

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	$3\Omega@10V$	0.115A
	$4\Omega@4.5V$	

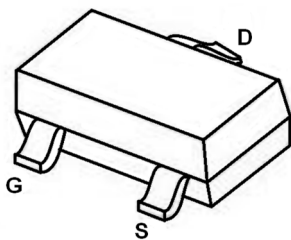
Feature

- High density cell design for ultra low on-resistance
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD protected Gate HBM 2KV

Application

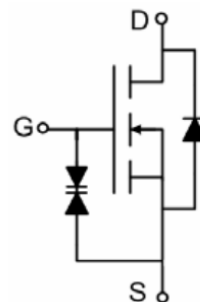
- Load Switch for Portable Devices
- DC/DC Converter
- Battery Switch

Package

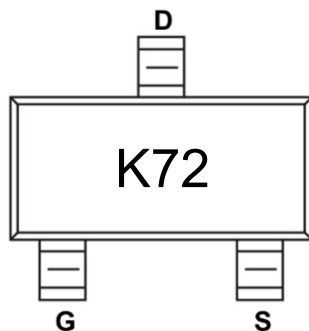


SOT-523

Circuit diagram



Marking



Absolute maximum ratings (Ta=25°C 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	0.115	A
Power Dissipation	P _D	0.15	W
Thermal Resistance from Junction to Ambient	R _{θJA}	833	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

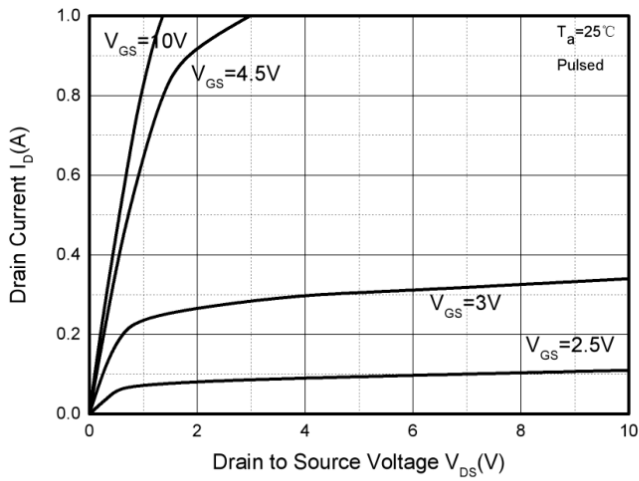
Electrical characteristics (T_A=25 °C, unless otherwise noted)

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
Zero gate voltage drain current	I _{DSS}	V _{DS} = 60V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±10	μA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.0		2.5	V
Drain-source on-resistance ¹⁾	R _{DS(on)}	V _{GS} = 10V, I _D = 0.5A			3	Ω
		V _{GS} = 4.5V, I _D = 0.2A			4	
Dynamic characteristics²⁾						
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		
Total Gate Charge	Q _g	V _{DS} = 10V, V _{GS} = 4.5V, I _D = 0.25A		0.3		nC
Gate-Source Charge	Q _{gs}		0.2			
Gate-Drain Charge	Q _{gd}		0.08			
Turn-on delay time	t _{d(on)}	V _{DD} = 30V, V _{GS} = 10V, I _D = 0.2A R _{GEN} = 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 _{DS}	V _{GS} = 0V, I _S = 0.2A			1.3	V

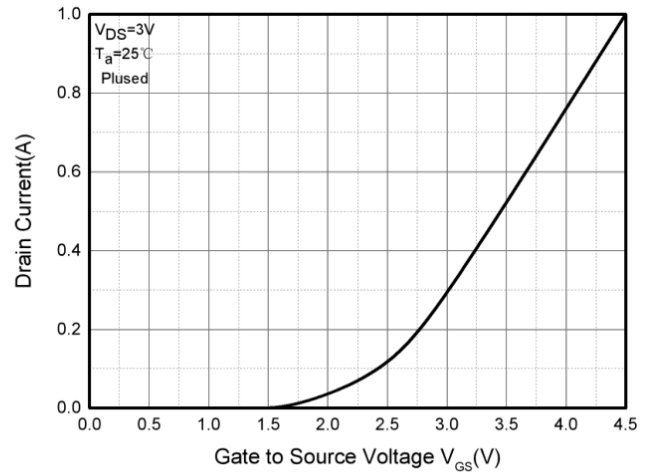
Notes:

- 1) Pulse Test: Pulse Width < 300μs, Duty Cycle ≤ 2%.
- 2) Guaranteed by design, not subject to production testing.

