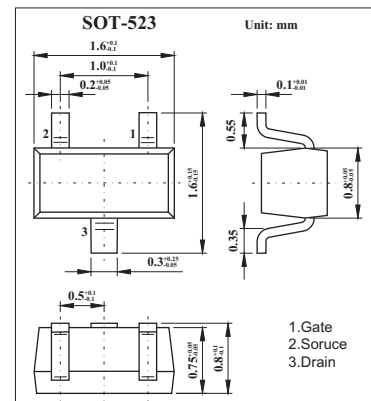
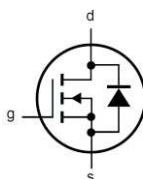


N-Channel Enhancement Mode MOSFET

2N7002T

Features

- Low On-Resistance
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- Ultra-Small Surface Mount Package

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

Parameter	Symbol	Rating	Unit
Drain-Source voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current - Continuous	I_D	115	mA
- Pulsed Note(1)		800	
Power dissipation @ $T_a = 25^\circ\text{C}$	P_D	0.15	W
Operating and storage junction temperature range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

Notes: 1. Pulse width limited by maximum junction temperature.

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

Parameter	Symbol	Test conditons	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{ V}, I_D=10\text{ }\mu\text{A}$	60			V
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\text{ }\mu\text{A}$	1	1.76	2	
Gate-body leakage	I_{GSS}	$V_{DS}=0\text{ V}, V_{GS}=\pm 20\text{ V}$			± 10	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS}=60\text{ V}, V_{GS}=0\text{ V}$ $T_c = 125^\circ\text{C}$			1 500	μA
On-state drain current	$I_{D(ON)}$	$V_{GS}=10\text{ V}, V_{DS}=7.5\text{ V}$	0.5			A
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS}=10\text{ V}, I_D=500\text{ mA}$ @ $T_J = 125^\circ\text{C}$			13.5	Ω
		$V_{GS}=5\text{ V}, I_D=50\text{ mA}$			7.5	
Forward tran conductance	g_{fs}	$V_{DS}=10\text{ V}, I_D=200\text{ mA}$	80			ms
Input capacitance	C_{iss}	$V_{DS}=25\text{ V}, V_{GS}=0\text{ V}, f=1\text{ MHz}$		22	50	pF
Output capacitance	C_{oss}			11	25	
Reverse transfer capacitance	C_{rss}			2	7	
Turn-on Time	$t_{d(on)}$	$V_{DD} = 30\text{ V}, R_L = 150\text{ }\Omega$		7.0	20	ns
Turn-off Time	$t_{d(off)}$	$I_D = 0.2\text{ A}, V_{GEN} = 10\text{ V}, R_G = 25\text{ }\Omega$		11	20	ns

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