

CMPF4391  
CMPF4392  
CMPF4393

**SURFACE MOUNT SILICON  
N-CHANNEL JFETS**



**SOT-23 CASE**



[www.centralemi.com](http://www.centralemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPF4391 series devices are silicon N-Channel Field Effect Transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for switching applications.

**MARKING CODE:**

**CMPF4391: 6J**  
**CMPF4392: 6K**  
**CMPF4393: 6G**

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

Drain-Gate Voltage  
Gate-Source Voltage  
Drain-Source Voltage  
Gate Current  
Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance

**SYMBOL**

$V_{GD}$  40  
 $V_{GS}$  40  
 $V_{DS}$  40  
 $I_G$  50  
 $P_D$  350  
 $T_J, T_{stg}$  -65 to +150  
 $\theta_{JA}$  357

**UNITS**

V  
V  
V  
mA  
mW  
 $^\circ\text{C}$   
 $^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	CMPF4391		CMPF4392		CMPF4393		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
$I_{GSS}$	$V_{GS}=20\text{V}$	-	0.5	-	0.5	-	0.5	nA
$I_{GSS}$	$V_{GS}=20\text{V}, T_A=100^\circ\text{C}$	-	0.2	-	0.2	-	0.2	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=20\text{V}$	50	150	25	75	5.0	30	mA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=12\text{V}$	-	0.1	-	-	-	-	nA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=7.0\text{V}$	-	-	-	0.1	-	-	nA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=5.0\text{V}$	-	-	-	-	-	0.1	nA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=12\text{V}, T_A=100^\circ\text{C}$	-	0.2	-	-	-	-	$\mu\text{A}$
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=7.0\text{V}, T_A=100^\circ\text{C}$	-	-	-	0.2	-	-	$\mu\text{A}$
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=5.0\text{V}, T_A=100^\circ\text{C}$	-	-	-	-	-	0.2	$\mu\text{A}$
$BV_{GSS}$	$I_G=1.0\mu\text{A}$	40	-	40	-	40	-	V
$V_{GS(OFF)}$	$V_{DS}=20\text{V}, I_D=1.0\text{nA}$	4.0	10	2.0	5.0	0.5	3.0	V
$V_{GS(f)}$	$I_G=1.0\text{mA}$	-	1.0	-	1.0	-	1.0	V
$V_{DS(ON)}$	$I_D=12\text{mA}$	-	0.4	-	-	-	-	V
$V_{DS(ON)}$	$I_D=6.0\text{mA}$	-	-	-	0.4	-	-	V
$V_{DS(ON)}$	$I_D=3.0\text{mA}$	-	-	-	-	-	0.4	V
$r_{DS(ON)}$	$I_D=1.0\text{mA}, V_{GS}=0$	-	30	-	60	-	100	$\Omega$
$r_{ds(ON)}$	$V_{GS}=0, I_D=0, f=1.0\text{kHz}$	-	30	-	60	-	100	$\Omega$
$C_{iss}$	$V_{DS}=20\text{V}, V_{GS}=0, f=1.0\text{MHz}$	-	14	-	14	-	14	pF

