

CSMF03V3C CSMF15C  
CSMF05C CSMF24C  
CSMF12C

**SURFACE MOUNT SILICON  
5-LINE TVS/ZENER ARRAY  
3.3 VOLT THRU 24 VOLT**



**SOT-363 CASE**

Specified by  
STAND-OFF VOLTAGE



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

#### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSMF03V3C Series is a 5 Line TVS/Zener Array packaged in an SOT-363 surface mount case. These devices are designed to protect sensitive electronic equipment, such as computers, networking communication, cell phones and instrumentation from over-voltage transients and ESD damage. Available in voltages ranging from 3.3V to 24V.

#### MARKING CODES:

CSMF03V3C: CF03      CSMF15C: CF15  
CSMF05C: CF05      CSMF24C: CF24  
CSMF12C: CF12

#### APPLICATIONS:

- Hand held portable equipment
- Networks, servers and telecom
- Desktop and notebook computers
- Instrumentation

#### FEATURES:

- Very low clamping voltage
- Low leakage current
- 100W power dissipation
- SMD SOT-363 package

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

Peak Pulse Power (8x20 $\mu\text{s}$ )

ESD Voltage (IEC 61000-4-2, Air)

ESD Voltage (IEC 61000-4-2, Contact)

Operating and Storage Junction Temperature

#### SYMBOL

$P_{pp}$

$V_{ESD}$

$V_{ESD}$

$T_J, T_{stg}$

100

20

15

-55 to +150

#### UNITS

W

kV

kV

$^{\circ}\text{C}$

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

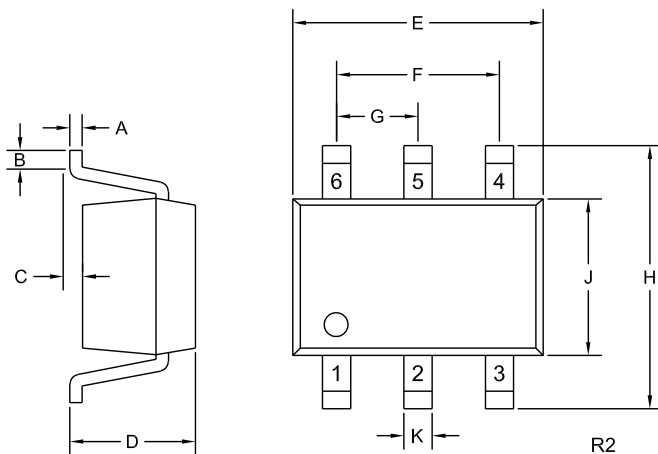
TYPE	Maximum Reverse Stand-Off Voltage	Minimum Reverse Breakdown Voltage		Maximum Reverse Leakage Current		Maximum Clamping Voltage 8x20 $\mu\text{s}$		Maximum Clamping Voltage 8x20 $\mu\text{s}$		Maximum Off State Junction Capacitance ( $V_R=0, f=1.0\text{MHz}$ )
	$V_{RWM}$	$V_{BR}$	$I_{BR}$	$I_R$	$V_R$	$V_{cl}$	$I_{PP}$	$V_{cl}$	$I_{PP}$	$C_J$
	V	V	mA	$\mu\text{A}$	V	V	A	V	A	pF
CSMF03V3C	3.3	4.7	10	250	3.3	7.5	5.0	9.0	9.0	160
CSMF05C	5.0	6.2	1.0	0.5	5.0	10	5.0	11	9.0	100
CSMF12C	12	13.3	1.0	0.5	12	18	3.0	20	5.0	50
CSMF15C	15	16.6	1.0	0.5	15	23	3.0	25	4.0	40
CSMF24C	24	26.7	1.0	0.5	24	35	1.0	45	2.0	30

CSMF03V3C CSMF15C  
CSMF05C CSMF24C  
CSMF12C

**SURFACE MOUNT SILICON  
5-LINE TVS/ZENER ARRAY  
3.3 VOLT THRU 24 VOLT**



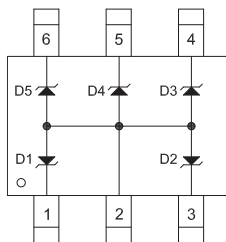
### SOT-363 - CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.010	0.10	0.25
B	0.005	-	0.12	-
C	0.000	0.004	0.00	0.10
D	0.031	0.043	0.80	1.10
E	0.071	0.087	1.80	2.20
F	0.051		1.30	
G	0.026		0.65	
H	0.075	0.091	1.90	2.30
J	0.043	0.055	1.10	1.40
K	0.006	0.012	0.15	0.30

SOT-363 (REV: R2)

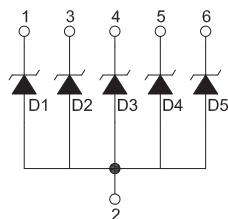
### PIN CONFIGURATION



### LEAD CODE:

- 1) Cathode D1
- 2) Anode D1, D2, D3, D4, D5
- 3) Cathode D2
- 4) Cathode D3
- 5) Cathode D4
- 6) Cathode D5

### SCHEMATIC



### MARKING CODES:

CSMF03V3C: CF03  
CSMF05C: CF05  
CSMF12C: CF12  
CSMF15C: CF15  
CSMF24C: CF24

R4 (6-April 2015)

CSMF03V3C CSMF15C  
CSMF05C CSMF24C  
CSMF12C

**SURFACE MOUNT SILICON  
5-LINE TVS/ZENER ARRAY  
3.3 VOLT THRU 24 VOLT**



#### **SERVICES**

- Bonded Inventory
- Custom Electrical Screening
- Custom Electrical Characteristic Curves
- SPICE Models
- Custom Packaging
- Package Base Options
- Custom Device Development/ Multi Discrete Modules (MDM™)
- Bare Die Available for Hybrid Applications

---

**LIMITATIONS AND DAMAGES DISCLAIMER:** In no event shall Central be liable for any collateral, indirect, punitive, incidental, consequential, or exemplary damages in connection with or arising out of a purchase order or contract or the use of products provided hereunder, regardless of whether Central has been advised of the possibility of such damages. Excluded damages shall include, but not be restricted to: cost of removal or reinstallation, rework, ancillary costs to the procurement of substitute products, loss of profits, loss of savings, loss of use, loss of data, or business interruption. No claim, suit, or action shall be brought against Central more than two (2) years after the related cause of action has occurred.

In no event shall Central's aggregate liability from any warranty, indemnity, or other obligation arising out of or in connection with a purchase order or contract, or any use of any Central product provided hereunder, exceed the total amount paid to Central for the specific products sold under a purchase order or contract with respect to which losses or damages are claimed. The existence of more than one (1) claim against the specific products sold to Buyer under a purchase order or contract shall not enlarge or extend this limit.

Buyer understands and agrees that the foregoing liability limitations are essential elements of a purchase order or contract and that in the absence of such limitations, the material and economic terms of the purchase order or contract would be substantially different.

R4 (6-April 2015)