### SURFACE MOUNT SILICON LOW V<sub>F</sub> SCHOTTKY RECTIFIER 1.0 AMP, 40 VOLT



SOD-123F CASE

#### **APPLICATIONS:**

- DC-DC converters
- Voltage clamping
- · Protection circuits
- Battery powered applications including cell phones, digital cameras, pagers, PDAs, laptop computers, etc.



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#### **DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMMSH1-40L is a 1.0A, low  $V_F$ , silicon Schottky rectifier. This high efficiency, low  $V_F$  Schottky features high current capacity packaged in a small, thermally efficient, SOD-123F surface mount package. When compared to similar devices in the larger SMA package, this device is 58% smaller, with a 67% lower profile, making it ideally suited for applications where performance and size are critical.

MARKING CODE: CS40FL

#### **FEATURES:**

- High current (1.0A Max), 40V device
- Low V<sub>F</sub> (0.45V Max)
- High surge current 50A
- Thermally efficient SOD-123F Flat Lead package design

MAXIMUM RATINGS: (T <sub>J</sub> =25°C)	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	$V_{RRM}$	40	V
DC Blocking Voltage	$V_{R}$	40	V
Average Forward Current	IO	1.0	Α
Peak Forward Surge Current	I <sub>FSM</sub>	50	Α
Power Dissipation (Note 1)	$P_{D}$	550	mW
Operating Junction Temperature	$T_J$	-55 to + 125	°C
Storage Temperature	T <sub>stg</sub>	-55 to + 150	°C
Thermal Resistance	$\Theta_{JA}$	181	°C/W

#### **ELECTRICAL CHARACTERISTICS:** (T<sub>.1</sub>=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{R}$	V <sub>R</sub> =20V		3.0	150	μΑ
$I_{R}$	$V_R=40V$		10	500	μΑ
$I_{R}$	$V_R$ =40V, $T_J$ =85°C			25	mA
$BV_R$	I <sub>R</sub> =0.5mA	40			V
$V_{F}$	I <sub>F</sub> =1.0A		0.4	0.45	V
CJ	V <sub>R</sub> =10V, f=1.0MHz		70		pF

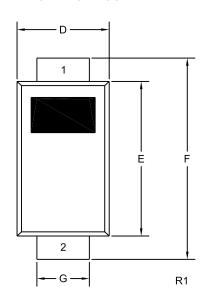
Note 1: FR-5 board (1.0 x 0.75 x 0.062in) with copper mounting pad area of  $2.9 \text{mm}^2$ 

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# SOD-123F CASE - MECHANICAL OUTLINE





# LEAD CODE:

- 1) Cathode 2) Anode

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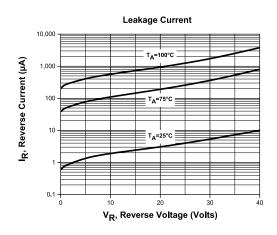
DIMENSIONS						
	INCHES		MILLIMETERS			
SYMBOL	MIN	MAX	MIN	MAX		
Α	0.035	0.043	0.88	1.08		
В	0.020	0.031	0.50	0.80		
С	0.004	0.008	0.10	0.20		
D	0.065	0.077	1.65	1.95		
Е	0.104	0.116	2.65	2.95		
F	0.140	0.156	3.55	3.95		
G	0.030	0.041	0.75	1.05		

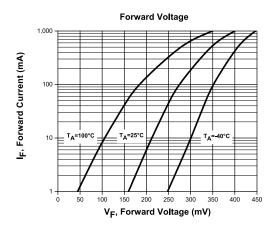
SOD-123F (REV:R1)

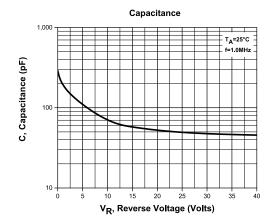
## SURFACE MOUNT SILICON LOW V<sub>F</sub> SCHOTTKY RECTIFIER 1.0 AMP, 40 VOLT



#### TYPICAL ELECTRICAL CHARACTERISTICS



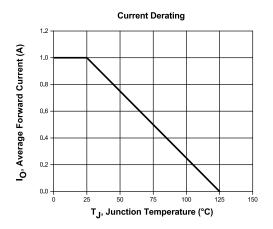


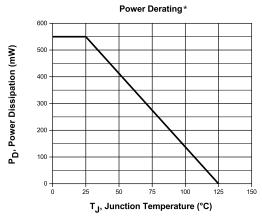


## SURFACE MOUNT SILICON LOW V<sub>F</sub> SCHOTTKY RECTIFIER 1.0 AMP, 40 VOLT



#### TYPICAL ELECTRICAL CHARACTERISTICS





\*FR-5 board (1.0 x 0.75 x 0.062in) with copper mounting pad area of 2.9mm  $^{\!2}$ 

#### **OUTSTANDING SUPPORT AND SUPERIOR SERVICES**



#### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- · Inventory bonding
- · Consolidated shipping options

- · Custom bar coding for shipments
- · Custom product packing

#### **DESIGNER SUPPORT/SERVICES**

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free guick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- · Custom electrical curves
- · Environmental regulation compliance
- · Customer specific screening
- · Up-screening capabilities

- Special wafer diffusions
- PbSn plating options
- · Package details
- Application notes
- · Application and design sample kits
- · Custom product and package development

#### REQUESTING PRODUCT PLATING

- 1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
- 2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

#### **CONTACT US**

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