



Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	1.8Ω@10V	0.34A
	2.1Ω@4.5V	

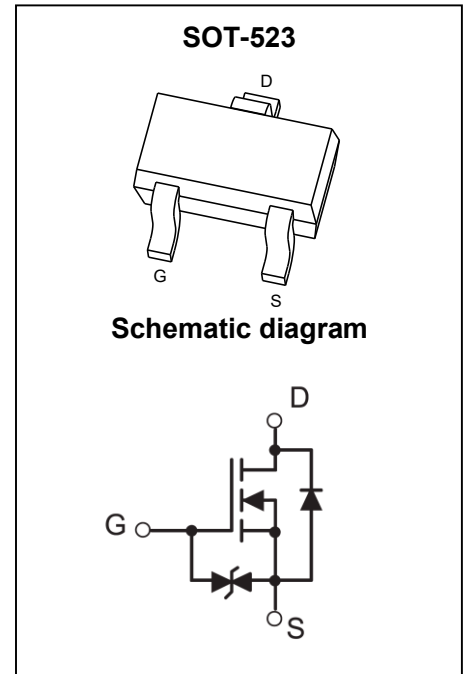
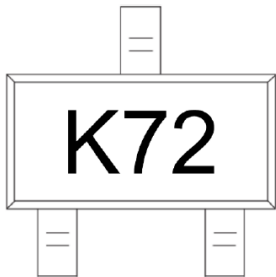
Feature

- Surface Mount Package
- High Density Cell Design for Extremely Low RDS(ON)
- Voltage Controlled Small Signal Switch
- Rugged and Reliable
- ESD Protcet

Application

- Small Servo Motor Controls
- Power MOSFET Gate Drivers
- Switching Application

MARKING:



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current ^{1,2}	I_D	0.34	A
Pulsed Drain Current ($t_p=10\mu\text{s}$)	I_{DM}	1.36	A
Power Dissipation	P_D	0.15	W
Thermal Resistance from Junction to Ambient ^{1,2}	$R_{\theta JA}$	833	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

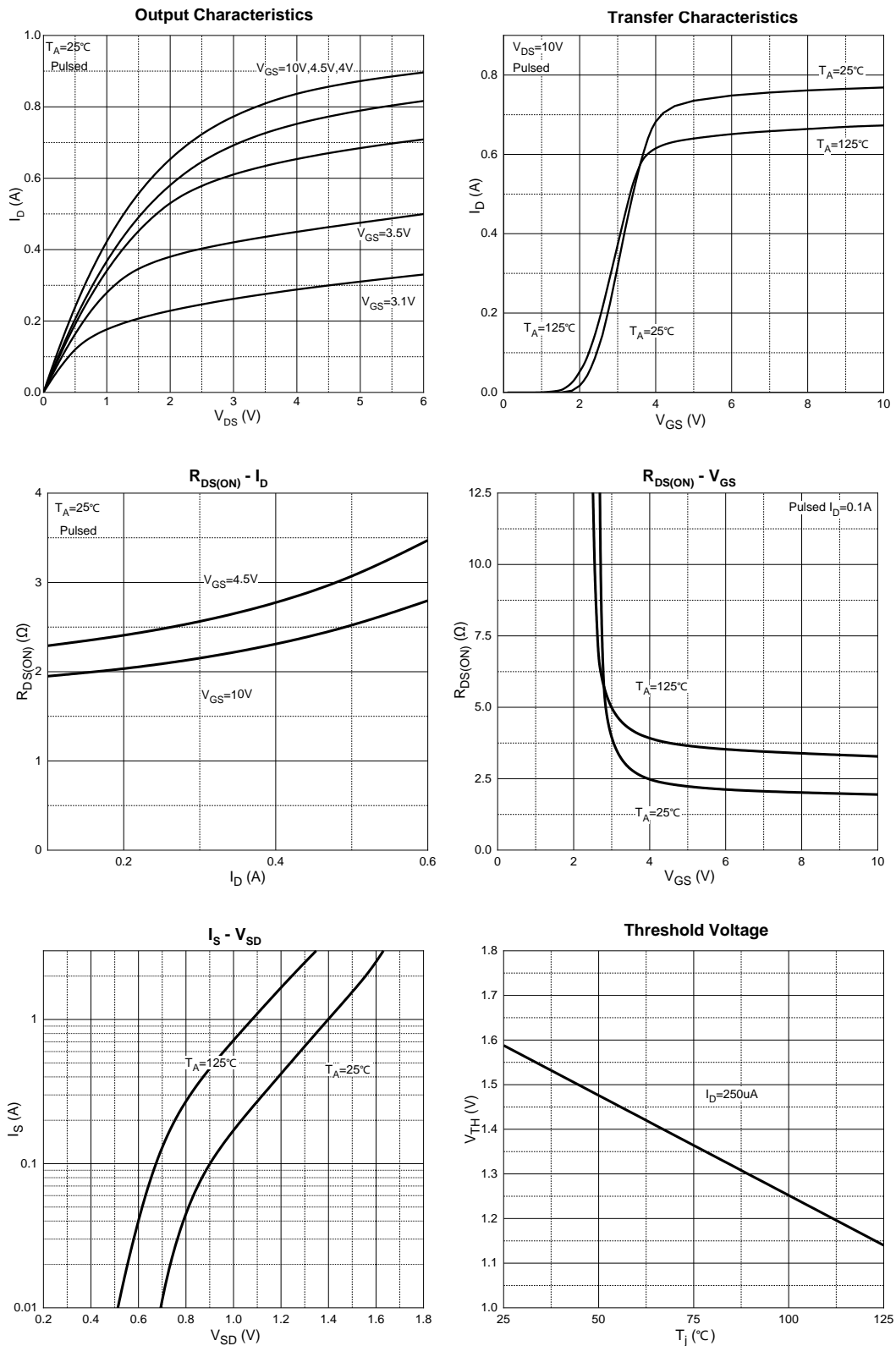
MOSFET ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off 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	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±5	μA
On Characteristics³						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.0	1.4	1.8	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 0.3A		1.8	2.5	Ω
		V _{GS} = 4.5V, I _D = 0.2A		2.1	3.0	
Forward Transconductance	g _{FS}	V _{DS} = 10V, I _D = 0.2A	80			mS
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} = 30V, V _{GS} = 0V, f = 1MHz		23		pF
Output Capacitance	C _{oss}			8.5		
Reverse Transfer Capacitance	C _{rss}			4.7		
Gate Resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz		3		Ω
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = 30V, V _{GS} = 10V, I _D = 0.3A		1.6		nC
Gate-Source Charge	Q _{gs}			0.2		
Gate-Drain Charge	Q _{gd}			0.8		
Turn-On Delay Time	t _{d(on)}	V _{DD} = 30V, V _{GS} = 10V, R _L = 100Ω, R _G = 3Ω		3.8		ns
Turn-On Rise Time	t _r			2.9		
Turn-Off Delay Time	t _{d(off)}			14		
Turn-Off Fall Time	t _f			8		
Source-Drain Diode Characteristics						
Diode Forward Voltage ³	V _{SD}	V _{GS} = 0V, I _S = 0.3A			1.2	V

