LIXI | Leading Circuit Protection Products and Solutions

MOSFET (N-Channel)

| V$_{(BR)DSS}$	R$_{DS(on)}$MAX	I$_D$
60V	5Ω@10V	115mA
	7Ω@5V	

FEATURE

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

APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

Marking : K72

Package
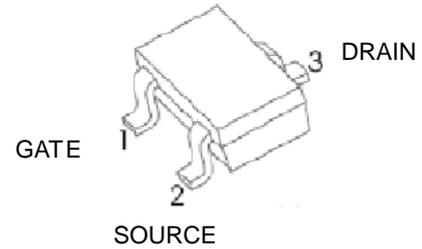
SOT-523
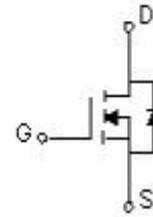
MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V$_{DS}$	60	V
Gate-Source Voltage	V$_{GS}$	20	V
Continuous Drain Current	I$_D$	0.115	A
Power Dissipation	P$_D$	0.200	W
Thermal Resistance from Junction to Ambient	R$_{θJA}$	625	℃/W
Junction Temperature	T$_J$	150	℃
Storage Temperature	T$_{stg}$	-50 ~+150	

MOSFET ELECTRICAL CHARACTERISTICS

Ta=25 ℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0$ V, $I_D=250$ μA	60			V
Gate-Threshold Voltage	$V_{(GS)th}$	$V_{DS}=V_{GS}$, $I_D=250$ μA	1	1.6	2.5	
Gate-body Leakage	I_{GSS}	$V_{DS}=0$ V, $V_{GS}=\pm20$ V			±80	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60$ V, $V_{GS}=0$ V			80	nA
On-state Drain Current	$I_{D(on)}$	$V_{GS}=10$ V, $V_{DS}=7$ V	500			mA
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10$ V, $I_D=500$mA			5	Ω
		$V_{GS}=5$ V, $I_D=50$mA			7	
Forward Trans conductance	g_{fs}	$V_{DS}=10$ V, $I_D=200$mA	80			ms
Drain-source on-voltage	$V_{DS(on)}$	$V_{GS}=10$V, $I_D=500$mA			3.75	V
		$V_{GS}=5$V, $I_D=50$mA			0.375	V
Diode Forward Voltage	V_{SD}	$I_S=115$mA, $V_{GS}=0$ V	0.55		1.2	V
Input Capacitance *	C_{iss}	$V_{DS}=25$V, $V_{GS}=0$V, f=1MHz			50	pF
Output Capacitance *	C_{oss}				25	
Reverse Transfer Capacitance*	C_{rss}				5	

SWITCHING TIME

Turn-on Time*	$t_{d(on)}$	$V_{DD}=25$ 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	

*These parameters have no way to verify.