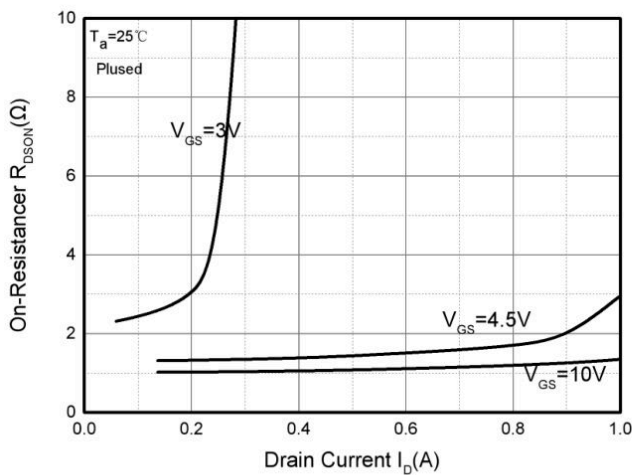
Typical Characteristics



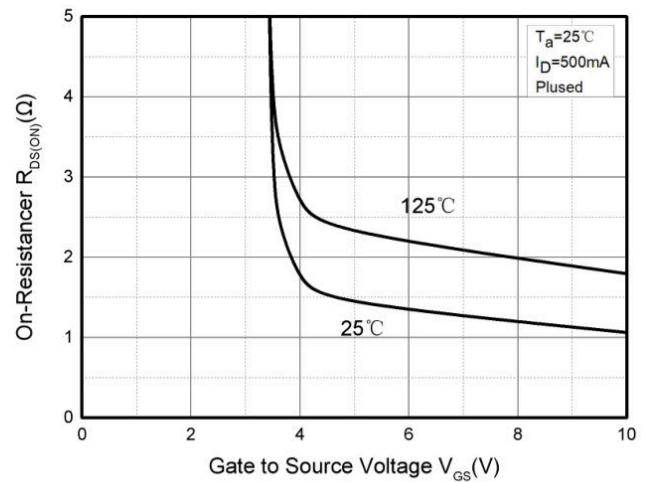
Output Characteristics



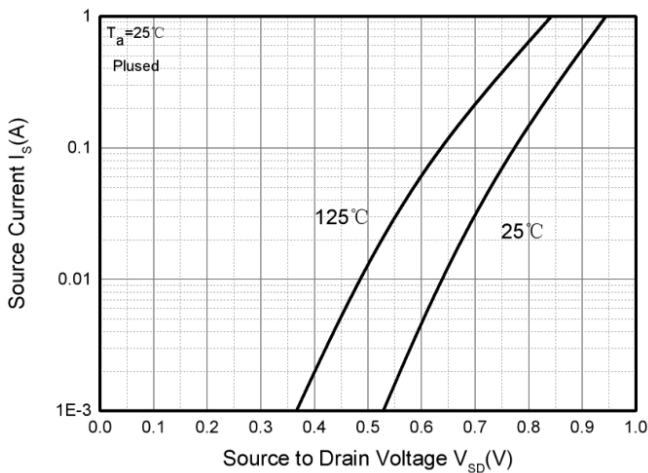
Transfer Characteristics



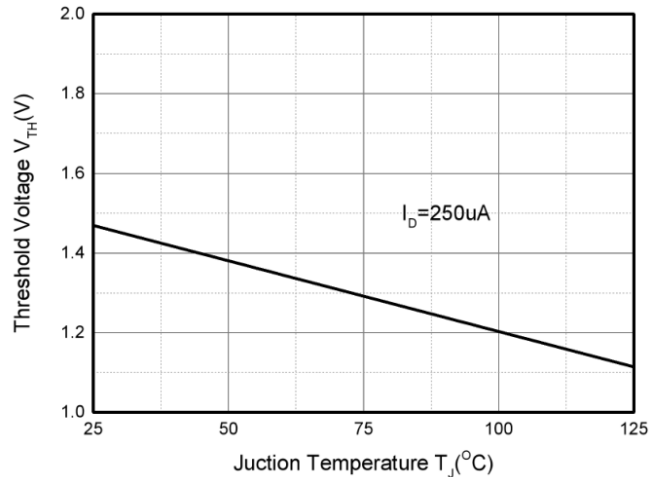
On-Resistance vs. Drain current



