

60V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

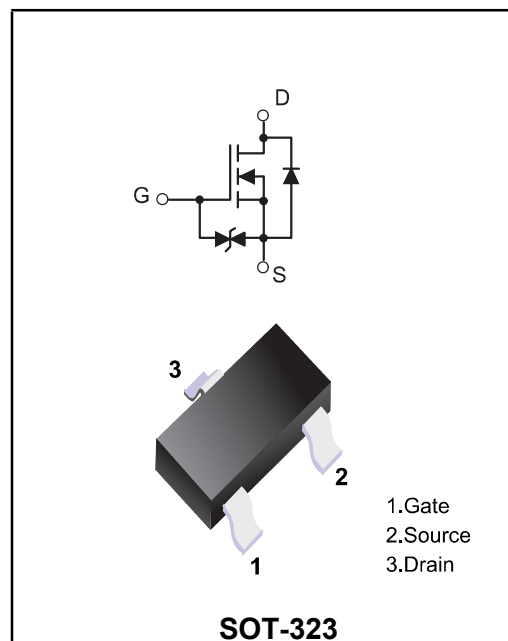
I_D	340mA
V_{DS}	60V
$R_{DS(on)-typ}(@V_{GS}=10V)$	$<2.7\Omega$ (Typ:0.9 Ω)
$R_{DS(on)-typ}(@V_{GS}=4.5V)$	$<3.0\Omega$ (Typ:1.1 Ω)

FEATURES

- High density cell design for low RDS(ON)
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- Load Switch for Portable Devices
- DC/DC Converter
- ESD protected

MECHANICAL DATA

- Case: SOT-323
- Epoxy UL:94V-0
- Mounting Position: Any



Marking Code

2N7002KW

72K

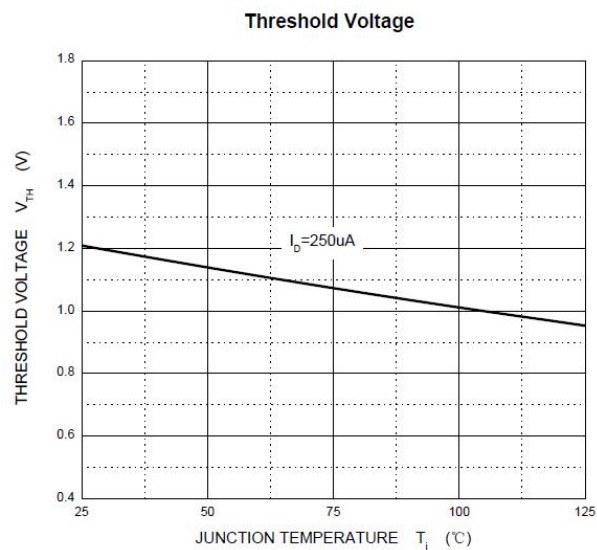
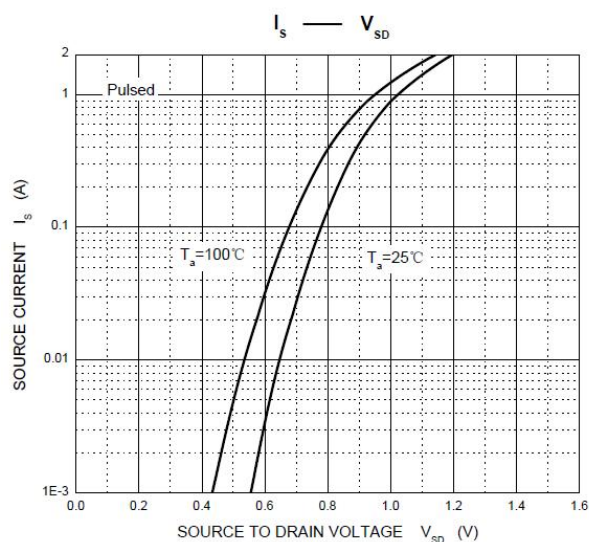
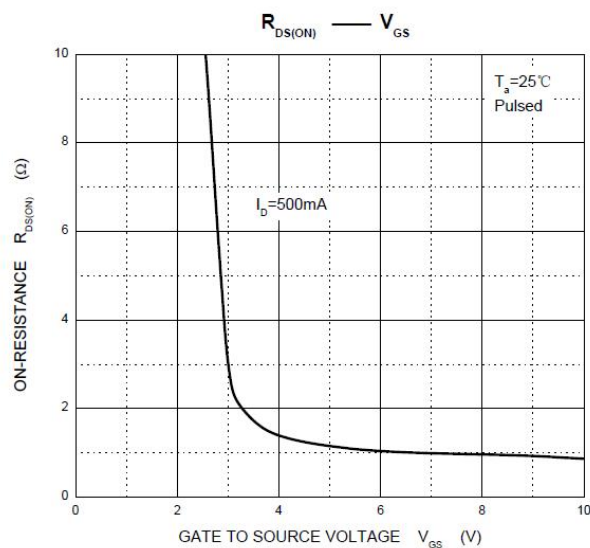
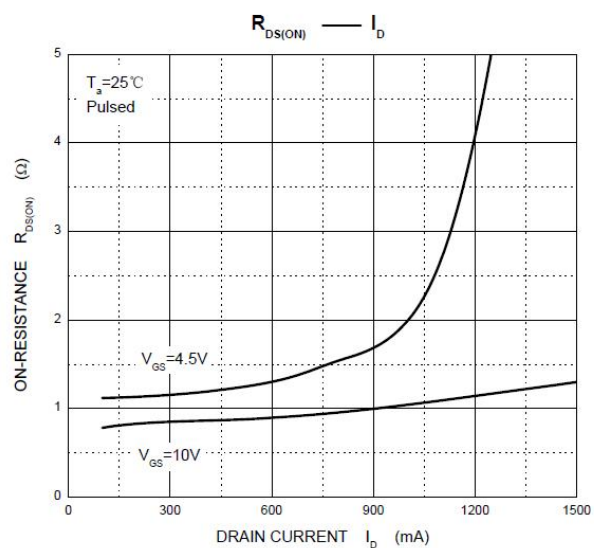
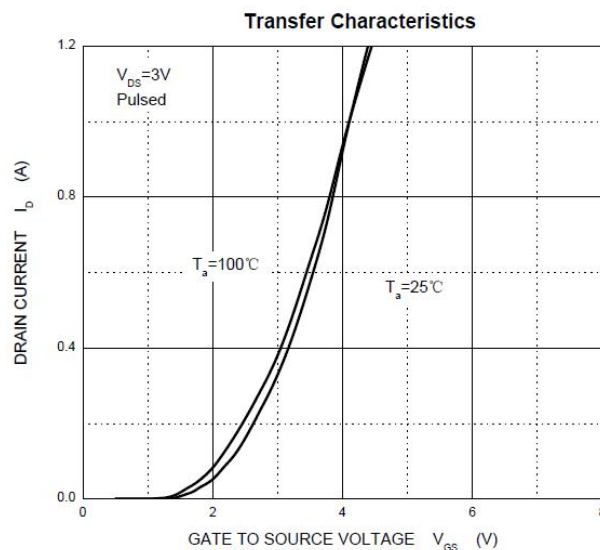
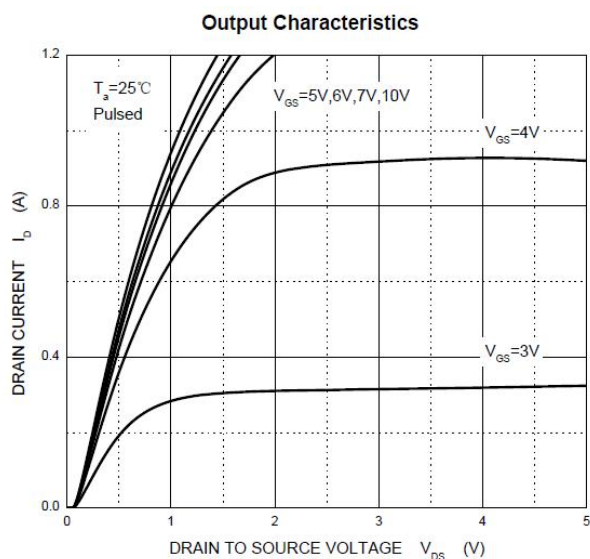
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	60	V
Gate - Source Voltage	V_{GS}	± 20	V
Continuous drain current	I_D	340	mA
Power Dissipation	P_D	200	mW
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-50 to +150	°C
Thermal Resistance, Junction--Ambient	$R_{\theta JA}$	625	°C/W

