

CMKDM8005

**SURFACE MOUNT SILICON
DUAL P-CHANNEL
ENHANCEMENT-MODE
MOSFET**



SOT-363 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMKDM8005 consists of dual P-Channel enhancement-mode silicon MOSFETs designed for high speed pulsed amplifier and driver applications. These MOSFETs offer very low $r_{DS(ON)}$ and low threshold voltage.

MARKING CODE: C85M

FEATURES:

- ESD protection up to 1800V (Human Body Model)
- 350mW power dissipation
- Very low $r_{DS(ON)}$
- Low threshold voltage
- Logic level compatible
- Small, SOT-363 surface mount package

APPLICATIONS:

- Load switch/Level shifting
- Battery charging
- Boost switch
- Electro-luminescent backlighting

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

| |
|--|
| Drain-Source Voltage |
| Gate-Source Voltage |
| Continuous Drain Current (Steady State) |
| Continuous Source Current (Body Diode) |
| Maximum Pulsed Drain Current |
| Power Dissipation |
| Operating and Storage Junction Temperature |
| Thermal Resistance |

| SYMBOL | | UNITS |
|----------------|-------------|--------------------|
| V_{DS} | 20 | V |
| V_{GS} | 8.0 | V |
| I_D | 650 | mA |
| I_S | 250 | mA |
| I_{DM} | 1.0 | A |
| P_D | 350 | mW |
| T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Θ_{JA} | 357 | $^\circ\text{C/W}$ |

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

| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|----------------------|---|-----|------|------|---------------|
| I_{GSSF}, I_{GSSR} | $V_{GS}=4.5V, V_{DS}=0$ | | | 10 | μA |
| I_{DSS} | $V_{DS}=16V, V_{GS}=0$ | | | 100 | nA |
| BV_{DSS} | $V_{GS}=0, I_D=250\mu\text{A}$ | 20 | | | V |
| $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=250\mu\text{A}$ | 0.5 | | 1.0 | V |
| V_{SD} | $V_{GS}=0, I_S=250\text{mA}$ | | | 1.1 | V |
| $r_{DS(ON)}$ | $V_{GS}=4.5V, I_D=350\text{mA}$ | | 0.25 | 0.36 | Ω |
| $r_{DS(ON)}$ | $V_{GS}=2.5V, I_D=300\text{mA}$ | | 0.37 | 0.5 | Ω |
| $r_{DS(ON)}$ | $V_{GS}=1.8V, I_D=150\text{mA}$ | | | 0.8 | Ω |
| gFS | $V_{DS}=10V, I_D=200\text{mA}$ | 0.2 | | | S |
| C_{rss} | $V_{DS}=16V, V_{GS}=0, f=1.0\text{MHz}$ | | 25 | | pF |
| C_{iss} | $V_{DS}=16V, V_{GS}=0, f=1.0\text{MHz}$ | | 100 | | pF |
| C_{oss} | $V_{DS}=16V, V_{GS}=0, f=1.0\text{MHz}$ | | 21 | | pF |

R3 (3-June 2013)

CMKDM8005

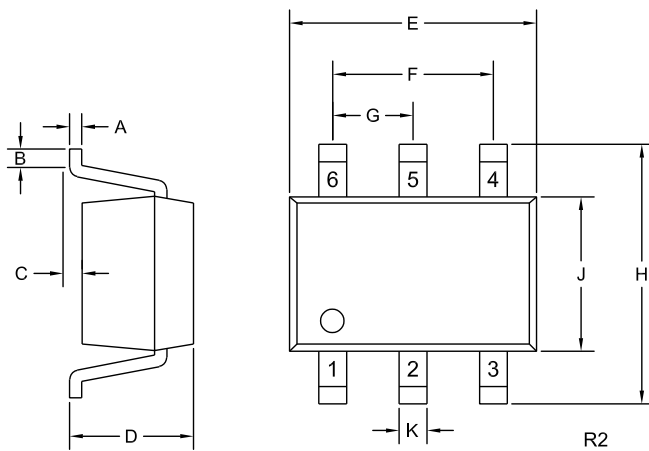
**SURFACE MOUNT SILICON
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ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

