

CSMF03V3C CSMF15C  
CSMF05C CSMF24C  
CSMF12C CSMF36C

**SURFACE MOUNT  
5-LINE SILICON TVS/ZENER ARRAY  
3.3 VOLTS THRU 36 VOLTS**

Specified by  
STAND-OFF VOLTAGE

**ULTRAmimi™**



**SOT-363 CASE**

#### MARKING CODES

CSMF03V3C: CF03  
CSMF05C: CF05  
CSMF12C: CF12  
CSMF15C: CF15  
CSMF24C: CF24  
CSMF36C: CF36

# Central™

## Semiconductor Corp.

#### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CSMF03V3C Series is a 5 Line TVS/Zener Array packaged in an ULTRAmimi 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 36V.

#### FEATURES

- Very low Clamping Voltage
- Low Leakage Current
- 100W Power Dissipation
- SMD SOT-363 Package
- IEC61000-4-2 ESD 20kV air, 15kV Contact Compliance

#### APPLICATIONS:

- Hand Held Portable Applications
- Networks, Servers and Telecom
- Desktop and Notebook Computers
- Instrumentation

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

Peak Pulse Power (8x20u sec Waveform)

ESD Voltage (HBM)

Operating and Storage Junction Temperature Range

#### SYMBOL

$P_{pp}$  100  
 $V_{ESD}$  25  
 $T_J, T_{stg}$  -55 to +150

#### UNITS

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

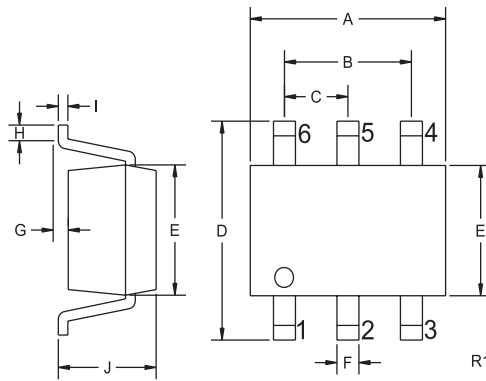
**ELECTRICAL CHARACTERISTICS PER DIODE:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

| TYPE NO.  | Maximum Reverse Stand-Off Voltage | Minimum Reverse Breakdown Voltage |                  | Maximum Reverse Leakage Current |              | Maximum Clamping Voltage<br>8 x 20 $\mu$ s |                 | Maximum Clamping Voltage<br>8 x 20 $\mu$ s |                 | Maximum Off State Junction Capacitance<br>( $V_R=0V, f=1MHz$ ) |
|-----------|-----------------------------------|-----------------------------------|------------------|---------------------------------|--------------|--------------------------------------------|-----------------|--------------------------------------------|-----------------|----------------------------------------------------------------|
|           | $V_{WRM}$<br>(V)                  | $V_{BR}$<br>(V)                   | $I_{BR}$<br>(mA) | $I_R$<br>( $\mu A$ )            | $V_R$<br>(V) | $V_{cl}$<br>(V)                            | $I_{PP}$<br>(A) | $V_{cl}$<br>(V)                            | $I_{PP}$<br>(A) | $C_J$<br>(pF)                                                  |
| CSMF03V3C | 3.3                               | 4.7                               | 10               | 250                             | 3.3          | 7.5                                        | 5.0             | 9                                          | 9               | 160                                                            |
| CSMF05C   | 5                                 | 6.2                               | 1.0              | 0.5                             | 5            | 9                                          | 5.0             | 10                                         | 9               | 90                                                             |
| CSMF12C   | 12                                | 13.3                              | 1.0              | 0.5                             | 12           | 17                                         | 3.0             | 20                                         | 5               | 60                                                             |
| CSMF15C   | 15                                | 16.6                              | 1.0              | 0.5                             | 15           | 23                                         | 3.0             | 25                                         | 4               | 46                                                             |
| CSMF24C   | 24                                | 26.7                              | 1.0              | 0.5                             | 24           | 35                                         | 1.0             | 45                                         | 2               | 38                                                             |
| CSMF36C   | 36                                | 38                                | 1.0              | 0.5                             | 36           | 40                                         | 1.0             | 50                                         | 2               | 27                                                             |

R0 (19-December 2005)

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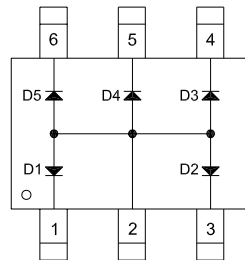
**SOT-363 - CASE - MECHANICAL OUTLINE**



| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | INCHES     |       | MILLIMETERS |      |
|        | MIN        | MAX   | MIN         | MAX  |
| A      | 0.073      | 0.085 | 1.85        | 2.15 |
| B      |            | 0.051 |             | 1.30 |
| C      |            | 0.026 |             | 0.65 |
| D      | 0.075      | 0.091 | 1.90        | 2.30 |
| E      | 0.043      | 0.055 | 1.10        | 1.40 |
| F      | 0.006      | 0.012 | 0.15        | 0.30 |
| G      | 0.000      | 0.004 | 0.00        | 0.10 |
| H      | 0.010      | -     | 0.25        | -    |
| I      | 0.004      | 0.010 | 0.10        | 0.25 |
| J      | 0.031      | 0.039 | 0.80        | 1.00 |

SOT-363 (REV: R1)

**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

**Circuit Diagram**

