

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	33m Ω @10V	3.3A
	43m Ω @4.5V	

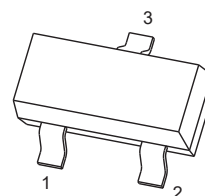
Feature

- TrenchFET Power MOSFET

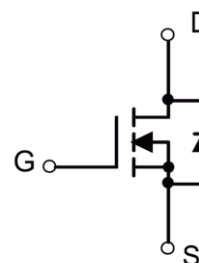
Application

- Load Switch for Portable Devices
- DC/DC Converter

MARKING:

SOT-23


1. GATE
2. SOURCE
3. DRAIN

Schematic diagram

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	3.3	A
Pulsed Drain Current	I_{DM}	15	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient($t \leq 5s$)	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

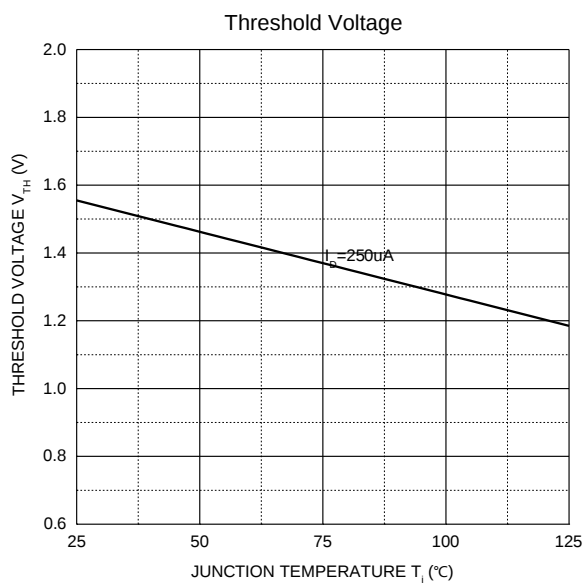
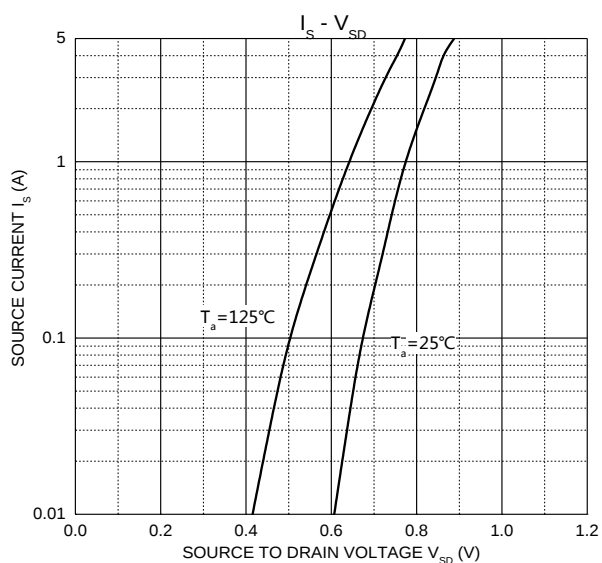
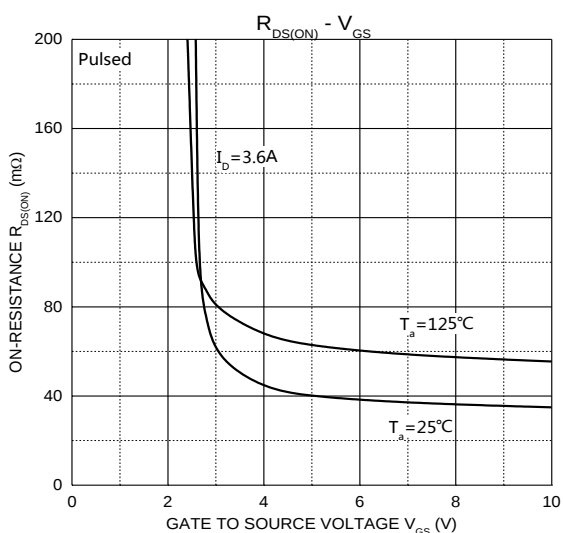
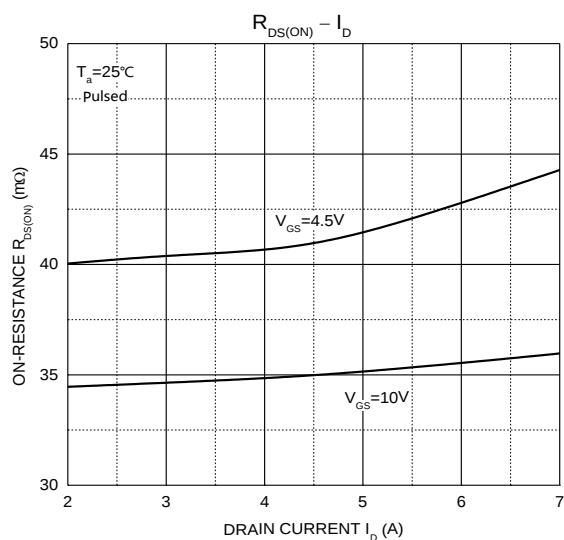
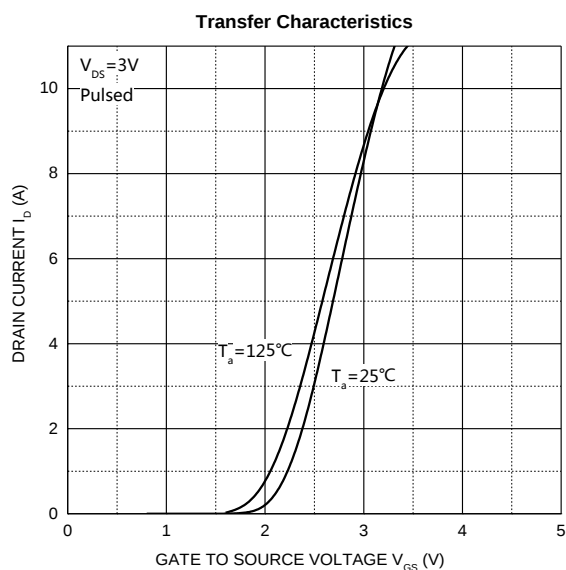
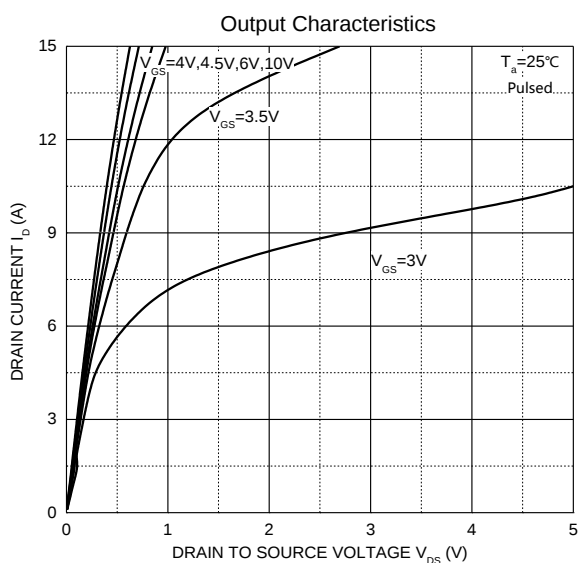
MOSFET ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

