

CMPF4391
CMPF4392
CMPF4393

SURFACE MOUNT
N-CHANNEL
SILICON JFET



SOT-23 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPF4391 series types are N-Channel Silicon 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
 θ_{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}	$V_{GS}=20\text{V}$	-	0.1	-	0.1	-	0.1	nA
I_{GSS}	$V_{GS}=20\text{V}, T_A=100^\circ\text{C}$	-	0.2	-	0.2	-	0.2	μA
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	-	-	-	-	μA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=7.0\text{V}, T_A=100^\circ\text{C}$	-	-	-	0.2	-	-	μA
$I_{D(OFF)}$	$V_{DS}=20\text{V}, V_{GS}=5.0\text{V}, T_A=100^\circ\text{C}$	-	-	-	-	-	0.2	μA
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	Ω
$r_{ds(ON)}$	$V_{GS}=0, I_D=0, f=1.0\text{kHz}$	-	30	-	60	-	100	Ω
C_{iss}	$V_{DS}=20\text{V}, V_{GS}=0, f=1.0\text{MHz}$	-	14	-	14	-	14	pF

R5 (27-January 2010)

CMPF4391
CMPF4392
CMPF4393

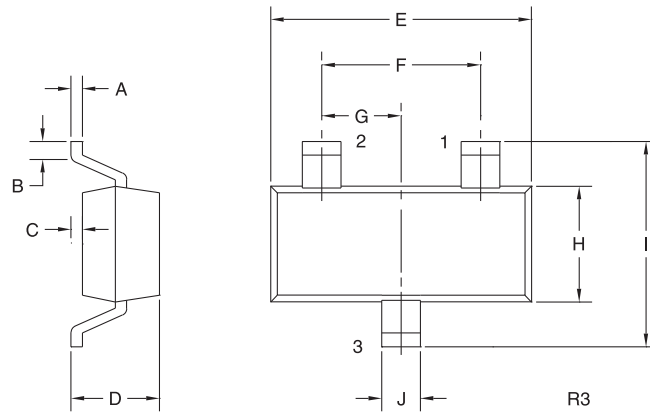
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ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	CMPF4391		CMPF4392		CMPF4393		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
C_{rss}	$V_{GS}=12\text{V}$, $V_{DS}=0$, $f=1.0\text{MHz}$	-	3.5	-	-	-	-	pF
C_{rss}	$V_{GS}=7.0\text{V}$, $V_{DS}=0$, $f=1.0\text{MHz}$	-	-	-	3.5	-	-	pF
C_{rss}	$V_{GS}=5.0\text{V}$, $V_{DS}=0$, $f=1.0\text{MHz}$	-	-	-	-	-	3.5	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:

CMPF4391: 6J
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CMPF4393: 6G

SYMBOL	DIMENSIONS			
	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	0.043	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)

R5 (27-January 2010)

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

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