CMRDM7590

SURFACE MOUNT
DUAL P-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET

FEMTOmini™

SOT-963 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMRDM7590 is an Enhancement-mode Dual P-Channel Field Effect Transistor designed for high speed pulsed amplifier and driver applications. This MOSFET offers Low $r_{DS(ON)}$ and Low Threshold Voltage.

• Device is ***Halogen Free*** by design

MARKING CODE: CW

FEATURES:
- Power Dissipation: 125mW
- Low Package Profile: 0.5mm (MAX)
- Low $r_{DS(ON)}$
- Low Threshold Voltage
- Logic Level Compatibility
- Small SOT-963 Surface Mount Package

APPLICATIONS:
- Load/Power Switches
- Power Supply Converter Circuits
- Battery Powered Portable Devices

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	8.0	V
Continuous Drain Current (Steady State)	I_D	140	mA
Continuous Drain Current ($t_p \leq 5s$)	I_D	180	mA
Power Dissipation	P_D	125	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	1000	°C/W

ELECTRICAL CHARACTERISTICS PER TRANSISTOR: (T_A=25°C unless otherwise noted)

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

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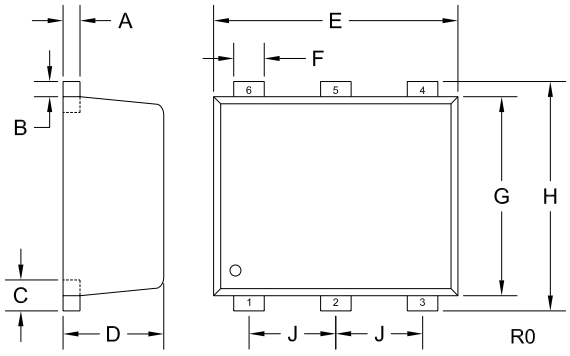
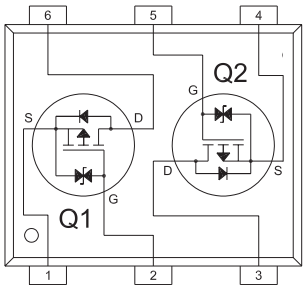
SOT-963 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



DIMENSIONS				
SYMBOL	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)

LEAD CODE:
1) SOURCE Q1
2) GATE Q1
3) DRAIN Q2
4) SOURCE Q2
5) GATE Q2
6) DRAIN Q1

MARKING CODE: CW

R0 (9-March 2009)