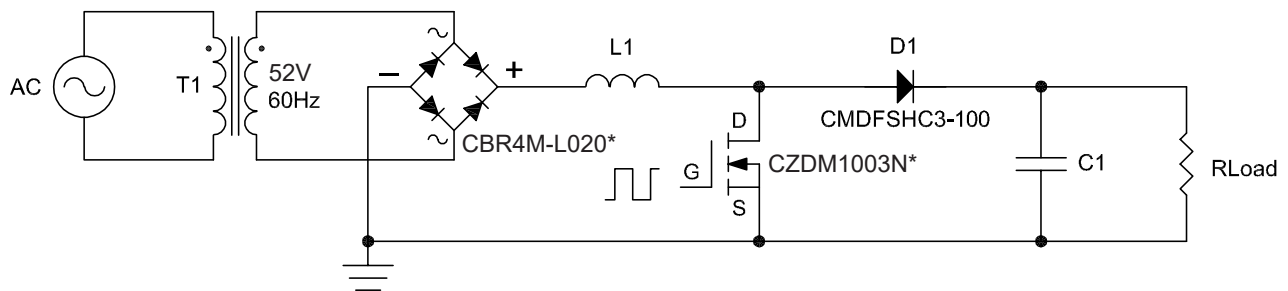
One of the most traditional uses of the Schottky rectifier is in a boost converter, which requires a low-loss rectification element. The CMDFSH series has been designed to highlight the main qualities of Schottky rectifiers in a space-efficient package; this includes a low forward voltage drop, fast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



\*Additional Central device ideal for this circuit.

**PFC Boost Converter:**

The most popular adaption of a 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 caused by the inductor.

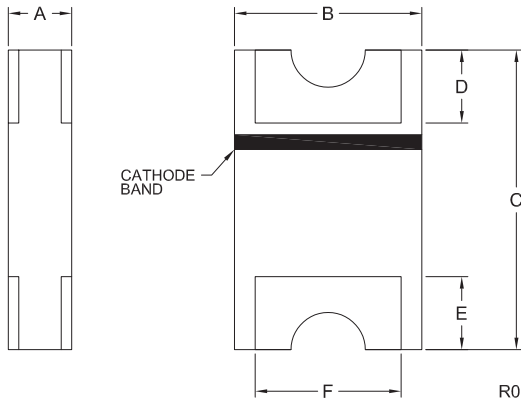


\*Additional Central devices ideal for this circuit.

# CMDFSHC3-100 CMDFSHC5-100

100V, 3A & 5A Schottky Rectifiers in  
low profile SMC DFN package

## Mechanical Drawing: SMC DFN



SYMBOL	DIMENSIONS			
	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	

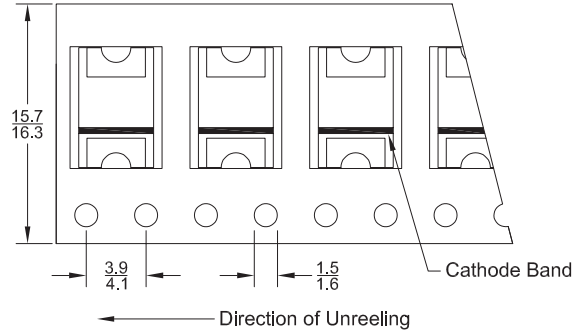
SMC DFN (REV: R0)

**Part Marking:** 4-6 Character  
Alpha/Numeric Code

## Packaging Base

Reel Size	Quantity
13"	3,000 pcs.

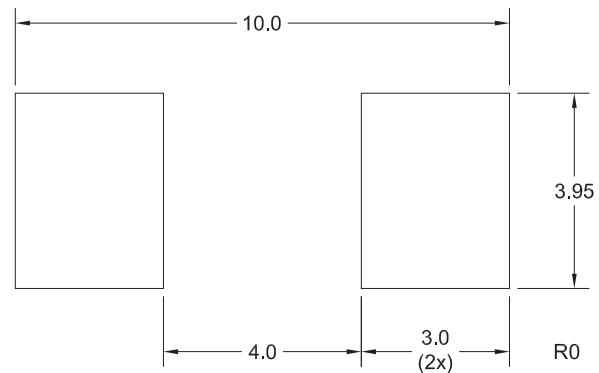
## Tape Dimensions and Orientation (Dimensions in mm)



Devices are taped in  
accordance with  
Electronic Industries  
Association Standard  
EIA-481-D

Tape Width: 16mm

## Mounting Pad Geometry (Dimensions in mm)



## Reel Packing Information

Reel Size	Reels per Box (Maximum)	Parts per Box (Maximum)	Box Dimensions		Shipping Weight (Max.)	
			INCH	CM	LB	KG
13"	4	12,000	15x4x15	38x10x38	9	6
	11	33,000	15x15x9	38x38x23	21	12
	24	72,000	15x15x18	38x38x46	43	24

## Ordering Information

Reel Size	Orderable Part No.
13"	Add "TR13" as suffix to Central part no. (example: CMDFSHC5-100 TR13)

For more information on Central's products and solutions:

Call us at: **1.631.435.1110**

Or view online: [www.centrasemi.com/featured-products](http://www.centrasemi.com/featured-products)

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