

Product Summary

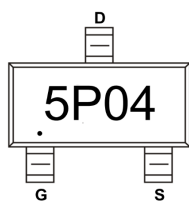
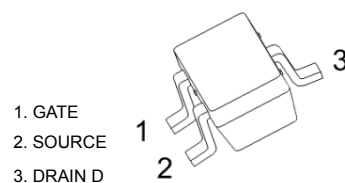
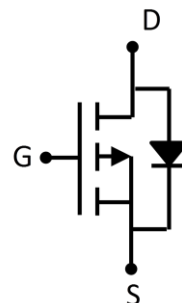
$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-40V	61mΩ@-10V	-5.3A
	81mΩ@-4.5V	

Feature

- TrenchFET Power MOSFET
- Exceptional on-resistance and maximum DC current capability

Application

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

MARKING:

SOT-23-3L

Schematic diagram

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-40	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-5.3	A
Power Dissipation	P_D	1	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	125	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

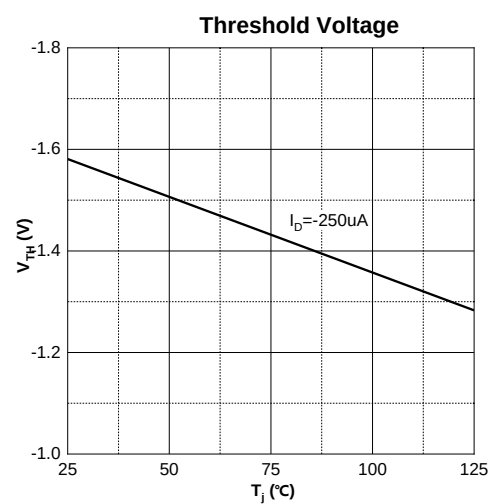
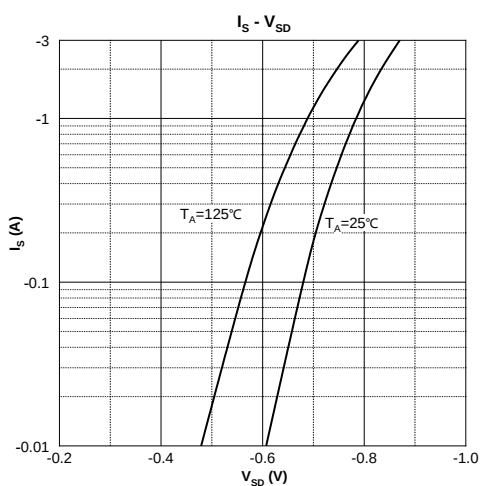
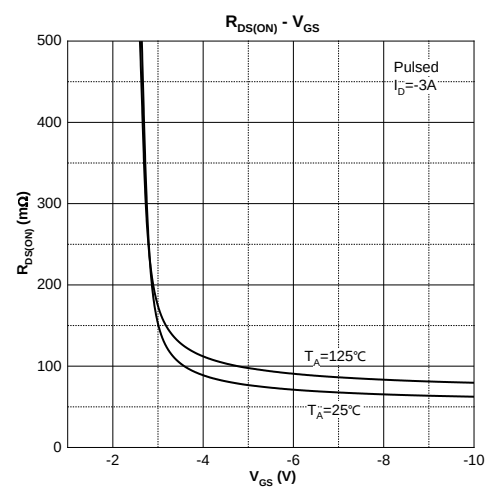
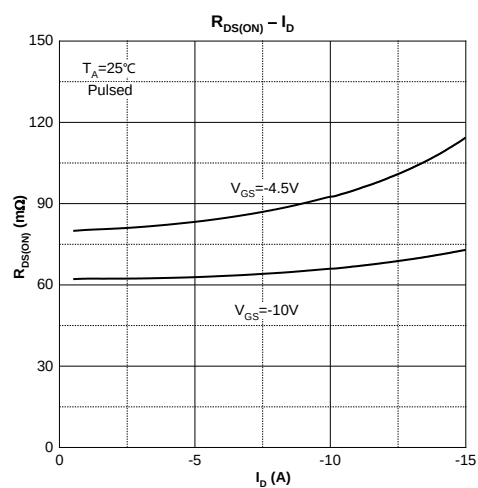
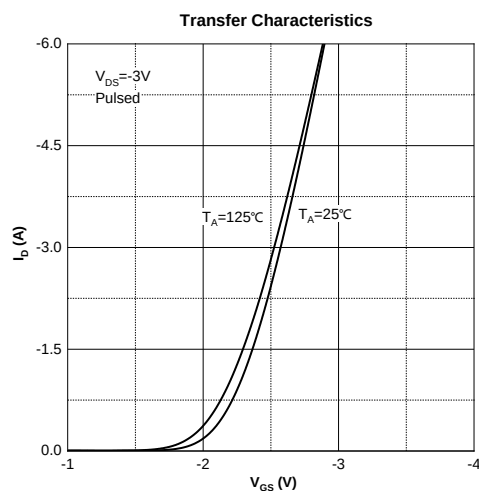
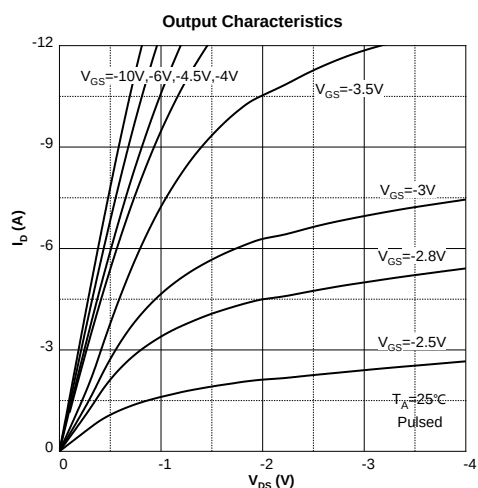
MOSFET ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

