



SOT-323 Plastic-Encapsulated Transistors

2N7002W MOSFET (N-Channel)

FEATURES

Power dissipation

$$P_D: 0.2 \text{ W (Tamb=25}^\circ\text{C)}$$

Collector current

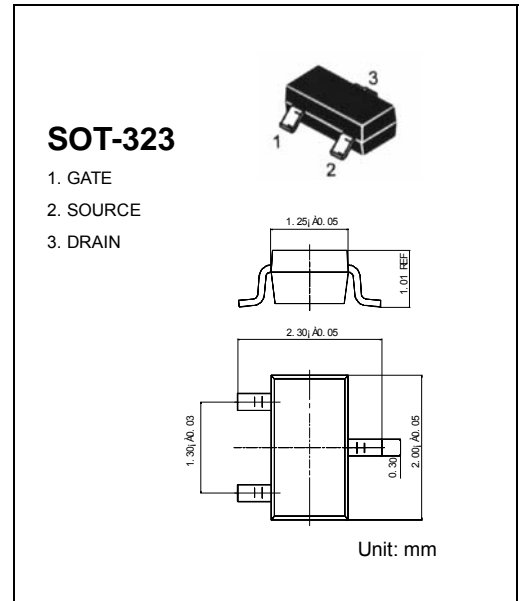
$$I_D: 115 \text{ mA}$$

Collector-base voltage

$$V_{DS}: 60 \text{ V}$$

Operating and storage junction temperature range

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



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage *	$V_{(BR)DSS}$	$V_{GS}=0 \text{ V}, I_D=10 \mu\text{A}$	60	70		V
Gate-Threshold Voltage*	$V_{th(GS)}$	$V_{DS}=V_{GS}, I_D=250 \mu\text{A}$	1	1.5	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}	$V_{DS}=60 \text{ V}, V_{GS}=0 \text{ V}$			1	μA
		$V_{DS}=60 \text{ V}, V_{GS}=0 \text{ V}, T_j=125$			500	
On-state Drain Current *	$I_{D(ON)}$	$V_{GS}=10 \text{ V}, V_{DS}=7.5 \text{ V}$	500	1000		mA
Drain-Source On-Resistance *	$r_{DS(on)}$	$V_{GS}=5 \text{ V}, I_D=50 \text{ mA}$		3.2	7.5	Ω
		$V_{GS}=10 \text{ V}, I_D=500 \text{ mA}$		4.4	13.5	
Forward Transconductance *	g_{FS}	$V_{DS}=10 \text{ V}, I_D=200 \text{ mA}$	80			ms
Input Capacitance	C_{iss}	$V_{DS}=25 \text{ V}, V_{GS}=0 \text{ V}$ $f=1 \text{ MHz}$		22	50	pF
Output Capacitance	C_{oss}			11	25	
Reverse Transfer Capacitance	C_{rss}			2	5	

SWITCHING

Turn-on Time	$t_{d(on)}$	$V_{DD}=30 \text{ V}, R_L=150 \Omega$ $I_D=200 \text{ mA}, V_{GEN}=10 \text{ V}$ $R_G=25 \Omega$		7	20	ns
Turn-off Time	$t_{d(off)}$			11	20	

* Pulse test , pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$.

Marking: K72