

2N7002
**N-CHANNEL
ENHANCEMENT-MODE
MOSFET**



CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N7002 type is a N-Channel Field Effect Transistor, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications.

Marking Code is 702.

MAXIMUM RATINGS (T_A=25°C)

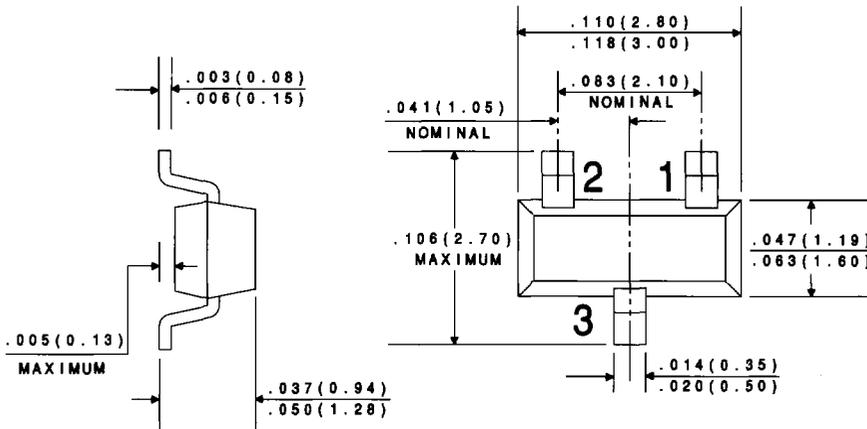
	SYMBOL		UNITS
Drain-Source Voltage	V _{DS}	60	V
Drain-Gate Voltage	V _{DG}	60	V
Gate-Source Voltage	V _{GS}	40	V
Continuous Drain Current (T _C =25°C)	I _D	115	mA
Continuous Drain Current (T _C =100°C)	I _D	75	mA
Continuous Source Current (Body Diode)	I _S	115	mA
Maximum Pulsed Drain Current	I _{DM}	800	mA
Maximum Pulsed Source Current	I _{SM}	800	mA
Power Dissipation	P _D	350	mW
Operating and Storage			
Junction Temperature	T _J , T _{stg}	-55 to +150	°C
Thermal Resistance	θ _{JA}	357	°C/W

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I _{GSSF}	V _{GS} =20V			100	nA
I _{GSSR}	V _{GS} =-20V			-100	nA
I _{DSS}	V _{DS} =60V, V _{GS} =0			1.0	μA
I _{DSS}	V _{DS} =60V, V _{GS} =0, T _A =125°C			500	μA
I _{D(ON)}	V _{DS} ≥ 2V _{DS(ON)} , V _{GS} =10V	500			mA
BV _{DSS}	I _D =10μA	60	105		V
V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0	2.1	2.5	V
V _{DS(ON)}	V _{GS} =10V, I _D =500mA			3.75	V
V _{DS(ON)}	V _{GS} =5.0V, I _D =50mA			0.375	V
r _{DS(ON)}	V _{GS} =10V, I _D =500mA		3.7	7.5	Ω

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$r_{DS(ON)}$	$V_{GS}=10V, I_D=500mA, T_A=100^\circ C$			13.5	Ω
$r_{DS(ON)}$	$V_{GS}=5.0V, I_D=50mA$		6.2	7.5	Ω
$r_{DS(ON)}$	$V_{GS}=5.0V, I_D=50mA, T_A=100^\circ C$			13.5	Ω
g_{FS}	$V_{DS} \geq 2V_{DS(ON)}, I_D=200mA$	80			mmhos
C_{rss}	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			5.0	pF
C_{iss}	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			50	pF
C_{oss}	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$			25	pF
t_{on}	$V_{DD}=30V, I_D=10V, R_G=25\Omega, R_L=25\Omega$			20	ns
t_{off}	$V_{DD}=30V, I_D=10V, R_G=25\Omega, R_L=25\Omega$			20	ns
V_{SD}	$V_{GS}=0V, I_S=11.5mA$			-1.5	V

All dimensions in inches (mm).



DATA SHEET

LEAD CODE:

- 1) GATE
- 2) SOURCE
- 3) DRAIN

R1