CMSSH-3E CMSSH-3CE CMSSH-3AE CMSSH-3SE

#### **ENHANCED SPECIFICATION** SURFACE MOUNT SILICON **SCHOTTKY DIODES**



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#### **DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMSSH-3E series devices are enhanced versions of the CMSSH-3 series of silicon Schottky diodes in an SOT-323 surface mount package.

#### **FEATURED ENHANCED SPECIFICATIONS:**

- ♦ I<sub>F</sub> from 100 mA MAX to 200 mA MAX
- ♦ BV<sub>R</sub> from 30V MIN to 40V MIN
- ♦ V<sub>F</sub> from 1.0 V MAX to 0.8 V MAX

**E**> SOT-323 CASE

CMSSH-3E: SINGLE

CMSSH-3AE: DUAL, COMMON ANODE CMSSH-3CE: DUAL, COMMON CATHODE MARKING CODE: 3CE

CMSSH-3SE: DUAL, IN SERIES

**MARKING CODE: 31E MARKING CODE: 3AE MARKING CODE: 3SE** 

| MAXIMUM RATINGS: (T <sub>A</sub> =25°C)    | SYMBOL                            |             | UNITS |  |
|--------------------------------------------|-----------------------------------|-------------|-------|--|
| ♦ Peak Repetitive Reverse Voltage          | $V_{RRM}$                         | 40          | V     |  |
| ♦ Continuous Forward Current               | lF                                | 200         | mA    |  |
| Peak Repetitive Forward Current            | <sup>I</sup> FRM                  | 350         | mA    |  |
| Peak Forward Surge Current, tp=10ms        | I <sub>FSM</sub>                  | 750         | mA    |  |
| Power Dissipation                          | $P_{D}$                           | 250         | mW    |  |
| Operating and Storage Junction Temperature | T <sub>J</sub> , T <sub>stg</sub> | -65 to +150 | °C    |  |
| Thermal Resistance                         | ΘιΔ                               | 500         | °C/W  |  |

# ELECTRICAL CHARACTERISTICS PER DIODE: (T<sub>A</sub>=25°C unless otherwise noted)

| SYMBOL                   | TEST CONDITIONS                                              | MIN | TYP  | MAX  | UNITS |
|--------------------------|--------------------------------------------------------------|-----|------|------|-------|
| $I_{R}$                  | V <sub>R</sub> =25V                                          |     | 90   | 500  | nA    |
| $I_{R}$                  | V <sub>R</sub> =25V, T <sub>A</sub> =100°C                   |     | 25   | 100  | μΑ    |
| ♦ BV <sub>R</sub>        | I <sub>R</sub> =100μA                                        | 40  | 50   |      | V     |
| VF                       | I <sub>F</sub> =2.0mA                                        |     | 0.29 | 0.33 | V     |
| ♦ V <sub>F</sub>         | I <sub>F</sub> =15mA                                         |     | 0.37 | 0.42 | V     |
| ♦ V <sub>F</sub>         | I <sub>F</sub> =100mA                                        |     | 0.51 | 0.80 | V     |
| <b>♦♦</b> ∨ <sub>F</sub> | I <sub>F</sub> =200mA                                        |     | 0.65 | 1.0  | V     |
| CJ                       | V <sub>R</sub> =1.0V, f=1.0MHz                               |     | 7.0  |      | pF    |
| t <sub>rr</sub>          | $I_F = I_R = 10$ mA, $I_{rr} = 1.0$ mA, $R_L = 100$ $\Omega$ |     |      | 5.0  | ns    |
|                          |                                                              |     |      |      |       |

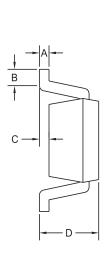
- Enhanced specification.
- ♦ Additional Enhanced specification.

