

CMKDM8005

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



www.centrasemi.com



**SOT-363 CASE**

**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	$^\circ\text{C}$
$\Theta_{JA}$	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	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=16V, V_{GS}=0$			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	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=300\text{mA}$		0.37	0.5	$\Omega$
$r_{DS(ON)}$	$V_{GS}=1.8V, I_D=150\text{mA}$			0.8	$\Omega$
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

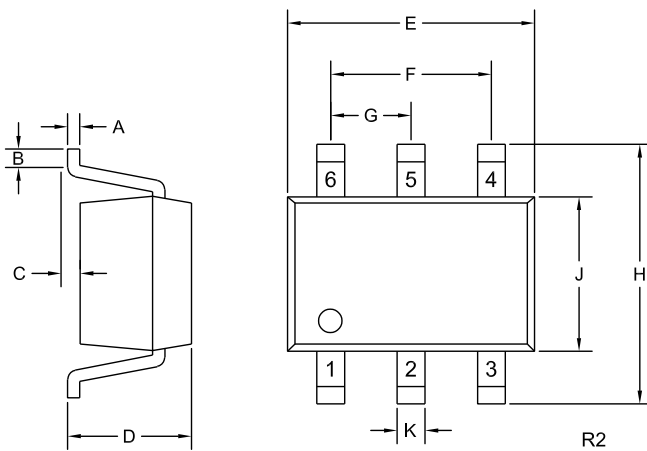
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**ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued:** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

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
$t_{\text{on}}$	$V_{DD}=10\text{V}$ , $V_{GS}=4.5\text{V}$ , $I_D=200\text{mA}$ , $R_G=10\Omega$	38		ns
$t_{\text{off}}$	$V_{DD}=10\text{V}$ , $V_{GS}=4.5\text{V}$ , $I_D=200\text{mA}$ , $R_G=10\Omega$	48		ns

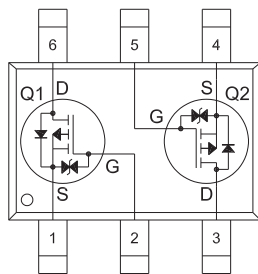
**SOT-363 CASE - MECHANICAL OUTLINE**



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

**MARKING CODE: C85M**

R3 (3-June 2013)

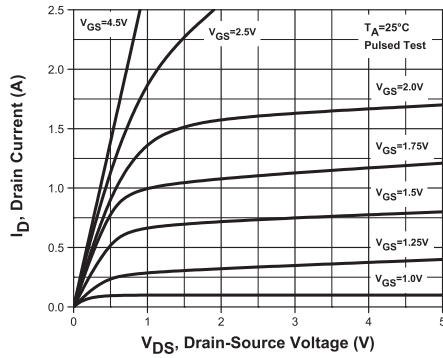
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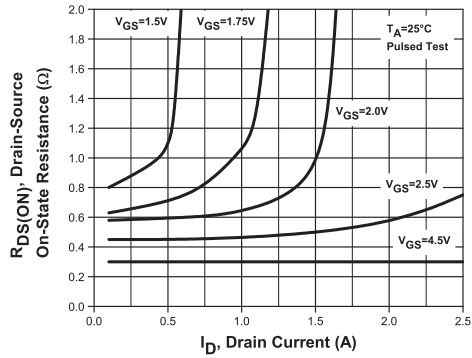


TYPICAL ELECTRICAL CHARACTERISTICS

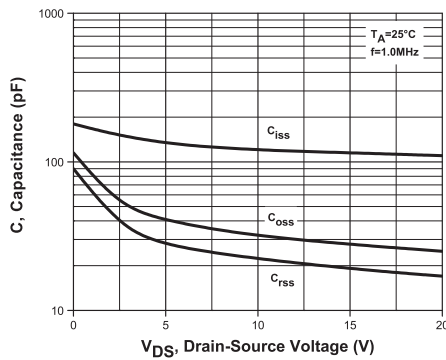
Output Characteristics



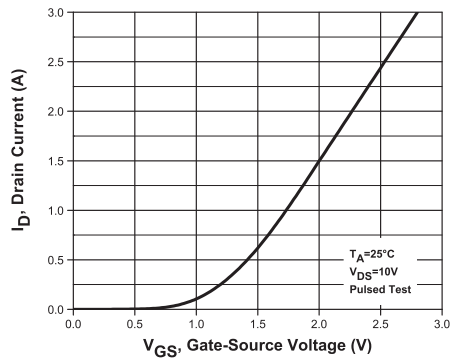
Drain Source On Resistance



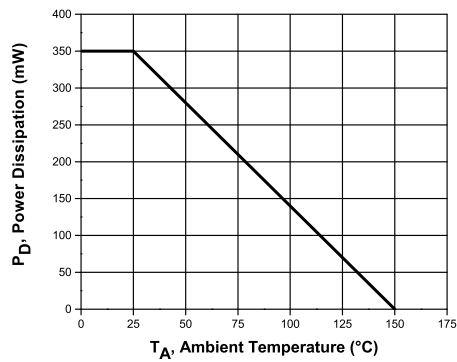
Capacitance



Transfer Characteristics



Power Derating



R3 (3-June 2013)