2N7002T MOSFET (N-Channel)

SOT-523



1. GATE
2. SOURCE
3. DRAIN

FEATURES

Power dissipation

$P_{D:}$ 0.15 W (Tamb=25℃)

Collector current

$I_{D:}$ 115 mA

Collector-base voltage

V_{DS}: 60 V

Operating and storage junction temperature range

$T_{J,}T_{stg:}$ -55℃ to +150℃

Marking: 72

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage *	$V_{(BR)DSS}$	V_{GS}=0V,I_D=10μA	60			V
Gate-Threshold Voltage*	$V_{th(GS)}$	V_{DS}=V_{GS}, I_D=250μA	1		2	
Gate-body Leakage*	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±10	nA
Zero Gate Voltage Drain Current *	I_{DSS}	V_{DS}=60V, V_{GS}=0V			1	μA
		V_{DS}=60V,V_{GS}=0V,T_j=125℃			500	
On-state Drain Current *	$I_{D(ON)}$	V_{GS}=10V, V_{DS}=7.5V	500	1000		mA
Drain-Source On-Resistance *	$R_{DS(0n)}$	V_{GS}=5V, I_D=50mA		3.2	7.5	Ω
		V_{GS}=10V, I_D=500mA		4.4	13.5	
Forward Tran conductance *	g_{FS}	V_{DS}=10V, I_D=200mA	80			ms
Input Capacitance	C_{iSS}	V_{DS}=25V, V_{GS}=0V		22	50	pF
Output Capacitance	C_{OSS}			11	25	
Reverse Transfer Capacitance	C_{rSS}	f=1MHz		2	5	

SWITCHING

Turn-on Time	$T_{D(ON)}$	V_{DD}=30V,R_L=150 I_D=200mA,V_{GEN}=10V R_{GEN}=25Ω		7	20	ns
Turn-off Time	$T_{D(OFF)}$			11	20	

* Pulse test.

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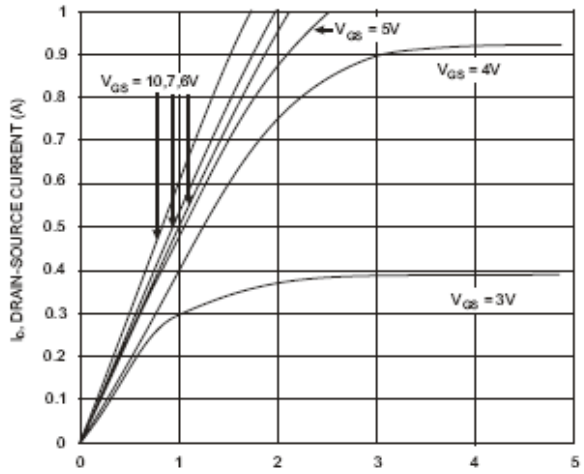