| SYMBOL | TEST CONDITIONS | TYP | MAX | UNITS |
|---------------------|---|------|-----|-------|
| $Q_{g(\text{tot})}$ | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$ | 1.2 | | nC |
| Q_{gs} | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$ | 0.24 | | nC |
| Q_{gd} | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$ | 0.36 | | nC |
| t_{on} | $V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}, R_G=10\Omega$ | 38 | | ns |
| t_{off} | $V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}, R_G=10\Omega$ | 48 | | ns |

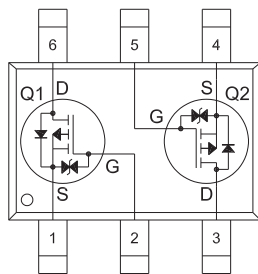
SOT-363 CASE - MECHANICAL OUTLINE



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

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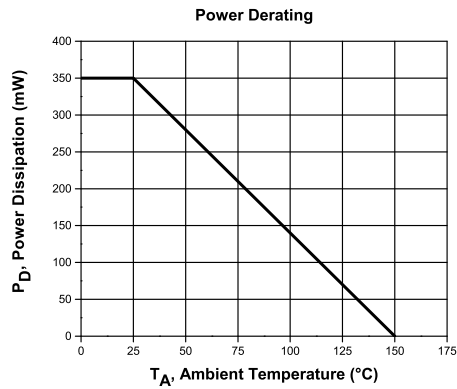
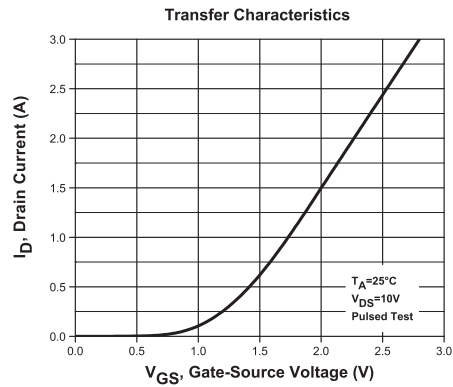
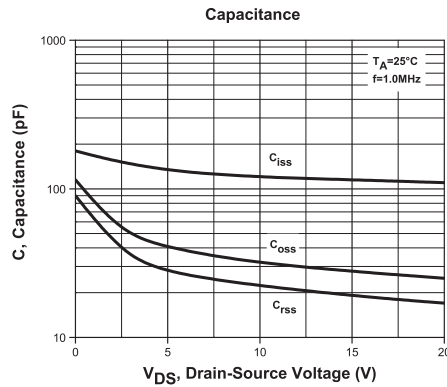
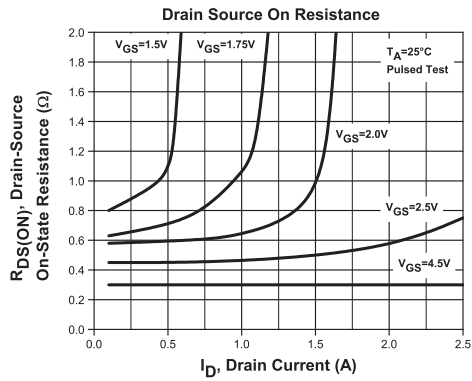
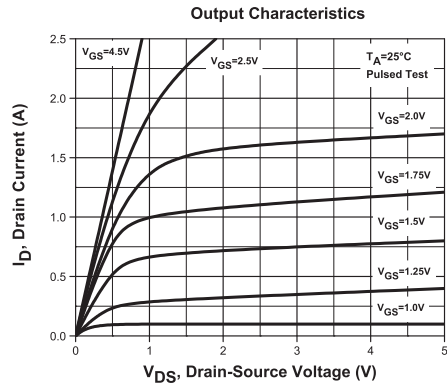
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TYPICAL ELECTRICAL CHARACTERISTICS



R3 (3-June 2013)

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 (2nd 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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