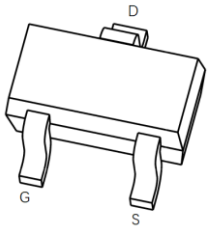
2N7002KT

60V N-Channel MOSFET

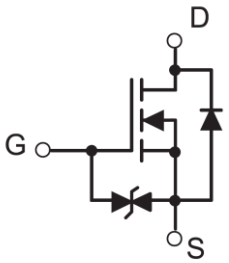
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	0.9Ω@10V	340mA
	1.1Ω@5V	

SOT-523



Schematic diagram



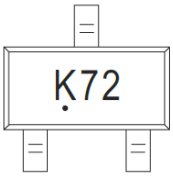
Feature

- High density cell design for Low $R_{DS(on)}$
- Voltage controlled small signal switch
- Rugged and reliable
- ESD protected Gate HBM 2.5KV

Application

- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

MARKING:



K72 = Device code

Soild Dot = Green device,otherwise,the normal device

ABSOLUTE MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
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	0.225	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	556	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS(Ta=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250μA	60			V
Zero gate voltage drain current	I_{DSS}	V_{DS} = 48V, V_{GS} = 0V			1	uA
Gate-body leakage current	I_{GSS1}	V_{GS} = ±20V, V_{DS} = 0V			±10	μA
	I_{GSS2}	V_{GS} = ±10V, V_{DS} = 0V			±200	nA
	I_{GSS3}	V_{GS} = ±5V, V_{DS} = 0V			±100	nA
Gate threshold voltage*	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	1	1.6	2.5	V
Drain-source on-resistance*	$R_{DS(on)}$	V_{GS} = 10V, I_D = 500mA		0.9	2.5	Ω
		V_{GS} = 4.5V, I_D = 200mA		1.1	3	
Recovered charge	Q_r	V_{GS} = 0V, I_S = 300mA, V_R = 25V, dIs/dt = -100A/μS		30		nC
Dynamic characteristics**						
Input Capacitance	C_{iss}	V_{DS} = 10V,V_{GS} = 0V,f = 1MHz			40	pF
Output Capacitance	C_{oss}				30	
Reverse Transfer Capacitance	C_{rss}				10	
Switching Characteristics**						
Turn-on delay time	$t_{d(on)}$	V_{GS} = 10V, V_{DD} = 50V, R_G = 50Ω			10	ns
Turn-off delay time	$t_{d(off)}$	R_{GS} = 50Ω,R_L = 250Ω			15	
Reverse recovery Time	t_{rr}	V_{GS} = 0V,I_S = 300mA,V_R = 25V, dIs/dt = -100A/μS		30		
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	V_{GS} = 0V, I_S = 300mA			1.5	V
GATE-SOURCE ZENER DIODE						
Gate-Source Breakdown Voltage	BV_{GSO}	I_{GS} = ±1mA(Open Drain)	±21.5		±30	V

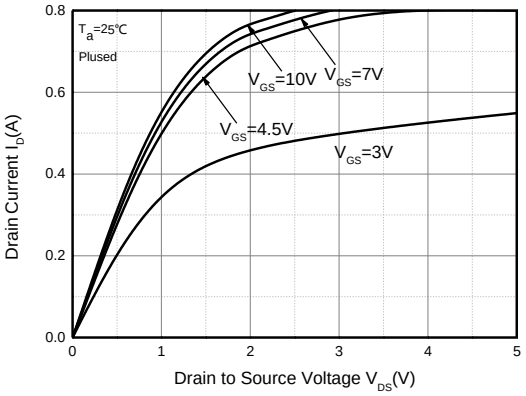
Notes:

*Pulse Test: Pulse Width ≤300μs，Duty Cycle ≤2%.

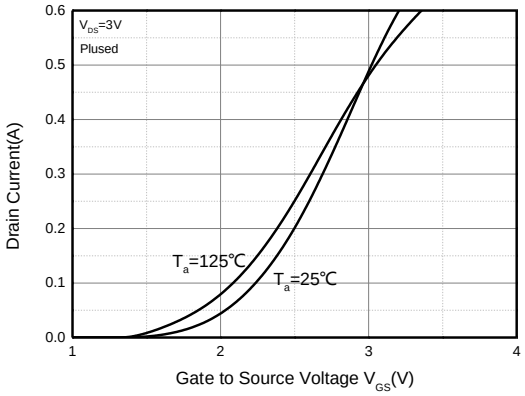
**These parameters have no way to verfy.

