

2N7002

**SURFACE MOUNT SILICON
N-CHANNEL
ENHANCEMENT-MODE
MOSFET**



SOT-23 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N7002 type is an N-Channel enhancement-mode MOSFET manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications.

MARKING CODE: 702

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

Drain-Source Voltage
Drain-Gate Voltage
Gate-Source Voltage
Continuous Drain Current ($T_C=25^{\circ}\text{C}$)
Continuous Drain Current ($T_C=100^{\circ}\text{C}$)
Continuous Source Current (Body Diode)
Maximum Pulsed Drain Current
Maximum Pulsed Source Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL

V_{DS} 60
 V_{DG} 60
 V_{GS} 40
 I_D 115
 I_D 75
 I_S 115
 I_{DM} 800
 I_{SM} 800
 P_D 350
 T_J, T_{stg} -65 to +150
 Θ_{JA} 357

UNITS

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

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}	$V_{GS}=20\text{V}$			100	nA
I_{GSSR}	$V_{GS}=20\text{V}$			100	nA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0$			1.0	μA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0, T_A=125^{\circ}\text{C}$			500	μA
$I_{D(ON)}$	$V_{DS}=10\text{V}, V_{GS}=10\text{V}$	500			mA
BV_{DSS}	$I_D=10\mu\text{A}$	60	105		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1.0	2.1	2.5	V
$V_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$			3.75	V
$V_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$			0.375	V
V_{SD}	$V_{GS}=0, I_S=11.5\text{mA}$			1.5	V
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		3.7	7.5	Ω
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}, T_A=100^{\circ}\text{C}$			13.5	Ω
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		6.2	7.5	Ω
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}, T_A=100^{\circ}\text{C}$			13.5	Ω
gFS	$V_{DS}=10\text{V}, I_D=200\text{mA}$	80			mS

R6 (9-February 2015)

2N7002

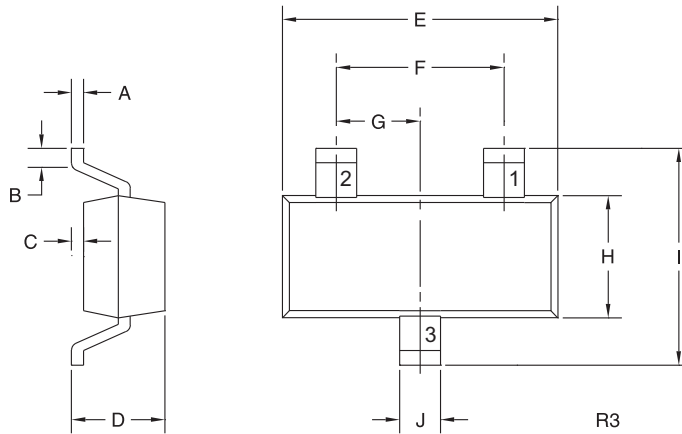
**SURFACE MOUNT SILICON
N-CHANNEL
ENHANCEMENT-MODE
MOSFET**



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

SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
C_{rss}	$V_{DS}=25\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$		5.0	pF
C_{iss}	$V_{DS}=25\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$		50	pF
C_{oss}	$V_{DS}=25\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$		25	pF
$Q_{g(\text{tot})}$	$V_{DS}=30\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=100\text{mA}$	0.592		nC
Q_{gs}	$V_{DS}=30\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=100\text{mA}$	0.196		nC
Q_{gd}	$V_{DS}=30\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=100\text{mA}$	0.148		nC
t_{on}	$V_{DD}=30\text{V}$, $I_D=200\text{mA}$, $R_G=25\Omega$, $R_L=150\Omega$		20	ns
t_{off}	$V_{DD}=30\text{V}$, $I_D=200\text{mA}$, $R_G=25\Omega$, $R_L=150\Omega$		20	ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: 702

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	0.043	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)