Typical Characteristics

Output Characteristics

Transfer Characteristics

R_{DS(ON)} — I_D

R_{DS(ON)} — V_{GS}

I_S — V_{SD}
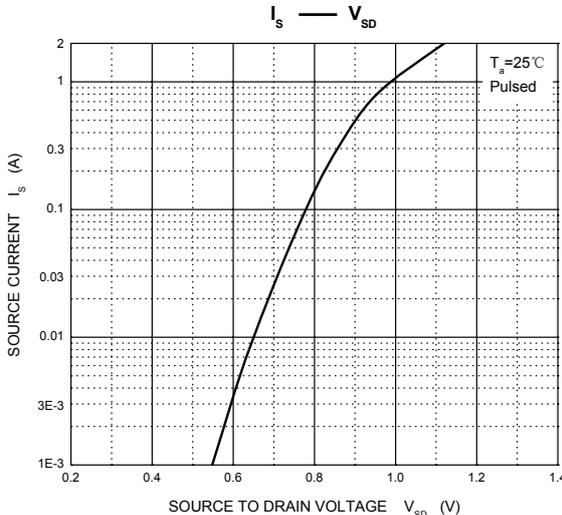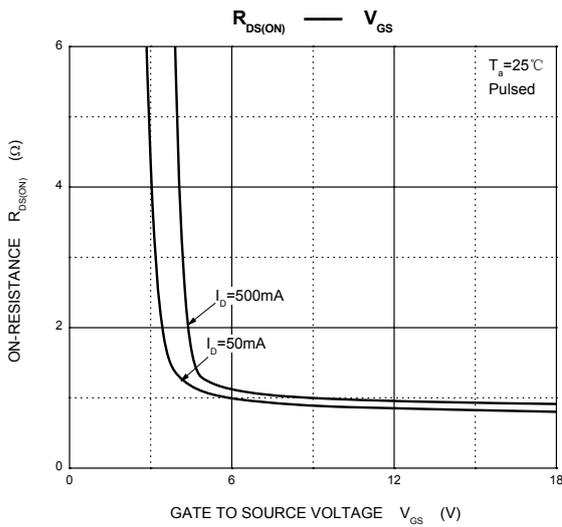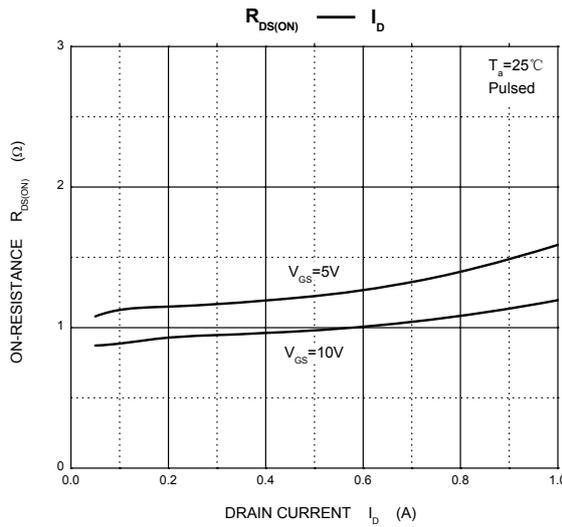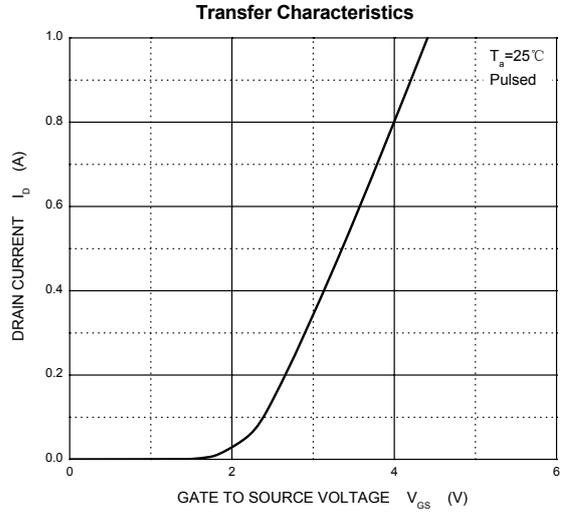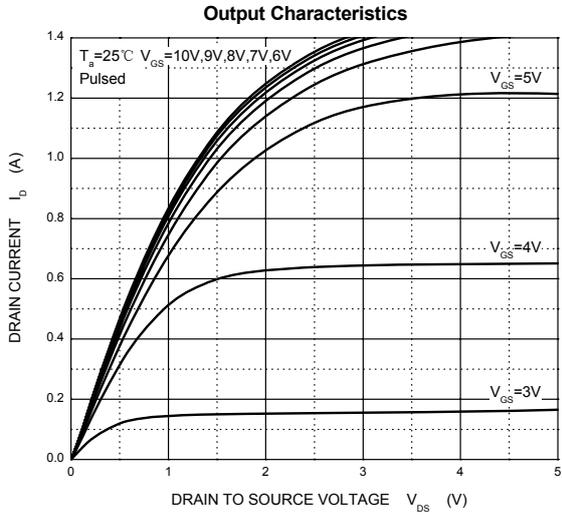
SOT-523 Package Outline Dimensions
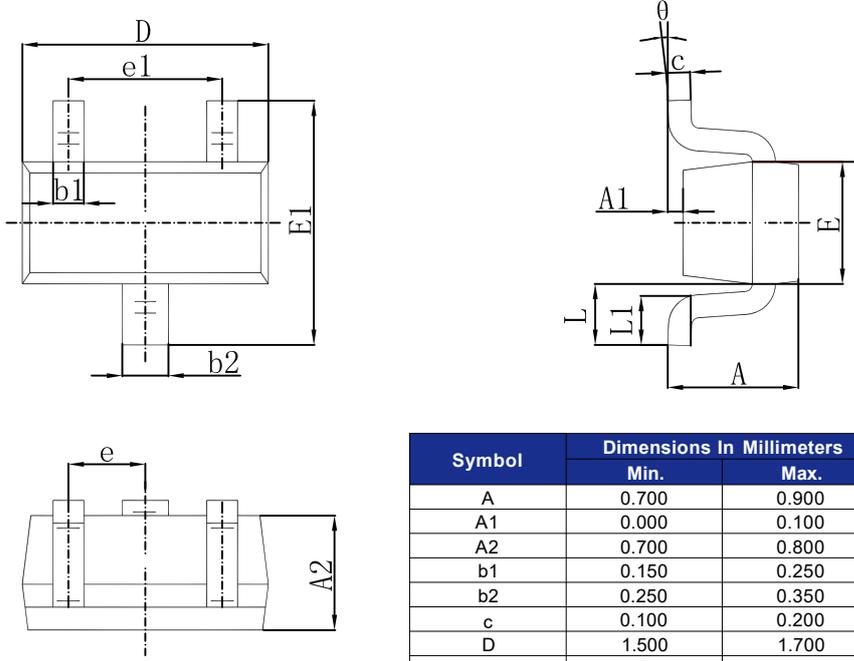
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	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°

SOT-523 Suggested Pad Layout
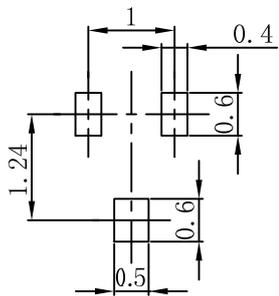
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

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