Electrical Characteristics (T_J=25°C,unless otherwise noted)

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	BV_{DSS}	60	-	-	V
Gate-Source Threshold Voltage*	V _{DS} =V _{GS} , I _D =1mA	V_{GS(th)}	1	1.3	2.5	V
Gate-body Leakage	V _{DS} = 0 V, V _{GS} = ± 20 V	I_{GSS}	-	-	±10	μA
Drain-Source Leakage Current	V _{DS} =60V, V _{GS} =0V	I_{DSS}	-	-	1	μA
Drain-source on-state resistance	V _{GS} =10V, I _D =500mA	R_{DS(ON)}	-	0.9	2.7	Ω
	V _{GS} =4.5V, I _D =200mA		-	1.1	3.0	
Drain-Source Diode Forward Voltage	V _{GS} =0V, I _S =300mA	V_{SD}	-	-	1.5	V
Maximun Body-Diode Continuous Current		I_S	-	-	200	mA
Total Gate Charge	V _{GS} =10V V _{DS} =30V I _D =0.3A	Q_g	-	0.18	-	nC
Gate-Source Charge		Q_{gs}	-	1.22	2.4	
Gate-Drain Charge		Q_{gd}	-	0.5	-	
Input Capacitance**	V _{DS} =30V V _{GS} =0V f =1MHz	C_{iss}	-	21	-	pF
Output Capacitance**		C_{oss}	-	9	-	
Reverse Transfer Capacitance**		C_{rss}	-	4	-	
Turn-on delay time	V _{GS} =10V V _{DD} =30V I _D =300mA R _{GEN} =5Ω	t_{d(on)}	-	7	-	ns
Rise Time		T_r	-	19	-	
Turn-Off Delay Time		t_{d(OFF)}	-	20	-	
Fall Time		t_f	-	84	-	

Typical Characteristics



Ordering information

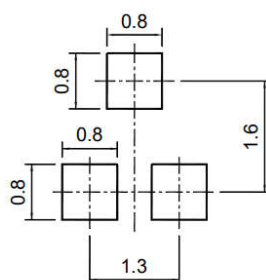
Package	Packing Description	Base Quantity	Packing Quantity
SOT-323	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-323

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	0.1		4	
bp	0.3	0.4	12	16
C	0.10	0.25	4	10
D	1.8	2.2	71	87
E	1.15	1.35	45	53
e	1.3		51	
e1	0.65		26	
HE	2.0	2.2	79	87
Lp	0.15	0.45	6	18
Q	0.13	0.23	5.1	9
v	0.2		8	
W	0.2		8	

The recommended mounting pad size



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