Typical Characteristics

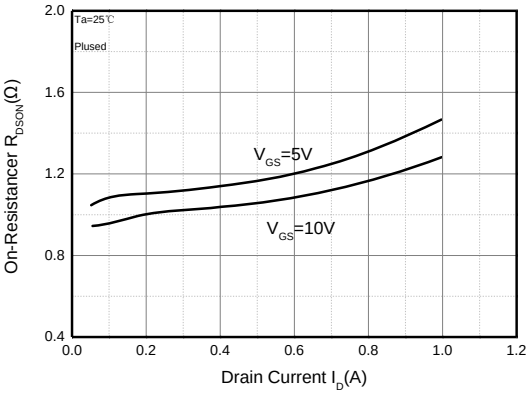
Output Characteristics



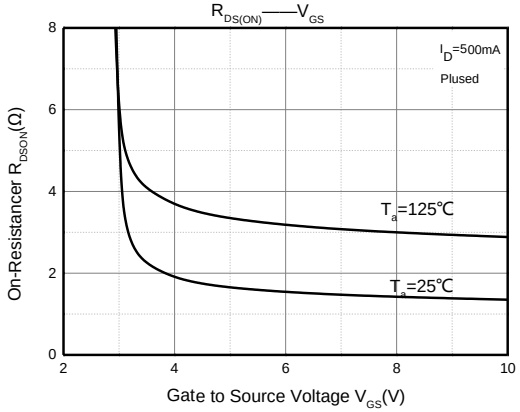
Transfer Characteristics



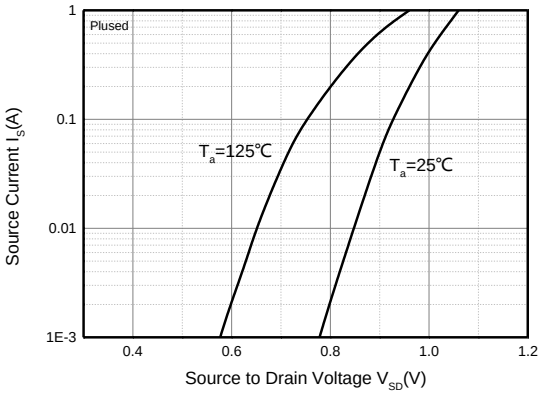
RDS(ON)——ID



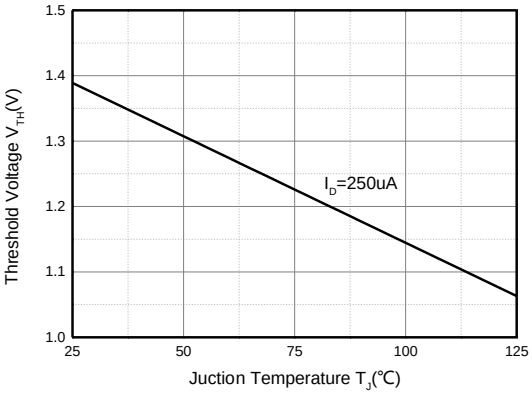
RDS(ON)——VGS



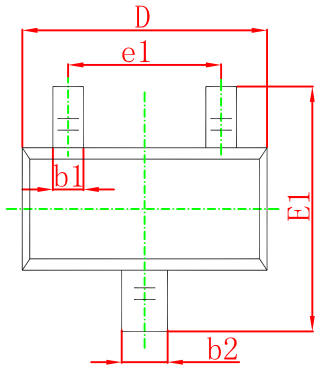
IS——VSD

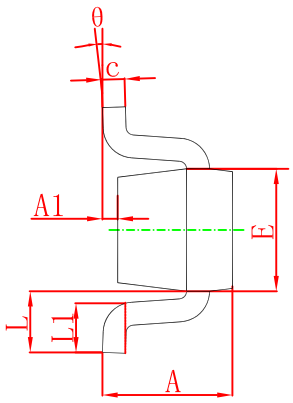


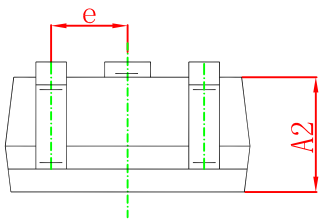
Threshold Voltage



SOT-523 Package Information







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

单击下面可查看定价，库存，交付和生命周期等信息

>>GP(格瑞宝)