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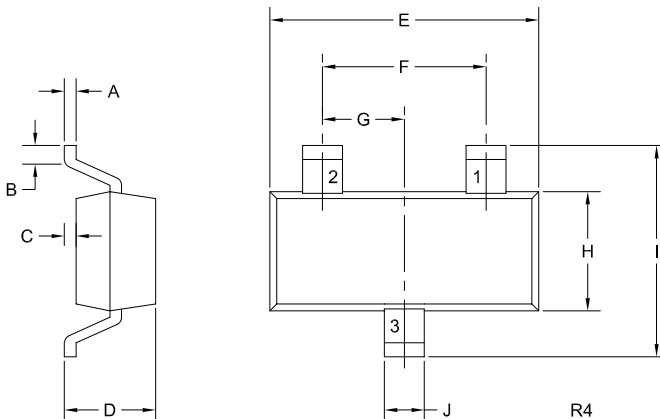
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**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPF4391		CMPF4392		CMPF4393		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
$C_{rss}$	$V_{GS}=12\text{V}$ , $V_{DS}=0$ , $f=1.0\text{MHz}$	-	4.0	-	-	-	-	pF
$C_{rss}$	$V_{GS}=7.0\text{V}$ , $V_{DS}=0$ , $f=1.0\text{MHz}$	-	-	-	4.0	-	-	pF
$C_{rss}$	$V_{GS}=5.0\text{V}$ , $V_{DS}=0$ , $f=1.0\text{MHz}$	-	-	-	-	-	4.0	pF
$t_{ON}$	$I_{D(ON)}=12\text{mA}$	-	15	-	-	-	-	ns
$t_{ON}$	$I_{D(ON)}=6.0\text{mA}$	-	-	-	15	-	-	ns
$t_{ON}$	$I_{D(ON)}=3.0\text{mA}$	-	-	-	-	-	15	ns
$t_{OFF}$	$V_{GS(OFF)}=12\text{V}$	-	20	-	-	-	-	ns
$t_{OFF}$	$V_{GS(OFF)}=7.0\text{V}$	-	-	-	35	-	-	ns
$t_{OFF}$	$V_{GS(OFF)}=5.0\text{V}$	-	-	-	-	-	50	ns

**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

- 1) Drain
- 2) Source
- 3) Gate

**MARKING CODES:**

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DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	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	0.044	0.89	1.12
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	0.104	2.10	2.64
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R4)

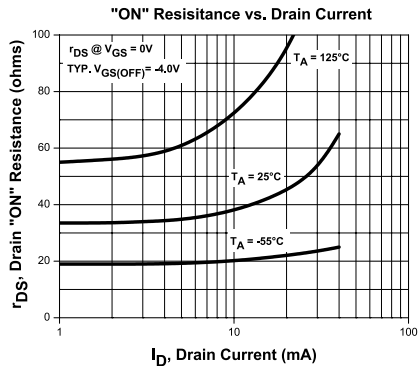
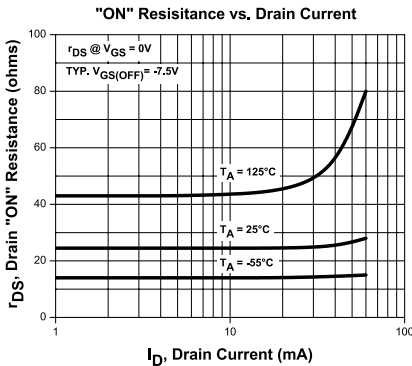
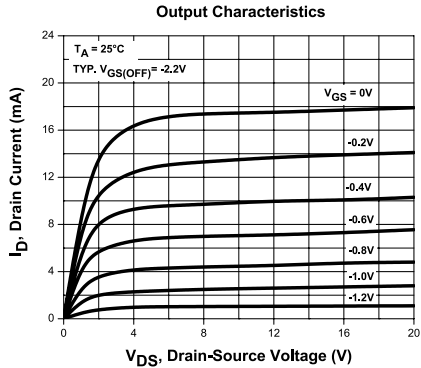
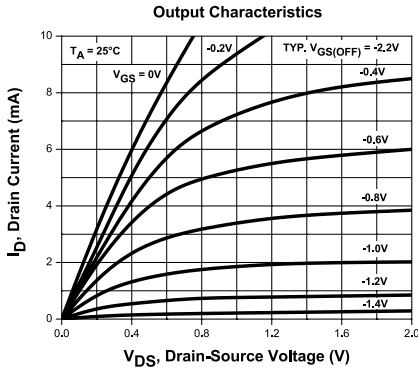
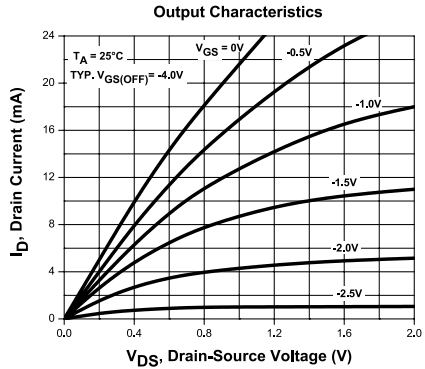
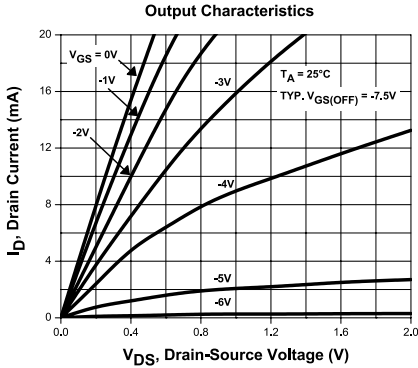
R11 (22-September 2022)

