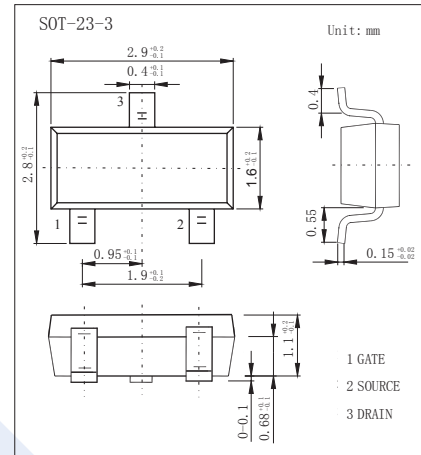
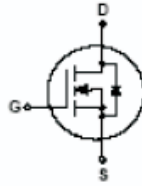


N-Channel Enhancement MOSFET

2N7002

■ Features

- High density cell design for low $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability

■ Absolute Maximum Ratings $T_a=25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-Source voltage	V_{DS}	60	V
Drain Current	I_D	115	mA
Power Dissipation	P_D	225	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to 150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	V_{DSS}	$V_{GS}=0\text{ V}, I_D=10\text{ }\mu\text{A}$	60			V
Zero gate voltage drain current	I_{BSS}	$V_{DS}=60\text{ V}, V_{GS}=0\text{ V}$			80	nA
Gate-body leakage	I_{GSS}	$V_{DS}=0\text{ V}, V_{GS}=\pm 25\text{ V}$			± 80	nA
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\text{ }\mu\text{A}$	1		2.5	V
Drain-source on-resistance	$r_{DS(on)}$	$V_{GS}=10\text{ V}, I_D=500\text{ mA}$			7.5	Ω
		$V_{GS}=5\text{ V}, I_D=50\text{ mA}$			7.5	
On-state drain current	$I_{D(on)}$	$V_{GS}=10\text{ V}, V_{DS}=7\text{ V}$	500			mA
Forward transconductance	g_{fs}	$V_{DS}=10\text{ V}, I_D=200\text{ mA}$	80			ms
Input capacitance	C_{iss}	$V_{DS}=25\text{ V}, V_{GS}=0\text{ V}, f=1\text{ MHz}$			50	pF
Output capacitance	C_{oss}				25	
Reverse transfer capacitance	C_{rss}				5	
Turn-on Time	$t_{d(on)}$	$V_{DD}=25\text{ V}, R_L=50\text{ }\Omega$ $I_D=500\text{ mA}, V_{GEN}=10\text{ V}$			20	ns
Turn-off Time	$t_{d(off)}$		$R_G=25\text{ }\Omega$			
Drain-source on-voltage	$V_{DS(on)}$	$V_{GS}=10\text{ V}, I_D=500\text{ mA}$			3.75	V
		$V_{GS}=5\text{ V}, I_D=50\text{ mA}$			0.375	V
Diode forward voltage	V_{SD}	$I_S=115\text{ mA}, V_{GS}=0\text{ V}$	0.55		1.2	V

■ Marking

Marking	702
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■ Typical Characteristics