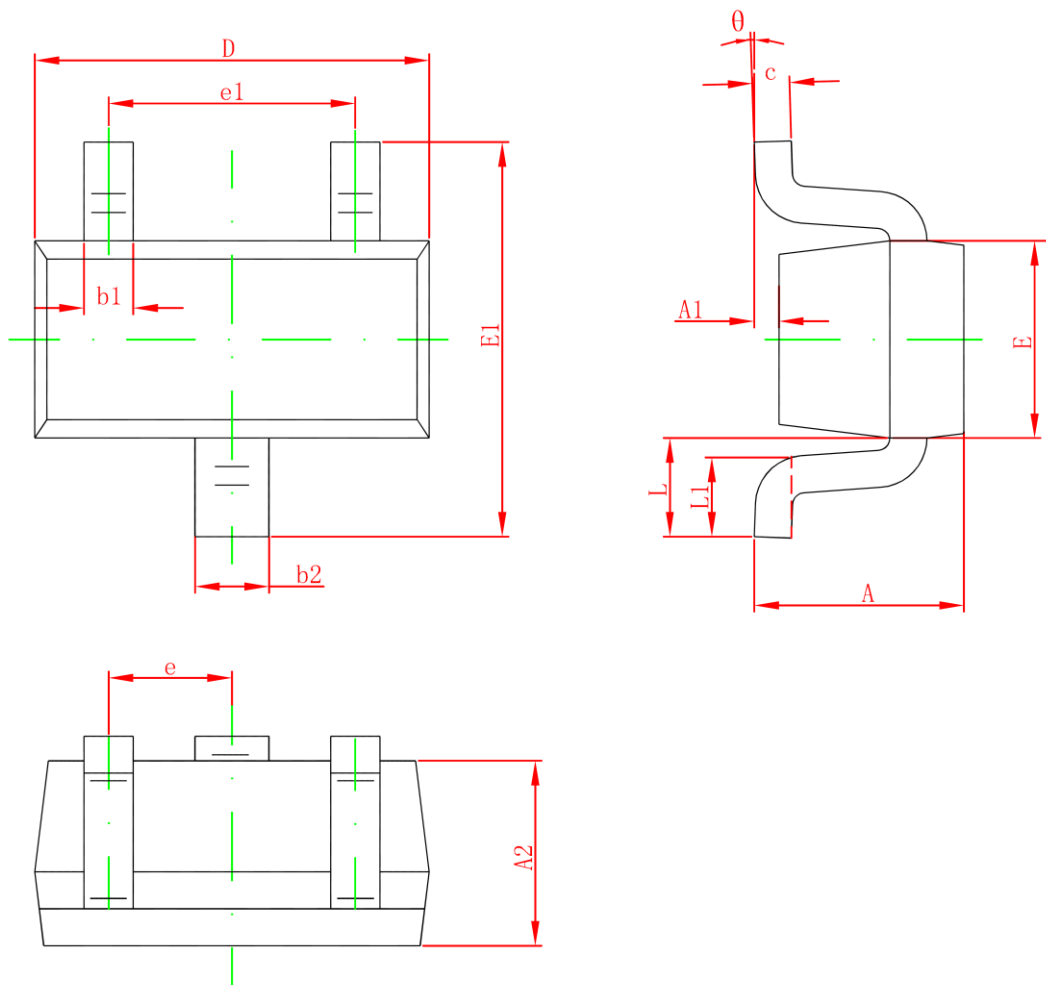
Notes :

- 1.R_{θJA} is measured with the device mounted on 1 in² FR4 board with 1oz. single side copper, in a still air environment with T_A = 25°C.
- 2.R_{θJA} is measured in the steady state
- 3.Pulse test : Pulse width ≤ 380μs, duty cycle ≤ 2%.

Typical Characteristics



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	0.900	1.100	0.035	0.043
e1	0.500TYP		0.020TYP	
L	0.400REF		0.016REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

Attention:

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
- Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.
- GreenPower Electronics products belong to consumer electronics or other civilian electronic products.