On-Resistance vs. Gate to Source Voltage

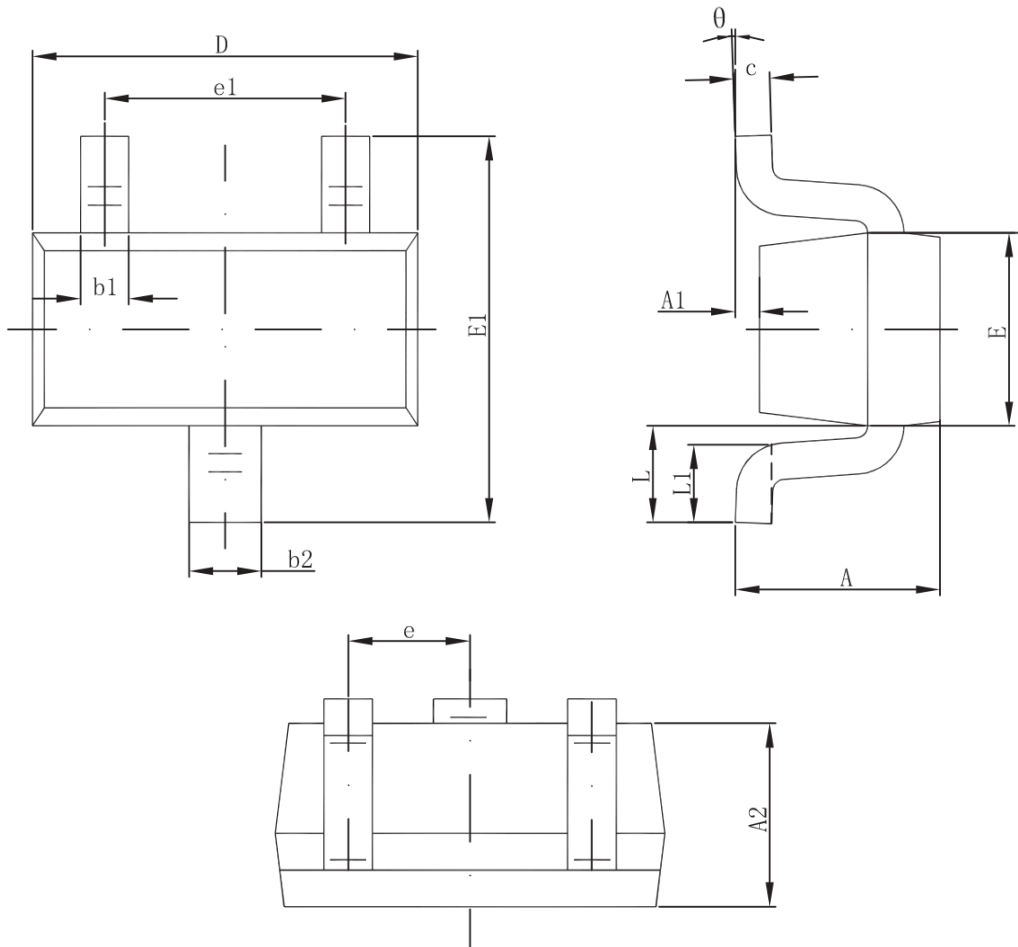


Source Current vs. Source to Drain Voltage



Threshold voltage vs. Junction temperature

SOT-523 Package Information



Symbol	Dimensions In Millimeters		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°