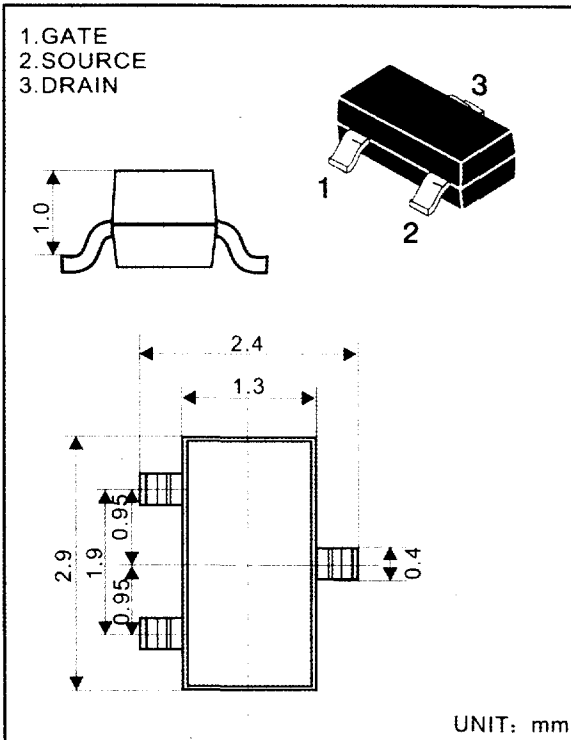


SOT-23 Plastic-Encapsulate Transistors

2N7002LT1 MOSFET(N-CHANNEL)



FEATURES

Power dissipation

P_D : 0.35 W ($T_{amb}=25^\circ\text{C}$)

Drain current

I_D : 250mA

Drain-source voltage

V_{DS} : 60V

Operating and storage junction temperature range

T_J, T_{stg} : -55°C to $+150^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=10\mu A$	60	70		V
Gate -Threshold Voltage	$V_{(BR)GS}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.5	2.5	
Gate -body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=15V$			10	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$			1	μA
		$V_{DS}=60V, V_{GS}=0V, T=125$			500	
On-state Drain Current	$I_{D(ON)}$	$V_{GS}=10V, V_{DS}=7.5V$	800	1300		mA
		$V_{GS}=4.5V, V_{DS}=10V$	500	700		
Drain-Source On-Resistance	$r_{DS(ON)}$	$V_{GS}=10V, I_D=250mA$		1.5	3	Ω
		$V_{GS}=4.5V, I_D=250mA$		2.0	4	
Forward Transconductance	g_{fs}	$V_{DS}=15V, I_D=200mA$		300		ms
	V_{SD}	$I_S=200mA, V_{GS}=0V$		0.85	1.2	V
Diode Forward Voltage	Q_G	$V_{DS}=30V, V_{GS}=10V$ $I_D=250mA$		0.6	1.0	nC
Total Gate Charge	Q_{GS}			0.06		
Gate -Drain Charge	Q_{gd}			0.006		
Input Capacitance	C_{ISS}	$V_{DS}=25V, V_{GS}=0V$ $f=1MHz$		25		pF
Output capacitance	C_{OSS}			6		
Reverse Transfer Capacitance	C_{RSS}			1.2		

SWITCHING

Turn-on Time	$t_d(on)$ t_r	$V_{DD}=30V, R_L=200$ $I_D=100mA, I_{GEN}=10V$ $R_G=10\Omega$	7.5	20	ns
			6		
Turn-off Time	$t_d(off)$ t_r	$V_{DD}=30V, R_L=200$ $I_D=100mA, I_{GEN}=10V$ $R_G=10\Omega$	7.5	20	ns
			3		