Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	1.1Ω@10V	300mA
	1.4Ω@4.5V	

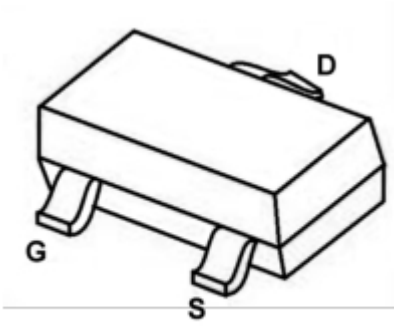
Feature

- High density cell design for Low $R_{DS(on)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD protected Gate HBM 2KV

Application

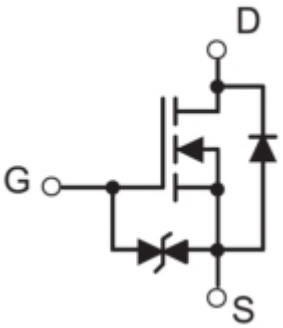
- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

Package

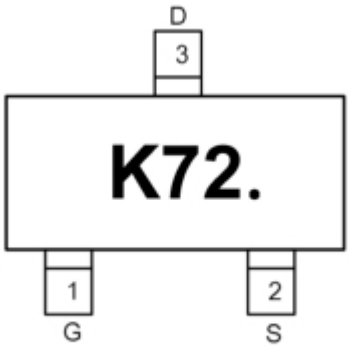


SOT-523

Circuit diagram



Marking



K72. =Device Code

Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

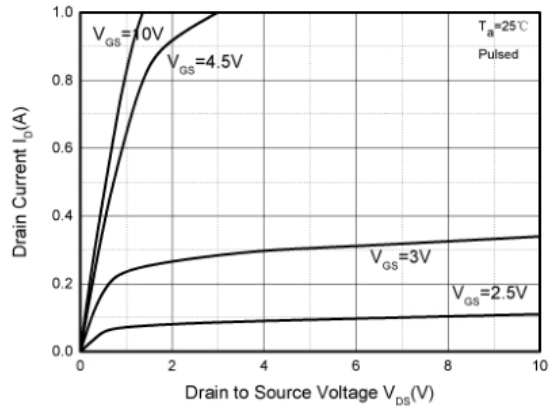
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	300	mA
Power Dissipation	P_D	0.15	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	830	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

Electrical characteristics

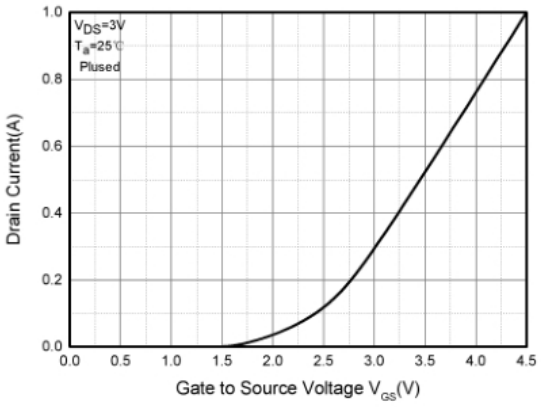
(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	60			V
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1	1.5	2.5	V
Gate-body leakage current	I_{GSS}	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 =200mA		1.1	3	Ω
		V_{GS} =4.5V, I_D =200mA		1.4	4	
Dynamic characteristics						
Total Gate Charge	Q_g	V_{DS}=10V, V_{GS}=4.5V, I_D=250mA		0.3		nC
Gate-Source Charge	Q_{gs}			0.2		
Gate-Drain Charge	Q_{gd}			0.08		
Input Capacitance	C_{iss}	V_{DS}=25V, V_{GS}=0V, f=1MHz		30	50	pF
Output Capacitance	C_{oss}			4.2	25	
Reverse Transfer Capacitance	C_{rss}			2.9	5	
Switching Characteristics						
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=30V,I_D=200mA, V_{GEN}=10V, R_G =25Ω		3.9		ns
Turn-On Rise Time	t_R			3.4		
Turn-Off Delay Time	$t_{d(off)}$			15.7		
Turn-Off Fall Time	t_F			9.9		
Source-Drain Diode Characteristics						
Diode Forward voltage	V_{SD}	V_{GS} =0V, I_S=200mA		0.82	1.3	V

