

## Features

- Low profile (height 0.9 mm)
- Unidirectional / bidirectional configuration
- Power dissipation: 400 watts
- RoHS compliant\* and halogen free\*\*
- AEC-Q101 compliant\*\*\*

## Applications

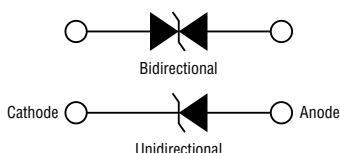
- Protection of power buses
- Overvoltage transient protection
- Telecom, computer, industrial, consumer and automotive electronics

# SMF4C-Q Series Transient Voltage Suppressor Diodes

## General Information

The Bourns® SMF4CxxAH-Q TVS Diode Series is designed to provide protection against voltage transients induced by inductive load switching in consumer, computer, industrial, telecommunication and automotive applications.

The devices offer 400 watts peak pulse power dissipation capability in a very compact, low-profile DFN3419 package. The package footprint is compliant with most SOD-123 and SOD-123F footprints. Both unidirectional and bidirectional options are available with a range of breakdown voltages.



## Additional Information

Click these links for more information:



## Absolute Maximum Ratings (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Value	Unit
Maximum Peak Pulse Power Dissipation (10/1000 μs)	P <sub>PPM</sub>	400	W
Power Dissipation with Infinite Heat Sink at 75 °C; Lead Temperature (T <sub>L</sub> = 75 °C)	P <sub>D</sub>	3.3	W
Operating Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

## Electrical Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Unidirectional Device		Bidirectional Device		Working Peak Reverse Voltage	Breakdown Voltage V <sub>BR</sub> (Volts)			Maximum Reverse Leakage @ V <sub>RWM</sub>	Maximum Clamping Voltage V <sub>C</sub>	Maximum Reverse Surge Current @ 10/1000 μs
Part Number	Part Marking	Part Number	Part Marking	V <sub>RWM</sub> (V)	Min.	Max.	@ I <sub>T</sub> (mA)	I <sub>R</sub> (μA)	@ I <sub>PP</sub>	I <sub>PP</sub> (A)
SMF4C28AH-Q	C4U 28	—	—	28	31.1	34.4	1	1	45.4	8.8
—	—	SMF4C30CAH-Q	C4B 30	30	33.3	36.8	1	1	48.4	8.3
SMF4C36AH-Q	C4U 36	SMF4C36CAH-Q	C4B 36	36	40.0	44.2	1	1	58.1	6.9



**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

\*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.

\*\*\*"Q" part number suffix indicates AEC-Q101 compliance.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

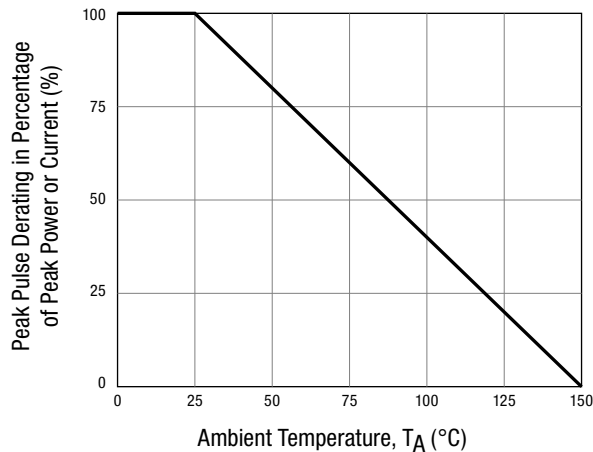
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# SMF4C-Q Series Transient Voltage Suppressor Diodes

