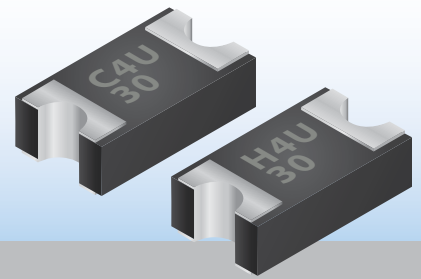


Bourns® Model SMF4C Series Commercial Grade and SMF4C-Q Series Automotive-grade 400 W TVS Diodes



NEW PRODUCT BRIEF

INTRODUCTION

The Bourns® SMF4C and SMF4C-Q Series TVS diodes are now available in a low profile DFN3419 package. The SMF4C diode series are for commercial grade applications and the SMF4C-Q is AEC-Q101 compliant for automotive. Bourns developed these products as advanced overvoltage protection solutions for a broad range of designs including power supplies, communications equipment, data center systems and automotive market applications. These products address the demand in the semiconductor industry for protection components that provide broader voltage support from superior quality components.

FEATURES & BENEFITS

- **Space-saving:** Low profile DFN3419 package (compatible to SMT SOD-123FL package)
- **Fast Power Dissipation:** 400 Watts @1 ms
- **Versatile:** Unidirectional / Bidirectional configurations
- **Automotive Grade:** Model SMF4C-Q is AEC-Q101 compliant
- RoHS compliant*
- Halogen free**

MARKET TRENDS

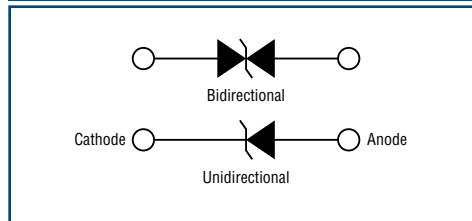
Designers across various sectors—including automotive, consumer electronics, commercial equipment, and mobile devices—are increasingly seeking compact, low-profile solutions that deliver robust protection performance. Bourns® TVS diodes in the DFN3419 package are designed to meet these demands by offering up to 400 Watts peak pulse power (1 ms) in a space-saving footprint.

In addition to their electrical performance, these solutions also provide manufacturing advantages, including high reliability and improved production efficiency. The SMF4C and SMF4C-Q series in the DFN3419 package further enhance enhance mechanical robustness and enable stronger solder joints, as well as support easier visual inspection during assembly.

COMPETITION

Most TVS diode suppliers continue to offer traditional J-lead package solutions, which typically have a higher component profile. However, as more applications have limited space in end products, the need for low-profile alternatives is growing. In response, Bourns offers the DFN3419 package solution that delivers excellent protection performance within a compact footprint. This package is compatible with existing SOD-123F and SOD-123FL layouts. (Note: Actual footprint compatibility may vary depending on the capabilities of the manufacturing facility.)

CIRCUIT DIAGRAM



APPLICATION FIT

- Protection of power buses
- Overvoltage transient protection
- Telecom, computer, industrial, and consumer electronics
- Automotive via SMF4C-Q Series

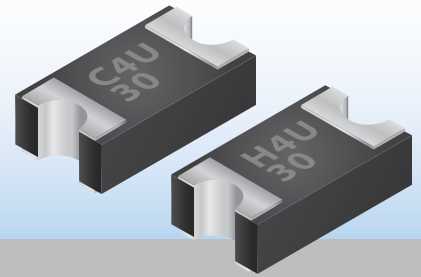
HOW TO ORDER

Package SMF4C 12 CAH
 SMF4C = 400 W TVS
 in SOD-123 Equivalent Package
 Working Peak Reverse Voltage 12 = 12 VRWM (Volts)
 Configuration AH = Unidirectional
CAH = Bidirectional

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

**Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

Bourns® Model SMF4C Series Commercial Grade and SMF4C-Q Series Automotive-grade 400 W TVS Diodes



NEW PRODUCT BRIEF

ELECTRICAL CHARACTERISTICS - COMMERCIAL GRADE

Product Number	Type	Working Peak Reverse Voltage	Breakdown Voltage V_{BR} (Volts)			Maximum Reverse Leakage @ V_{RWM}	Maximum Clamping Voltage V_C	Maximum Reverse Surge Current @ 10/1000 μs
		V_{RWM} (V)	Min.	Max.	@ I_T (mA)	I_R (μA)	I_{PP}	I_{PP} (A)
SMF4C12CAH	Bidirectional	12	13.3	14.7	1	5	19.9	20.1
SMF4C16AH	Unidirectional	16	17.8	19.7	1	5	26.0	15.4
SMF4C20AH	Unidirectional	20	22.2	24.5	1	1	32.4	12.4
SMF4C28AH	Unidirectional	28	31.1	34.4	1	1	45.4	8.8
SMF4C30AH	Unidirectional	30	33.3	36.8	1	1	48.4	8.3

For full characteristics, see data sheet

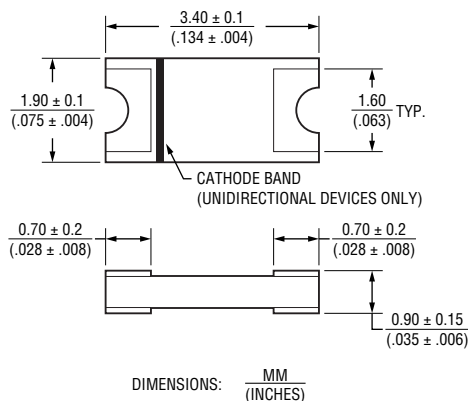
ELECTRICAL CHARACTERISTICS - AUTOMOTIVE GRADE

Product Number	Type	Working Peak Reverse Voltage	Breakdown Voltage V_{BR} (Volts)			Maximum Reverse Leakage @ V_{RWM}	Maximum Clamping Voltage V_C	Maximum Reverse Surge Current @ 10/1000 μs
		V_{RWM} (V)	Min.	Max.	@ I_T (mA)	I_R (μA)	I_{PP}	I_{PP} (A)
SMF4C28AH-Q	Unidirectional	28	31.1	34.4	1	1	45.4	8.8
SMF4C30AH-Q	Unidirectional	30	33.3	36.8	1	1	48.4	8.3
SMF4C36AH-Q	Unidirectional & Bidirectional	36	40.0	44.2	1	1	58.1	6.9

For full characteristics, see data sheet

PRODUCT DIMENSIONS

SMF4C



SMF4C-Q

