

CMRDM3575

**SURFACE MOUNT  
N-CHANNEL AND P-CHANNEL  
ENHANCEMENT-MODE  
COMPLEMENTARY SILICON MOSFETS**

ATTOmini™



**SOT-963 CASE**

• Device is **Halogen Free** by design

**APPLICATIONS:**

- Load/Power switches
- Power supply converter circuits
- Battery powered portable devices

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

Drain-Source Voltage  
Gate-Source Voltage  
Continuous Drain Current (Steady State)  
Continuous Drain Current,  $t_p \leq 5.0\text{s}$   
Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$ )

| SYMBOL               | TEST CONDITIONS                                           |
|----------------------|-----------------------------------------------------------|
| $I_{GSSF}, I_{GSSR}$ | $V_{GS}=5.0\text{V}, V_{DS}=0$                            |
| $I_{DSS}$            | $V_{DS}=5.0\text{V}, V_{GS}=0$                            |
| $I_{DSS}$            | $V_{DS}=16\text{V}, V_{GS}=0$                             |
| $BV_{DSS}$           | $V_{GS}=0, I_D=250\mu\text{A}$                            |
| $V_{GS(th)}$         | $V_{DS}=V_{GS}, I_D=250\mu\text{A}$                       |
| $r_{DS(ON)}$         | $V_{GS}=4.5\text{V}, I_D=100\text{mA}$                    |
| $r_{DS(ON)}$         | $V_{GS}=2.5\text{V}, I_D=50\text{mA}$                     |
| $r_{DS(ON)}$         | $V_{GS}=1.8\text{V}, I_D=20\text{mA}$                     |
| $r_{DS(ON)}$         | $V_{GS}=1.5\text{V}, I_D=10\text{mA}$                     |
| $r_{DS(ON)}$         | $V_{GS}=1.2\text{V}, I_D=1.0\text{mA}$                    |
| gFS                  | $V_{DS}=5.0\text{V}, I_D=125\text{mA}$                    |
| $C_{rss}$            | $V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$            |
| $C_{iss}$            | $V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$            |
| $C_{oss}$            | $V_{DS}=15\text{V}, V_{GS}=0, f=1.0\text{MHz}$            |
| $Q_{g(tot)}$         | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$ |
| $Q_{gs}$             | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$ |
| $Q_{gd}$             | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$ |
| $t_{on}$             | $V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$ |
| $t_{off}$            | $V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$ |

**Central**  
Semiconductor Corp.

www.centrasemi.com

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMRDM3575 consists of complementary N-Channel and P-Channel enhancement-mode silicon MOSFETs designed for high speed pulsed amplifier and driver applications. These MOSFETs offer low  $r_{DS(ON)}$  and low threshold voltage.

**MARKING CODE: CT**

**FEATURES:**

- Power dissipation: 125mW
- Low package profile: 0.5mm (MAX)
- Low  $r_{DS(ON)}$
- Low threshold voltage
- Logic level compatible
- Small SOT-963 surface mount package

| SYMBOL         | N-CH (Q1)   | P-CH (Q2) | UNITS              |
|----------------|-------------|-----------|--------------------|
| $V_{DS}$       | 20          |           | V                  |
| $V_{GS}$       | 8.0         |           | V                  |
| $I_D$          | 160         | 140       | mA                 |
| $I_D$          | 200         | 180       | mA                 |
| $P_D$          | 125         |           | mW                 |
| $T_J, T_{stg}$ | -65 to +150 |           | $^\circ\text{C}$   |
| $\theta_{JA}$  | 1000        |           | $^\circ\text{C/W}$ |

