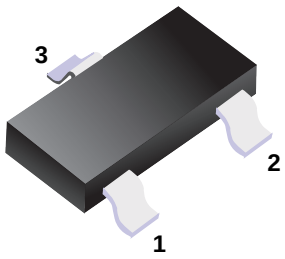
YFW 佑风微

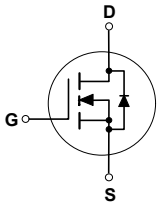
2N7002

N-Channel Enhancement MOSFET



1.GATE
2.SOURCE
3.DRAIN

Simplified outline(SOT-23)



Features

- High density cell design for low $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability

Absolute Maximum Ratings Ta=25℃

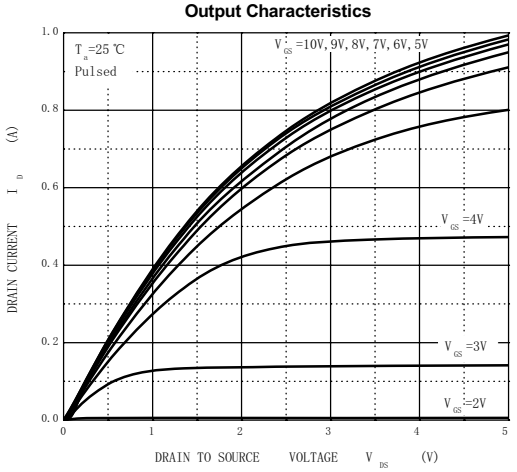
Parameter	Symbol	Rating	Unit
Drain-Source voltage	V_{DS}	60	V
Drain Current	I_D	115	mA
Power Dissipation	P_D	225	mW
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 to 150	℃

Electrical Characteristics Ta = 25℃

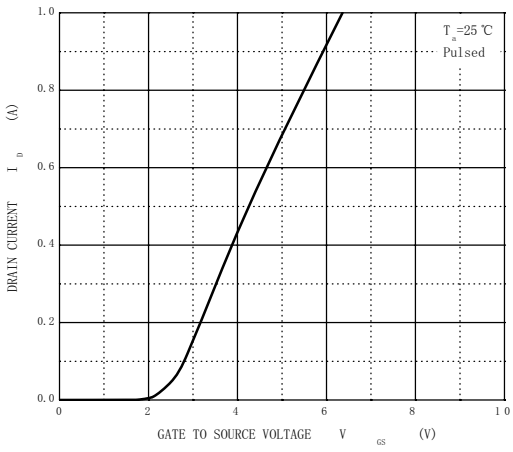
Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	V_{DSS}	V_{GS}=0 V, I_D=10 0 μA	60			V
Zero gate voltage drain current	I_{DSS}	V_{DS}=60 V, V_{GS}=0 V			80	nA
Gate-body leakage	I_{GSS}	V_{DS}=0 V, V_{GS}=±25 V			±80	nA
Gate-threshold voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250 μA	1		2.5	V
Drain-source on-resistance	$r_{DS(0n)}$	V_{GS}=10 V, I_D=500 mA			7.5	Ω
		V_{GS}=5 V, I_D=50 mA			7.5	
On-state drain current	$I_{D(on)}$	V_{GS}=10 V, V_{DS}=7 V	500			mA
Forward tran conductance	g_{ts}	V_{DS}=10 V, I_D=200 mA	80			ms
Input capacitance	C_{iss}	V_{DS}=25 V, V_{GS}=0 V, f=1 MHz			50	pF
Output capacitance	C_{OSS}				25	
Reverse transfer capacitance	C_{rSS}				5	
Turn-on Time	$t_{d(0n)}$	V_{DD}=25 V, R_L=50 Ω I_D=500 mA,V_{GEN}=10 V R_G=25 Ω			20	ns
Turn-off Time	$t_{d(off)}$				40	
Drain-source on-voltage	$V_{DS(on)}$	V_{GS}=10V, I_D =500mA			3.75	V
		V_{GS}=5V, I_D =50mA			0.375	V
Diode forward voltage	V_{SD}	I_S=115 mA, V_{GS}=0 V	0.55		1.2	V