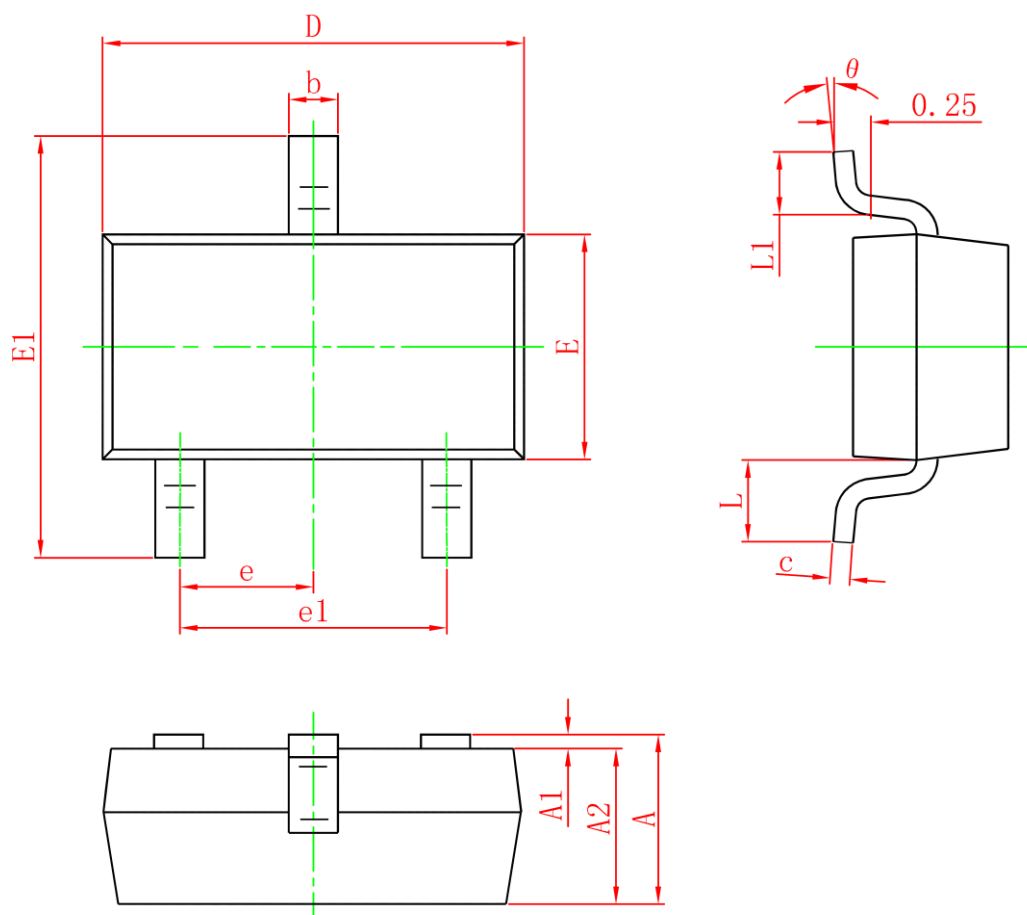
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V,V _{GS} = 0V			1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1	1.6	3	V
Drain-Source On-Resistance ^a	R _{DS(on)}	V _{GS} =10V, I _D =3.2A		33	60	mΩ
		V _{GS} =4.5V, I _D =2.8A		43	75	
Forward Tranconductance ^a	g _{FS}	V _{DS} =4.5V, I _D =2.5A	2.5			S
Dynamic Characteristics ^b						
Total Gate Charge	Q _g	V _{DS} =15V,V _{GS} =10V,I _D =3.4A		4.5	6.7	nC
		V _{DS} =15V,V _{GS} =4.5V,I _D =3.4A		2.1	3.2	
Gate-Source Charge	Q _{gs}			0.85		
Gate-Drain Charge	Q _{gd}			0.65		
Gate Resistance	R _g	f =1.0MHz	0.8	4.4	8.8	Ω
Input Capacitance	C _{iss}	V _{DS} =15V,V _{GS} =0V,f =1MHz		235		pF
Output Capacitance	C _{oss}			45		
Reverse Transfer Capacitance	C _{rss}			17		
Turn-On Delay Time	t _{d(on)}	V _{DD} =15V, R _L =5.6Ω, I _D ≈2.7A, V _{GEN} =4.5V,Rg=1Ω		12	20	ns
Turn-On Rise Time	t _r			50	75	
Turn-Off Delay Time	t _{d(off)}			12	20	
Turn-Off Fall Time	t _f			22	35	
Turn-On Delay Time	t _{d(on)}	V _{DD} =15V, R _L =5.6Ω, I _D ≈2.7A, V _{GEN} =10V,Rg=1Ω		5	10	
Turn-On Rise Time	t _r			12	20	
Turn-Off Delay Time	t _{d(off)}			10	15	
Turn-Off Fall Time	t _f			5	10	
Source-Drain Diode Characteristics						
Continuous Source-Drain Diode Current	I _S	T _C =25℃			1.4	A
Pulse Diode Forward Current	I _{SM}				15	A
Body Diode Voltage	V _{SD}	I _S =2.7A,V _{GS} =0V			1.2	V

Notes:

- a. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
b. Guaranteed by design, not subject to production testing.

Typical Characteristics



SOT-23 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0	0.100	0	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.150	1.500	0.045	0.059
E1	2.250	2.650	0.089	0.104
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
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.
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