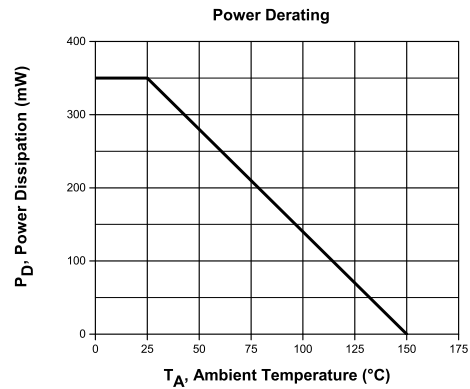
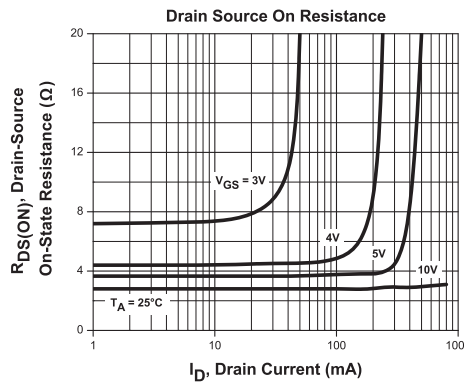
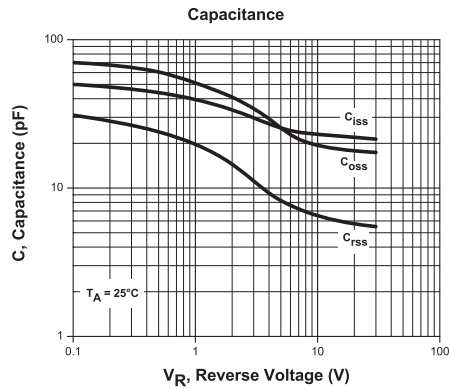
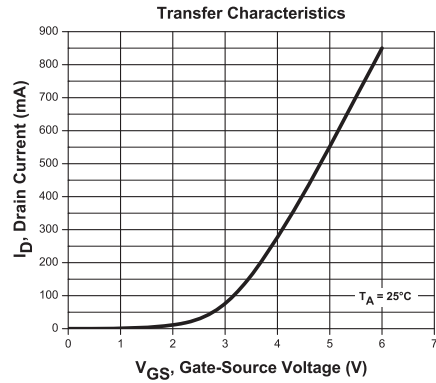
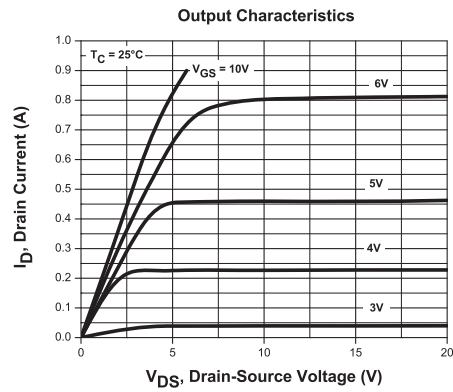
R6 (9-February 2015)

2N7002

SURFACE MOUNT SILICON
N-CHANNEL
ENHANCEMENT-MODE
MOSFET



TYPICAL ELECTRICAL CHARACTERISTICS



R6 (9-February 2015)

2N7002

**SURFACE MOUNT SILICON
N-CHANNEL
ENHANCEMENT-MODE
MOSFET**



SERVICES

- Bonded Inventory
- Custom Electrical Screening
- Custom Electrical Characteristic Curves
- SPICE Models
- Custom Packaging
- Package Base Options
- Custom Device Development/ Multi Discrete Modules (MDM™)
- Bare Die Available for Hybrid Applications

LIMITATIONS AND DAMAGES DISCLAIMER: In no event shall Central be liable for any collateral, indirect, punitive, incidental, consequential, or exemplary damages in connection with or arising out of a purchase order or contract or the use of products provided hereunder, regardless of whether Central has been advised of the possibility of such damages. Excluded damages shall include, but not be restricted to: cost of removal or reinstallation, rework, ancillary costs to the procurement of substitute products, loss of profits, loss of savings, loss of use, loss of data, or business interruption. No claim, suit, or action shall be brought against Central more than two (2) years after the related cause of action has occurred.

In no event shall Central's aggregate liability from any warranty, indemnity, or other obligation arising out of or in connection with a purchase order or contract, or any use of any Central product provided hereunder, exceed the total amount paid to Central for the specific products sold under a purchase order or contract with respect to which losses or damages are claimed. The existence of more than one (1) claim against the specific products sold to Buyer under a purchase order or contract shall not enlarge or extend this limit.

Buyer understands and agrees that the foregoing liability limitations are essential elements of a purchase order or contract and that in the absence of such limitations, the material and economic terms of the purchase order or contract would be substantially different.

R6 (9-February 2015)

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9