■ Typical Characterisitics

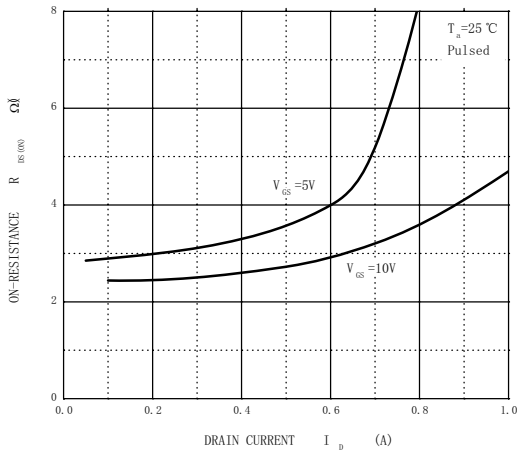
Output Characteristics



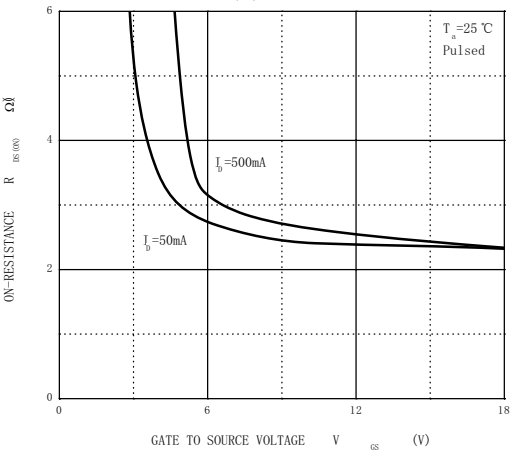
Transfer Characteristics



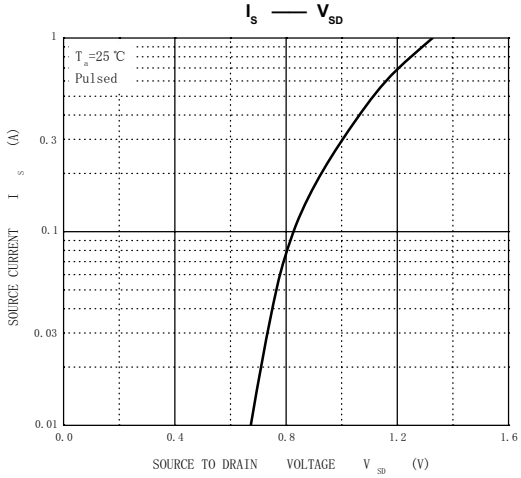
$R_{DS(ON)}$ — I_D



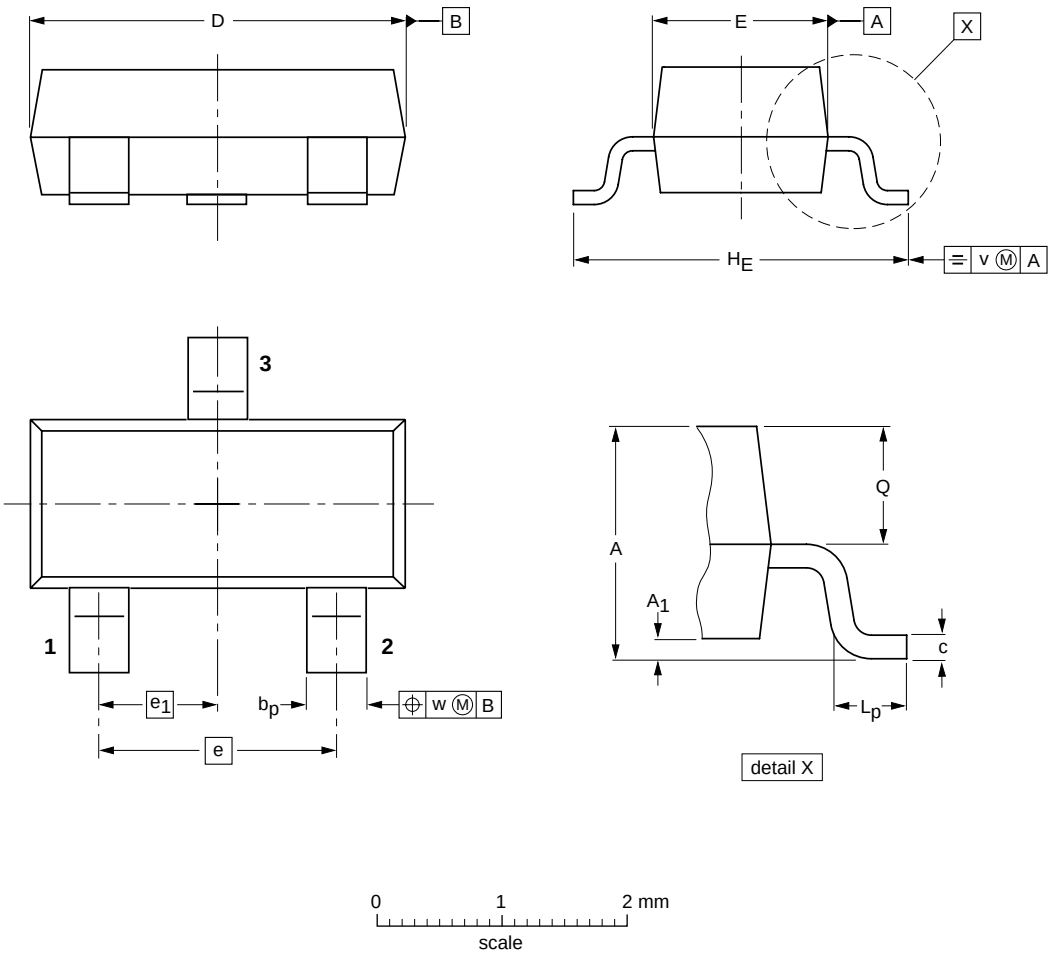
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max.	b_p	c	D	E	e	e_1	H_E	L_p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1