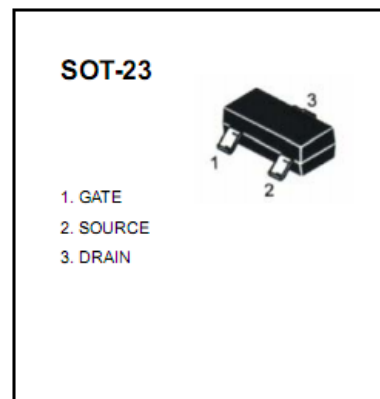
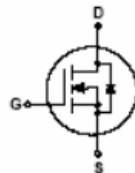


SOT-23 Plastic-Encapsulate Transistors

2N7002K MOSFET(N-Channel)

FEATURES

High density cell design for low $R_{DS(ON)}$
Voltage controlled small signal switch
Rugged and reliable
ESD Rating: HBM 2300V
High saturation current capability



MARKING:7002K

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

Symbol (符号)	Parameter (参数名称)	Value (额定值)	Units (单位)
V _{DS}	Drain-Source voltage	60	V
I _D	Drain current	300	mA
P _D	Power Dissipation	225	mW
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250uA	60			V
Gate-Threshold Voltage	V _{th(GS)}	V _{DS} = V _{GS} , I _D =250 uA	1	1.7	2.5	V
Gate-body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =±10V			±500	nA
		V _{DS} =0V, V _{GS} =±20V			±10	uA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1	uA
Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =500mA		1	2	Ω
		V _{GS} =5V, I _D =400mA		1.3	3	Ω
Forward Trans conductance	g _{fs}	V _{DS} =10V, I _D =200mA	0.1			S
Diode Forward Voltage	V _{SD}	I _S =200mA, V _{GS} =0V			1.2	V
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz			50	pF
Output Capacitance	C _{oss}				25	
Reverse Transfer Capacitance	C _{rss}				5	

SWITCHING TIME

Turn-On Time	t _{d(on)}	V _{DD} =30V, V _{GS} =10V I _D =200mA, R _{GEN} =10Ω,		10		ns
Turn-On Rise Time	t _r			50		ns
Turn-Off Time	t _{d(off)}			17		ns
Turn-Off Fall Time	t _f			10		ns

Typical Characteristics

2N7002K

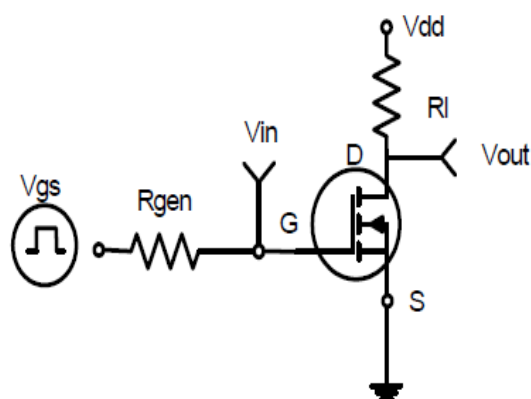


Figure 1: Switching Test Circuit

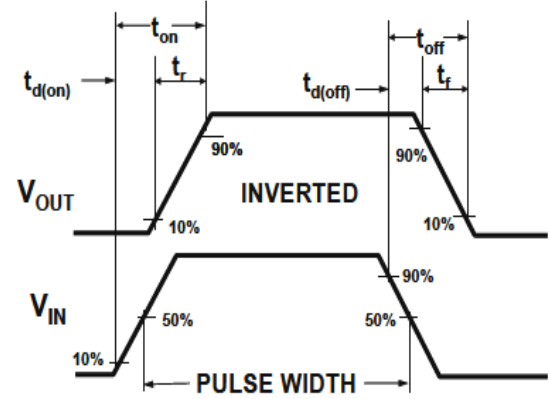


Figure 2: Switching Waveforms

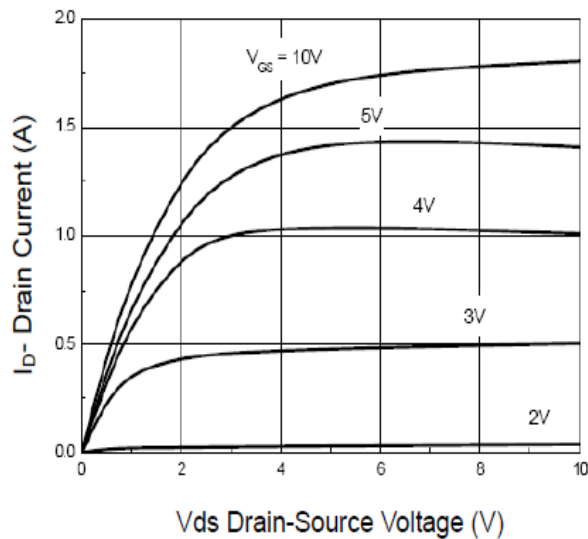


Figure 3 Output Characteristics

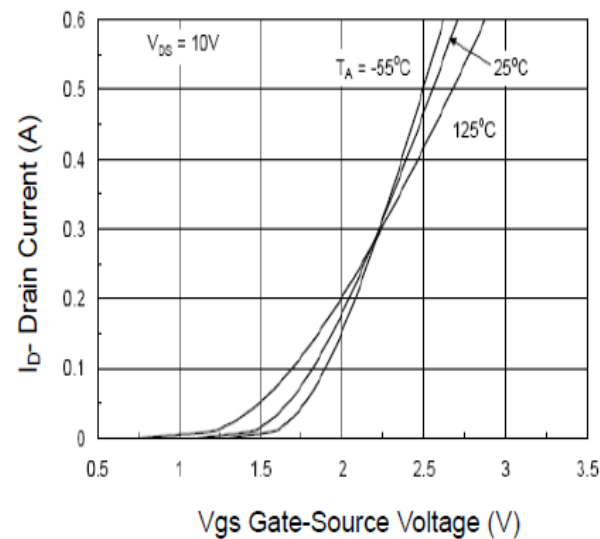


Figure 4 Transfer Characteristics