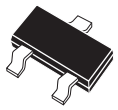
CMPDM3590 N-CH
CMPDM7590 P-CH

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



SOT-23 CASE

• Devices are ***Halogen Free*** by design

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPDM3590 and CMPDM7590 are complementary N-Channel and P-Channel Enhancement-mode silicon MOSFETs designed for high speed pulsed amplifier and driver applications. These devices offer desirable MOSFET electrical characteristics in an economical industry standard SOT-23 package.

MARKING CODES: CMPDM3590: C359
CMPDM7590: C759

APPLICATIONS:

• Load/Power Switches
• Power Supply Converter Circuits
• Battery Powered Portable Devices

FEATURES:

• ESD Protection up to 2kV
• Power Dissipation: 350mW
• Low Threshold Voltage
• Logic Level Compatibility
• Small SOT-23 Surface Mount Package

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**	**CMPDM3590**	**CMPDM7590**	**UNITS**
Drain-Source Voltage	V_{DS}	20		V
Gate-Source Voltage	V_{GS}	8.0		V
Continuous Drain Current (Steady State)	I_D	160	140	mA
Continuous Drain Current ($t_p \leq 5s$)	I_D	200	180	mA
Power Dissipation	P_D	350		mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150		°C
Thermal Resistance	Θ_{JA}	357		°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C)		**CMPDM3590**			**CMPDM7590**			
SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=5.0V, V_{DS}=0V	-	-	100	-	-	100	nA
I_{DSS}	V_{DS}=5.0V, V_{GS}=0V	-	-	50	-	-	50	nA
I_{DSS}	V_{DS}=16V, V_{GS}=0V	-	-	100	-	-	100	nA
BV_{DSS}	V_{GS}=0V, I_D=250μA	20	-	-	20	-	-	V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.4	-	1.0	0.4	-	1.0	V
$r_{DS(ON)}$	V_{GS}=4.5V, I_D=100mA	-	1.5	3.0	-	4.0	5.0	Ω
$r_{DS(ON)}$	V_{GS}=2.5V, I_D=50mA	-	2.0	4.0	-	5.5	7.0	Ω
$r_{DS(ON)}$	V_{GS}=1.8V, I_D=20mA	-	3.0	6.0	-	8.0	10	Ω
$r_{DS(ON)}$	V_{GS}=1.5V, I_D=10mA	-	4.0	10	-	11	17	Ω
$r_{DS(ON)}$	V_{GS}=1.2V, I_D=1.0mA	-	7.0	-	-	20	-	Ω
g_{FS}	V_{DS}=5.0V, I_D=125mA	-	1.3	-	-	1.3	-	S
C_{rss}	V_{DS}=15V, V_{GS}=0V, f=1.0MHz	-	2.2	-	-	1.0	-	pF
C_{iss}	V_{DS}=15V, V_{GS}=0V, f=1.0MHz	-	9.0	-	-	12	-	pF
C_{oss}	V_{DS}=15V, V_{GS}=0V, f=1.0MHz	-	3.0	-	-	2.7	-	pF
t_{on}	V_{DD}=10V, V_{GS}=4.5V, I_D=200mA	-	40	-	-	60	-	ns
t_{off}	V_{DD}=10V, V_{GS}=4.5V, I_D=200mA	-	150	-	-	210	-	ns

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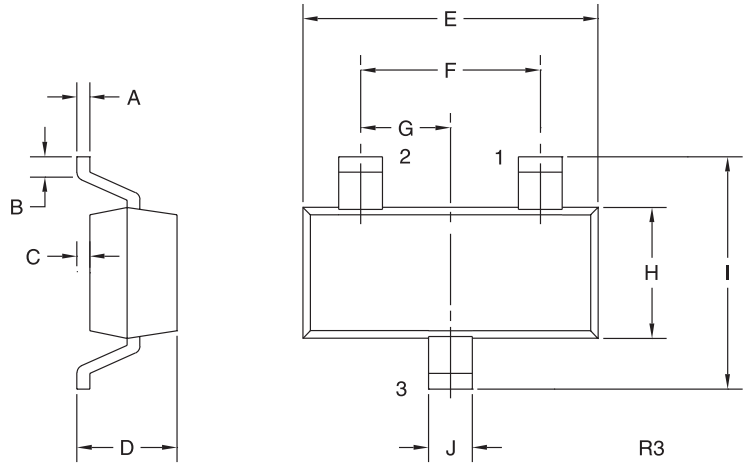
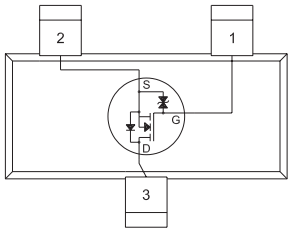
SOT-23 CASE - MECHANICAL OUTLINE



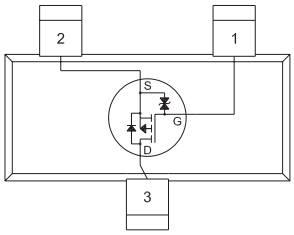
PIN CONFIGURATIONS



CMPDM3590

LEAD CODE:
1) GATE
2) SOURCE
3) DRAIN

MARKING CODE: C359



CMPDM7590

LEAD CODE:
1) GATE
2) SOURCE
3) DRAIN

MARKING CODE: C759

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

R0 (19-May 2009)