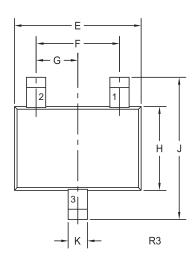
CMSSH-3E CMSSH-3CE CMSSH-3AE CMSSH-3SE

#### ENHANCED SPECIFICATION SURFACE MOUNT SILICON SCHOTTKY DIODES



#### **SOT-323 CASE - MECHANICAL OUTLINE**

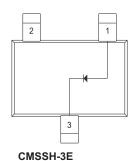




| DIMENSIONS |        |       |             |      |  |  |
|------------|--------|-------|-------------|------|--|--|
|            | INCHES |       | MILLIMETERS |      |  |  |
| SYMBOL     | MIN    | MAX   | MIN         | MAX  |  |  |
| Α          | 0.002  | 0.008 | 0.05        | 0.20 |  |  |
| В          | 0.004  | -     | 0.10        | -    |  |  |
| С          | -      | 0.004 | -           | 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        |      |  |  |
| Н          | 0.045  | 0.053 | 1.15        | 1.35 |  |  |
| J          | 0.079  | 0.087 | 2.00        | 2.20 |  |  |
| K          | 0.008  | 0.016 | 0.20        | 0.40 |  |  |

SOT-323 (REV: R3)

#### **PIN CONFIGURATIONS**



## LEAD CODE:

- 1) Anode
- 2) NC
- 3) Cathode

# MARKING CODE: 31E

# 2 1 D1 D2

### CMSSH-3AE

#### **LEAD CODE:**

- 1) Cathode D2
- 2) Cathode D1
- 3) Anode D1, D2

#### MARKING CODE: 3AE

# 3

D2

#### CMSSH-3CE

2

#### **LEAD CODE:**

- 1) Anode D2
- 2) Anode D1
- 3) Cathode D1, D2

#### MARKING CODE: 3CE

# D1 D2

#### CMSSH-3SE

#### LEAD CODE:

- 1) Anode D2
- 2) Cathode D1
- 3) Anode D1, Cathode D2

MARKING CODE: 3SE

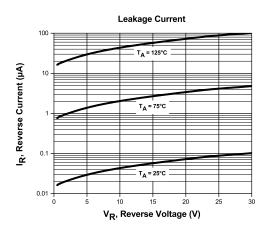
R3 (16-February 2016)

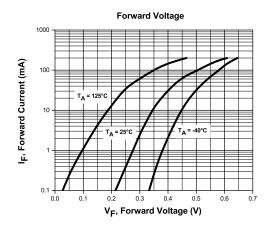
CMSSH-3E CMSSH-3CE CMSSH-3AE CMSSH-3SE

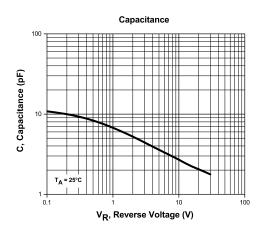


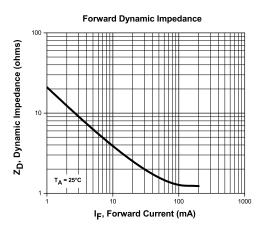


#### TYPICAL ELECTRICAL CHARACTERISTICS







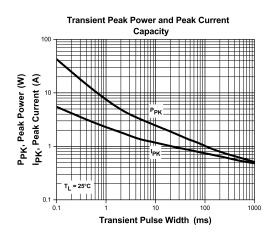


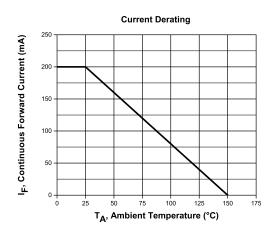
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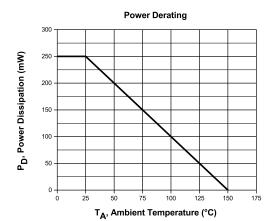




#### TYPICAL ELECTRICAL CHARACTERISTICS









#### **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 quick 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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