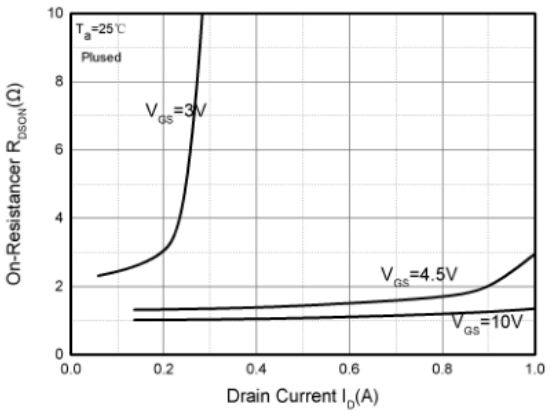
Typical Characteristics



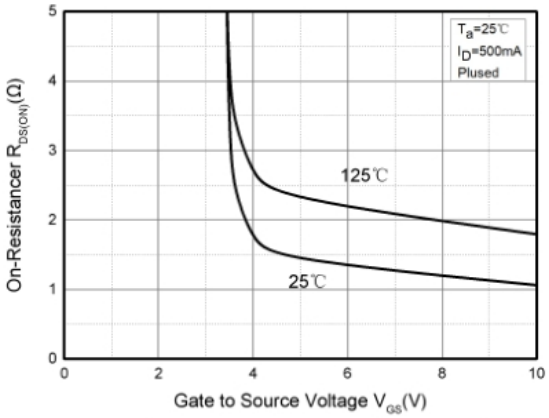
Output Characteristics



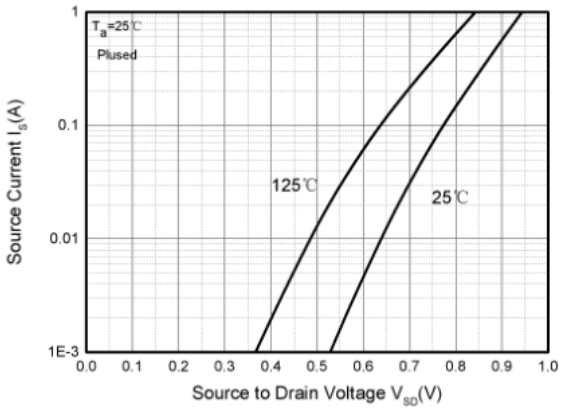
Transfer Characteristics



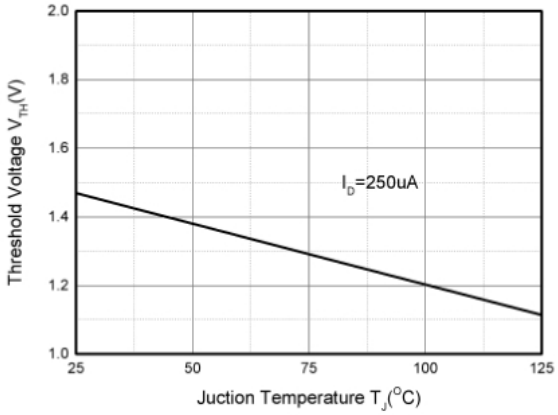
On-Resistance vs. Drain current



On-Resistance vs. Gate to Source Voltage

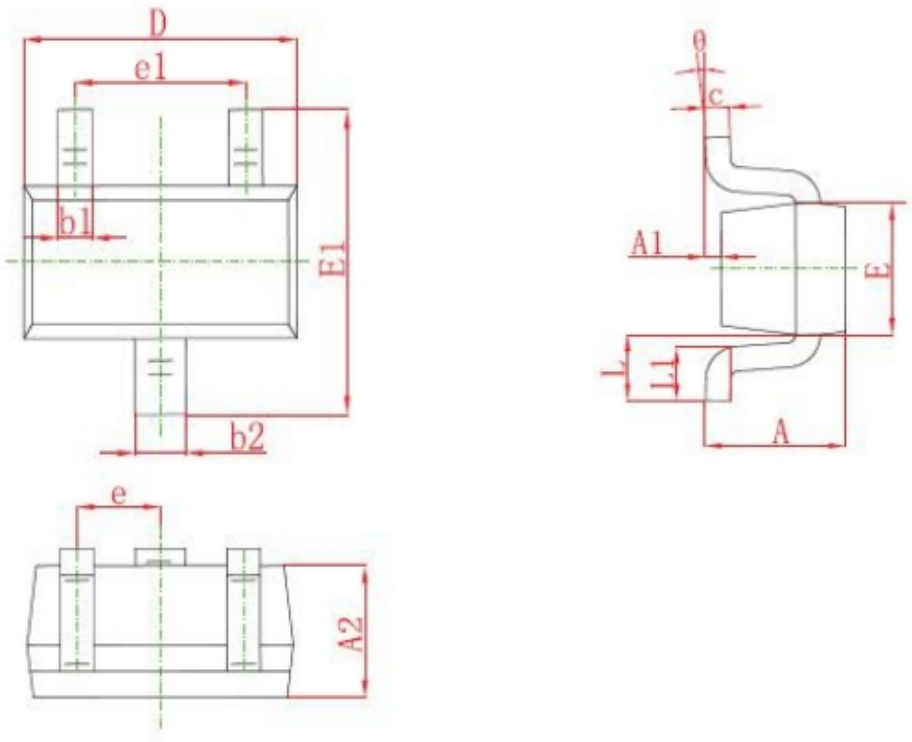


Source Current vs. Source to Drain Voltage



Threshold voltage vs. Junction temperature

SOT-523 Package Information



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
θ	0°	8°