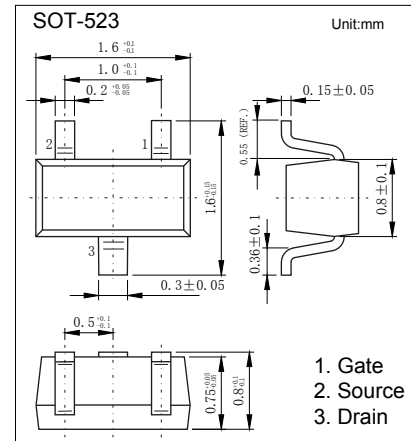


N-Channel MOSFET

2N7002TE

■ Features

- $V_{DS} (V) = 60V$
- $I_D = 0.29 A$
- $R_{DS(ON)} < 2 \Omega$ ($V_{GS} = 20V$)
- $R_{DS(ON)} < 7.5 \Omega$ ($V_{GS} = 5V$)



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	0.29	A
Pulsed Drain Current	I_{DM}	1.2	
Power Dissipation	P_D	150	mW
Thermal Resistance Junction- to-Ambient	R_{thJA}	833	$^\circ C/W$
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	$I_D = 250 \mu A, V_{GS} = 0V$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60V, V_{GS} = 0V$			1	μA
		$V_{DS} = 60V, V_{GS} = 0V, T_J = 125^\circ C$			500	
Gate-Body Leakage Current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 20V$			± 10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250 \mu A$	1		2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 20V, I_D = 500mA$			2	Ω
		$V_{GS} = 5V, I_D = 50mA$			7.5	
On-State Drain Current	$I_{D(on)}$	$V_{GS} = 10V, V_{DS} = 7.5V$		1.43		A
Forward Transconductance	g_{FS}	$V_{DS} = 10V, I_D = 0.2A$		356.5		mS
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V, f = 1MHz$		37.8	50	pF
Output Capacitance	C_{oss}			12.4	25	
Reverse Transfer Capacitance	C_{rss}			6.5	7	
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 30V, I_D = 0.2A, R_{GEN} = 25 \Omega, R_L = 150 \Omega$		5.85	20	ns
Turn-Off Delay Time	$t_{d(off)}$			12.5	20	
Diode Forward Voltage	V_{SD}	$I_S = 0.2A, V_{GS} = 0V$			1.2	V