

### General Description

The CMN3J332AM uses advanced trench technology to provide excellent  $R_{DS(ON)}$ . This device is suitable for use as a load switch or in PWM applications.

### Features

- $R_{DS(ON)} < 35m\Omega$  @  $V_{GS} = -10V$
- $R_{DS(ON)} < 55m\Omega$  @  $V_{GS} = -4.5V$
- Simple drive requirement
- Surface mount package

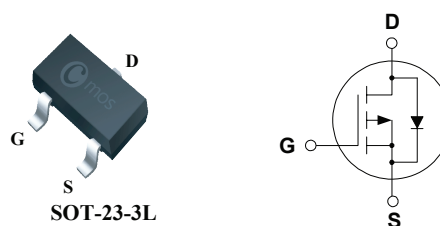
### Product Summary

| BVDSS | $R_{DS(ON)}$ | ID  |
|-------|--------------|-----|
| -30V  | 35m $\Omega$ | -7A |

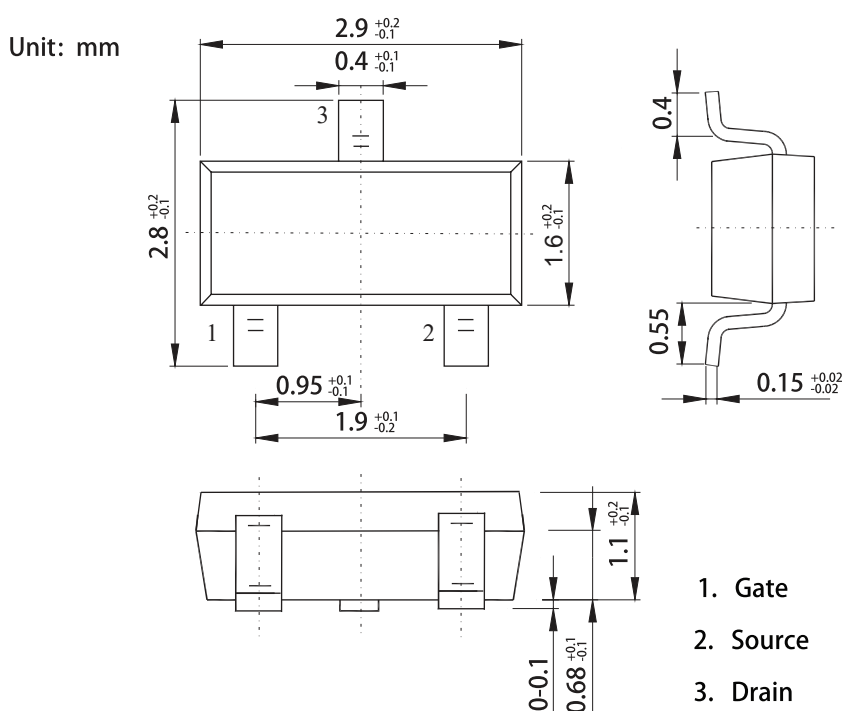
### Applications

- PWM applications
- Load switch
- Power management
- PA Switch

### SOT-23-3L Pin Configuration



| Type       | Package   | Marking |
|------------|-----------|---------|
| CMN3J332AM | SOT-23-3L | KFJ     |



## P-Channel Enhancement Mode Field Effect Transistor

## Absolute Maximum Ratings

| Symbol                 | Parameter                            | Rating     | Units      |
|------------------------|--------------------------------------|------------|------------|
| $V_{DS}$               | Drain-Source Voltage                 | -30        | V          |
| $V_{GS}$               | Gate-Source Voltage                  | $\pm 20$   | V          |
| $I_{D@T_C=25^\circ C}$ | Continuous Drain Current             | -7         | A          |
| $I_{DM}$               | Pulsed Drain Current                 | -21        | A          |
| $P_{D@T_C=25^\circ C}$ | Total Power Dissipation              | 3          | W          |
| $T_{STG}$              | Storage Temperature Range            | -55 to 150 | $^\circ C$ |
| $T_J$                  | Operating Junction Temperature Range | 150        | $^\circ C$ |

## Thermal Data

| Symbol          | Parameter                           | Typ. | Max. | Unit         |
|-----------------|-------------------------------------|------|------|--------------|
| $R_{\theta JA}$ | Thermal Resistance Junction-ambient | ---  | 75   | $^\circ C/W$ |

Electrical Characteristics ( $T_J=25^\circ C$  , unless otherwise noted)

| Symbol       | Parameter                         | Conditions                       | Min. | Typ. | Max.      | Unit      |
|--------------|-----------------------------------|----------------------------------|------|------|-----------|-----------|
| $BV_{DSS}$   | Drain-Source Breakdown Voltage    | $V_{GS}=0V, I_D=-250\mu A$       | -30  | ---  | ---       | V         |
| $R_{DS(ON)}$ | Static Drain-Source On-Resistance | $V_{GS}=-10V, I_D=-7A$           | ---  | ---  | 35        | $m\Omega$ |
|              |                                   | $V_{GS}=-4.5V, I_D=-5A$          | ---  | ---  | 55        |           |
| $V_{GS(th)}$ | Gate Threshold Voltage            | $V_{GS}=V_{DS}, I_D=-250\mu A$   | -1   | ---  | -2.5      | V         |
| $I_{DSS}$    | Drain-Source Leakage Current      | $V_{DS}=-28V, V_{GS}=0V$         | ---  | ---  | -1        | $\mu A$   |
| $I_{GSS}$    | Gate-Source Leakage Current       | $V_{GS}=\pm 20V, V_{DS}=0V$      | ---  | ---  | $\pm 100$ | nA        |
| $g_{fs}$     | Forward Transconductance          | $V_{DS}=-5V, I_D=-3A$            | ---  | 7    | ---       | S         |
| $Q_g$        | Total Gate Charge                 | $I_D=-7A$                        | ---  | 19   | ---       | nC        |
| $Q_{gs}$     | Gate-Source Charge                | $V_{DS}=-15V$                    | ---  | 3.5  | ---       |           |
| $Q_{gd}$     | Gate-Drain Charge                 | $V_{GS}=-10V$                    | ---  | 5    | ---       |           |
| $T_{d(on)}$  | Turn-On Delay Time                | $V_{DS}=-15V$                    | ---  | 8    | ---       | ns        |
| $T_r$        | Rise Time                         | $R_{GEN}=3\Omega$                | ---  | 6    | ---       |           |
| $T_{d(off)}$ | Turn-Off Delay Time               | $V_{GS}=-10V$                    | ---  | 20   | ---       |           |
| $T_f$        | Fall Time                         | $R_L=2.2\Omega$                  | ---  | 8    | ---       |           |
| $C_{iss}$    | Input Capacitance                 | $V_{DS}=-15V, V_{GS}=0V, f=1MHz$ | ---  | 900  | ---       | pF        |
| $C_{oss}$    | Output Capacitance                |                                  | ---  | 150  | ---       |           |
| $C_{rss}$    | Reverse Transfer Capacitance      |                                  | ---  | 120  | ---       |           |

## Diode Characteristics

| Symbol   | Parameter             | Conditions           | Min. | Typ. | Max. | Unit |
|----------|-----------------------|----------------------|------|------|------|------|
| $V_{SD}$ | Diode Forward Voltage | $V_{GS}=0V, I_S=-3A$ | ---  | ---  | -1   | V    |

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