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**TYPICAL ELECTRICAL CHARACTERISTICS**



Note: TYP  $V_{GS(OFF)} = -7.5V$  (CMPF4391),  $-4.0V$  (CMPF4392),  $-2.2V$  (CMPF4393)

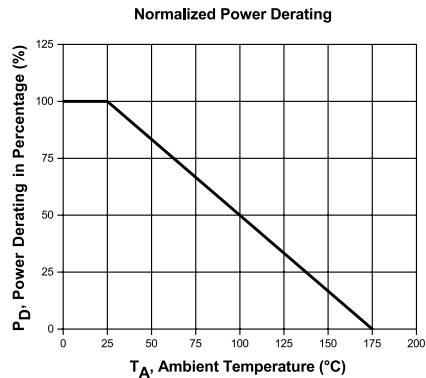
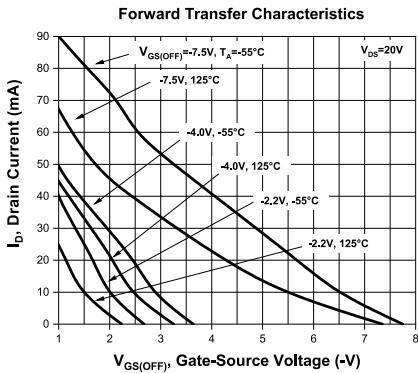
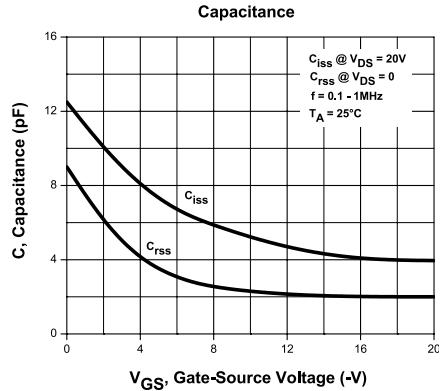
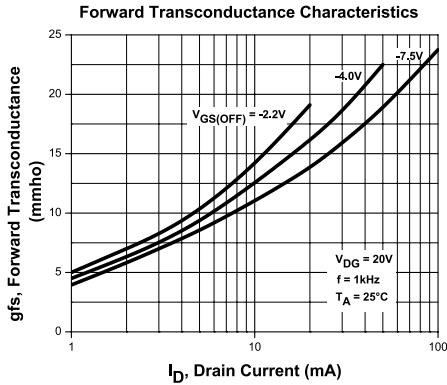
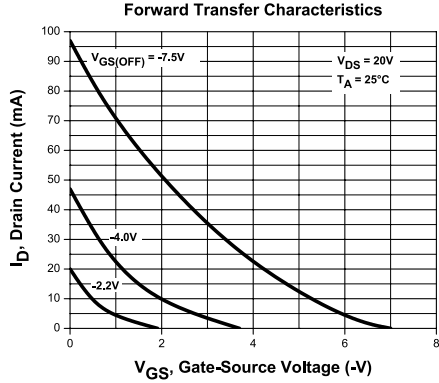
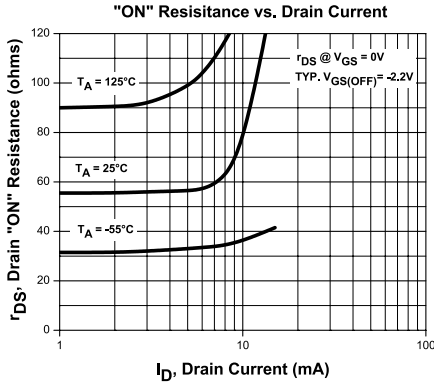
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