Fig. 1 On-Region Characteristics

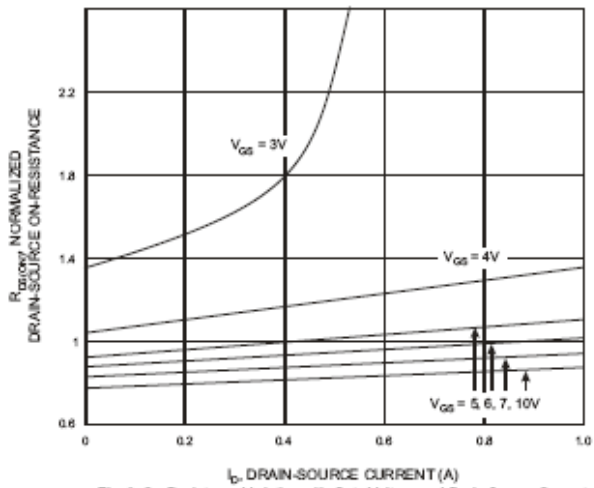


Fig. 2 On-Resistance Variation with Gate Voltage and Drain-Source Current

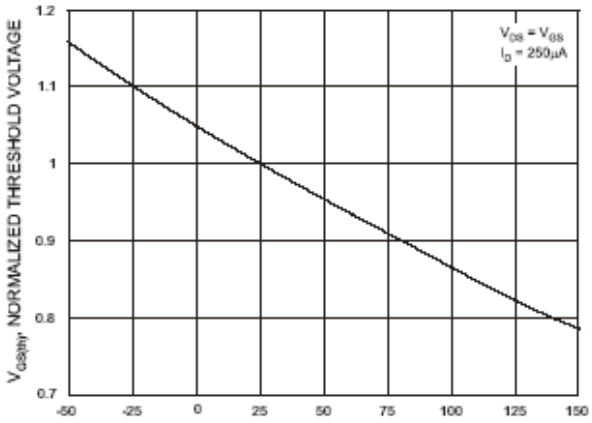


Fig. 3 Gate Threshold Variation with Temperature

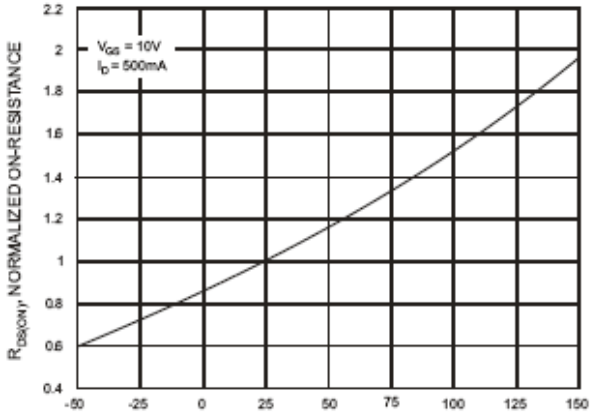


Fig. 4 On-Resistance Variation with Temperature

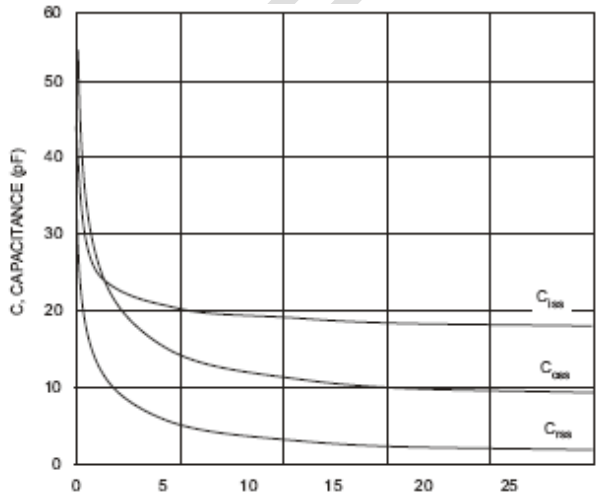


Fig. 5 Typical Capacitance

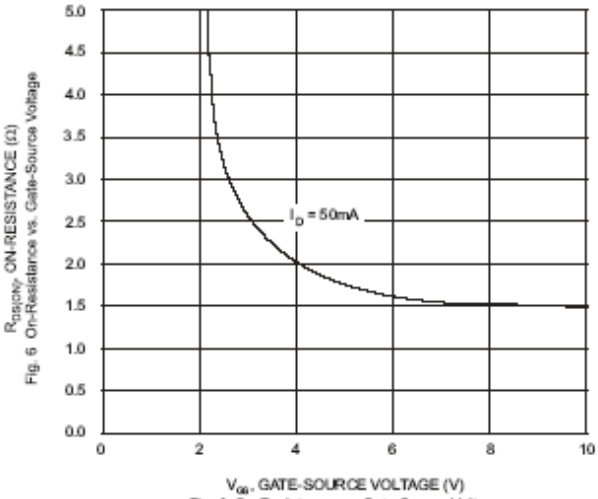


Fig. 6 On-Resistance vs. Gate-Source Voltage