| N-CH (Q1) |       |     | P-CH (Q2) |      |     | UNITS    |
|-----------|-------|-----|-----------|------|-----|----------|
| MIN       | TYP   | MAX | MIN       | TYP  | MAX |          |
| -         | -     | 100 | -         | -    | 100 | nA       |
| -         | -     | 50  | -         | -    | 50  | nA       |
| -         | -     | 100 | -         | -    | 100 | nA       |
| 20        | -     | -   | 20        | -    | -   | V        |
| 0.4       | -     | 1.0 | 0.4       | -    | 1.0 | V        |
| -         | 1.5   | 3.0 | -         | 4.0  | 5.0 | $\Omega$ |
| -         | 2.0   | 4.0 | -         | 5.5  | 7.0 | $\Omega$ |
| -         | 3.0   | 6.0 | -         | 8.0  | 10  | $\Omega$ |
| -         | 4.0   | 10  | -         | 11   | 17  | $\Omega$ |
| -         | 7.0   | -   | -         | 20   | -   | $\Omega$ |
| -         | 1.3   | -   | -         | 0.14 | -   | S        |
| -         | 2.2   | -   | -         | 4.0  | -   | pF       |
| -         | 9.0   | -   | -         | 10   | -   | pF       |
| -         | 3.0   | -   | -         | 3.7  | -   | pF       |
| -         | 0.458 | -   | -         | 0.50 | -   | nC       |
| -         | 0.176 | -   | -         | 0.17 | -   | nC       |
| -         | 0.138 | -   | -         | 0.11 | -   | nC       |
| -         | 25    | -   | -         | 35   | -   | ns       |
| -         | 85    | -   | -         | 100  | -   | ns       |

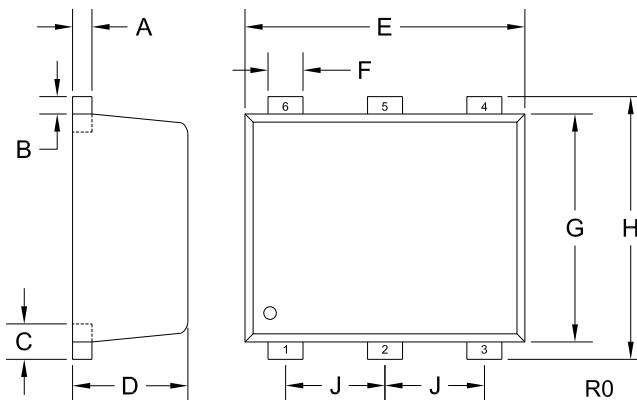
R3 (12-December 2012)

CMRDM3575

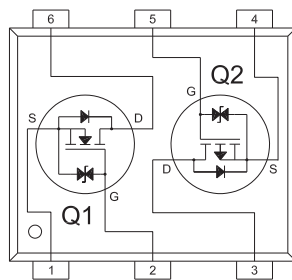
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**SOT-963 CASE - MECHANICAL OUTLINE**



**PIN CONFIGURATION**



**LEAD CODE:**

- 1) Source Q1
- 2) Gate Q1
- 3) Drain Q2
- 4) Source Q2
- 5) Gate Q2
- 6) Drain Q1

**MARKING CODE: CT**

| SYMBOL | DIMENSIONS |       |             |       |
|--------|------------|-------|-------------|-------|
|        | INCHES     |       | MILLIMETERS |       |
|        | MIN        | MAX   | MIN         | MAX   |
| A      | 0.002      | 0.006 | 0.050       | 0.150 |
| B      | 0.002      | 0.006 | 0.050       | 0.150 |
| C      | 0.005      | 0.007 | 0.125       | 0.175 |
| D      | 0.016      | 0.020 | 0.400       | 0.500 |
| E      | 0.037      | 0.041 | 0.950       | 1.050 |
| F      | 0.004      | 0.008 | 0.100       | 0.200 |
| G      | 0.030      | 0.033 | 0.750       | 0.850 |
| H      | 0.037      | 0.041 | 0.950       | 1.050 |
| J      | 0.014      |       | 0.350       |       |

SOT-963 (REV: R0)

R3 (12-December 2012)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### 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

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### 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).

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### CONTACT US

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