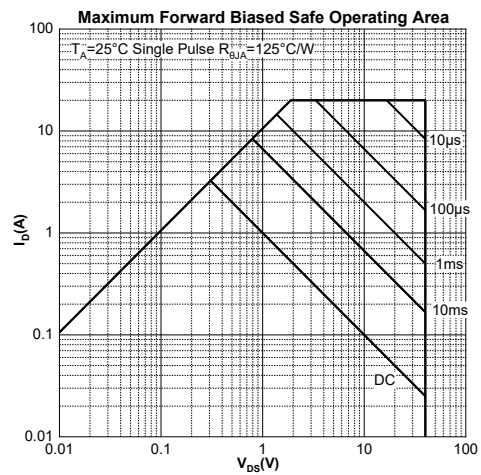
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-40			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-40V,V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			100	nA
Gate threshold voltage ⁽¹⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1.0	-1.5	-3.0	V
Drain-source on-resistance ⁽¹⁾	R _{DS(on)}	V _{GS} =-10V, I _D =-5.0A		61	82	mΩ
		V _{GS} =-4.5V, I _D =-4.0A		81	100	
Forward tranconductance	g _{FS}	V _{DS} =-5V, I _D =-4.1A		7		S
Dynamic characteristics ⁽²⁾						
Input Capacitance	C _{iss}	V _{DS} =-20V,V _{GS} =0V,f =1MHz		441		pF
Output Capacitance	C _{oss}			50		
Reverse Transfer Capacitance	C _{rss}			41		
Total Gate Charge	Q _g	V _{DS} =-20V,I _D =-3A, V _{GS} =-10V		10.2		nC
Gate-Source Charge	Q _{gs}			1.3		
Gate-Drain Charge	Q _{gd}			2.4		
Switching characteristics ⁽²⁾						
Turn-on delay time	t _{d(on)}	V _{DD} = -20V, V _{GS} = -10V, I _D = -5A, R _G = 2.4Ω		8		ns
Turn-on rise time	t _r			9		
Turn-off delay time	t _{d(off)}			28		
Turn-off fall time	t _f			10		
Source-Drain Diode characteristics						
Diode Forward voltage ⁽¹⁾	V _{DS}	V _{GS} =0V, I _S =-2.5A			-1.2	V

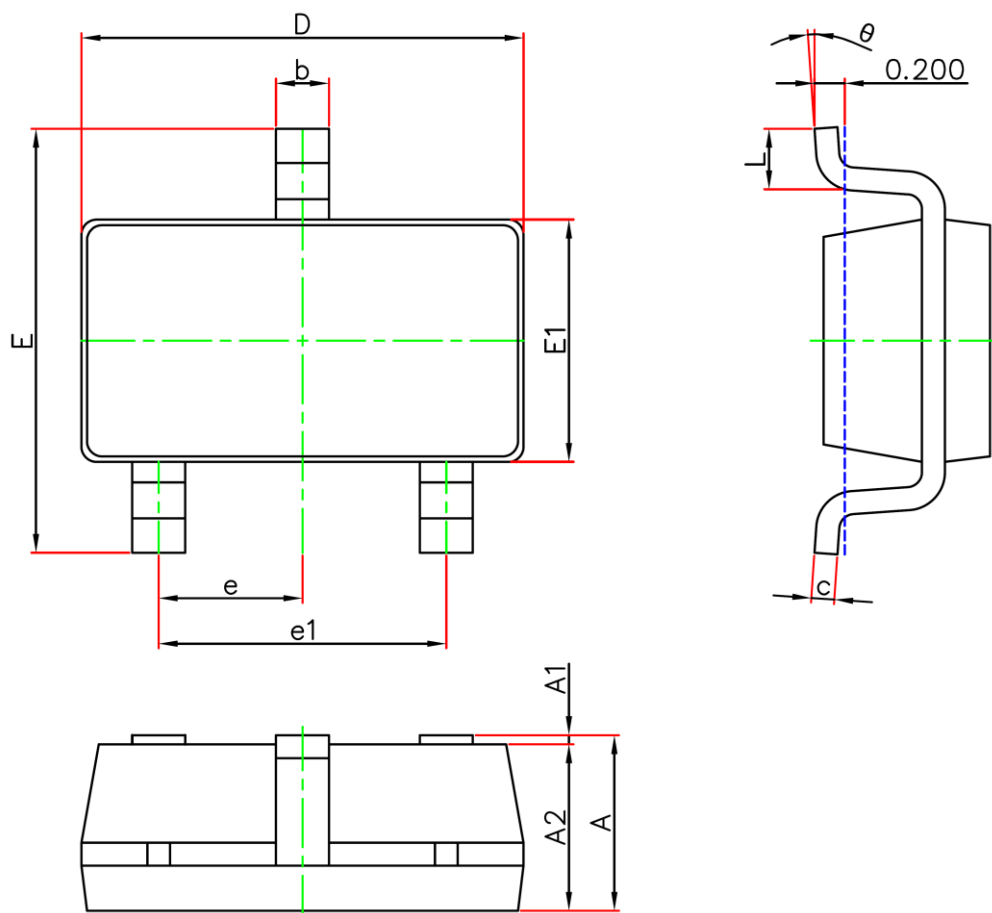
Notes:

1. Pulse test; pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics





SOT-23-3L Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.450	0.035	0.057
A1	0	0.150	0	0.006
A2	0.900	1.300	0.035	0.051
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	2.600	3.000	0.102	0.118
E1	1.500	1.700	0.059	0.067
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
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.