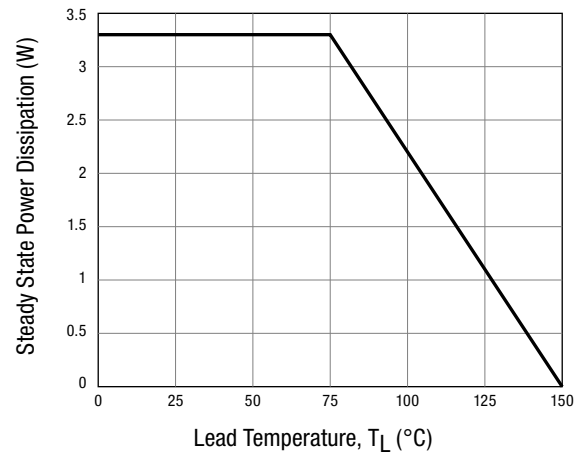
**BOURNS®**

## Performance Graphs

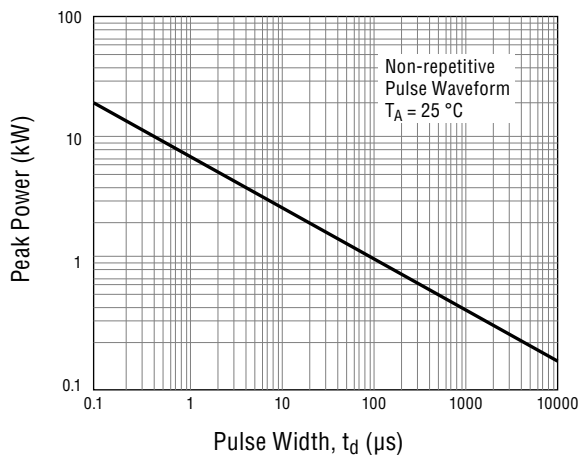
### Pulse Derating Curve



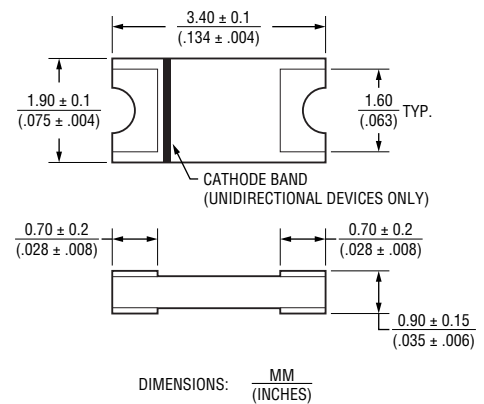
### Steady State Power Derating Curve



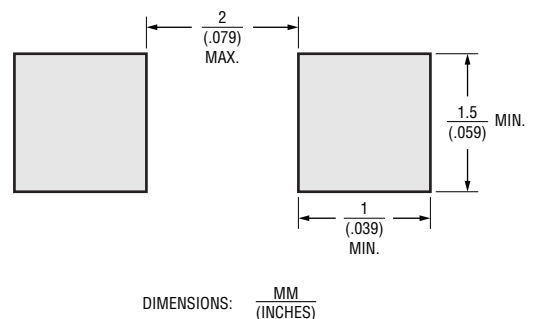
### Peak Pulse Power Rating Curve



### Product Dimensions



### Recommended Footprint



### How to Order

**SMF4C 36 CAH - Q**

Package \_\_\_\_\_  
SMF4C = 400 W TVS in SOD-123 Equivalent Package

Working Peak Reverse Voltage \_\_\_\_\_  
36 = 36 V<sub>RWM</sub> (Volts)

Configuration \_\_\_\_\_  
AH = Unidirectional  
CAH = Bidirectional

Compliance \_\_\_\_\_  
Q = AEC-Q101 Compliant

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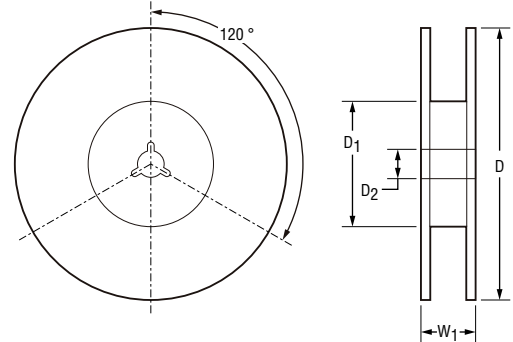
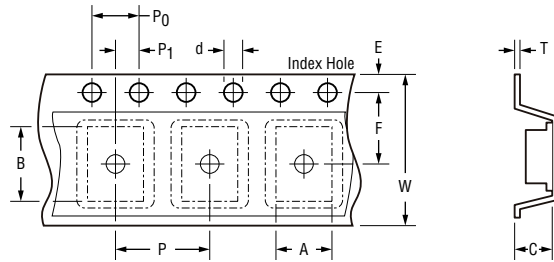
### Environmental Specifications

Moisture Sensitivity Level ..... 1  
ESD Classification (HBM) ..... 3B

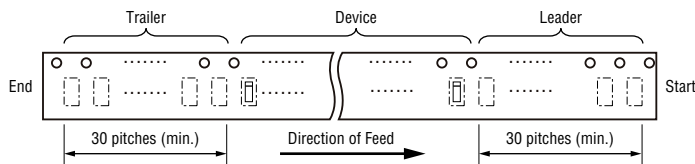
# SMF4C-Q Series Transient Voltage Suppressor Diodes

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## Packaging Information



### Unidirectional Product Orientation



DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$

Item	Symbol	SMF4C-Q Series
Carrier Width	A	$\frac{2.2 \pm 0.1}{(.087 \pm .004)}$
Carrier Length	B	$\frac{3.65 \pm 0.1}{(.144 \pm .004)}$
Carrier Depth	C	$\frac{1.28 \pm 0.1}{(.05 \pm .004)}$
Sprocket Hole	d	$\frac{1.50 \pm 0.1}{(.059 \pm .004)}$
Reel Outside Diameter	D	$\frac{178 \pm 2}{(7.008 \pm .079)}$
Reel Inner Diameter	D <sub>1</sub>	$\frac{50}{(1.969)} \text{ MIN.}$
Feed Hole Diameter	D <sub>2</sub>	$\frac{13 \pm 0.50}{(.512 \pm .02)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$
Punch Hole Position	F	$\frac{5.5 \pm 0.05}{(.217 \pm .002)}$
Punch Hole Pitch	P	$\frac{4 \pm 0.1}{(.157 \pm .004)}$
Sprocket Hole Pitch	P <sub>0</sub>	$\frac{4 \pm 0.1}{(.157 \pm .004)}$
Embossment Center	P <sub>1</sub>	$\frac{2 \pm 0.1}{(.079 \pm .004)}$
Overall Tape Thickness	T	$\frac{0.4}{(.016)} \text{ MAX.}$
Tape Width	W	$\frac{12 \pm 0.3}{(.472 \pm .012)}$
Reel Width	W <sub>1</sub>	$\frac{18.7}{(.736)} \text{ MAX.}$
Quantity per Reel	--	3000 pcs.

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Americas: Tel: +1 951-781-5500 • Email: [americus@bourns.com](mailto:americus@bourns.com)

Mexico: Tel: +52-614-478-0400 • Email: [mexicus@bourns.com](mailto:mexicus@bourns.com)

Asia: Tel: +886-2-2562-4117 • Email: [asiacus@bourns.com](mailto:asiacus@bourns.com)

EMEA: Tel: +36 88 885 877 • Email: [eurocus@bourns.com](mailto:eurocus@bourns.com)

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