

Product Summary

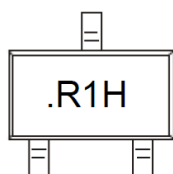
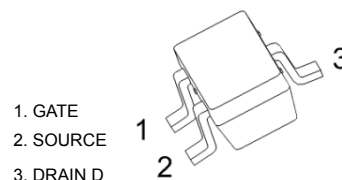
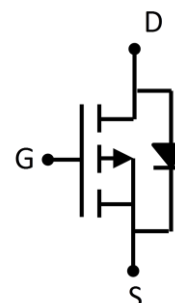
$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-30V	43mΩ@-10V	-4.2A
	52mΩ@-4.5V	
	72mΩ@-2.5V	

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}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	-4.2	A
Pulsed Drain Current ⁽¹⁾	I_{DM}	21	A
Power Dissipation	P_D	1.5	W
Thermal Resistance from Junction to Ambient ⁽²⁾	$R_{\theta JA}$	83.3	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

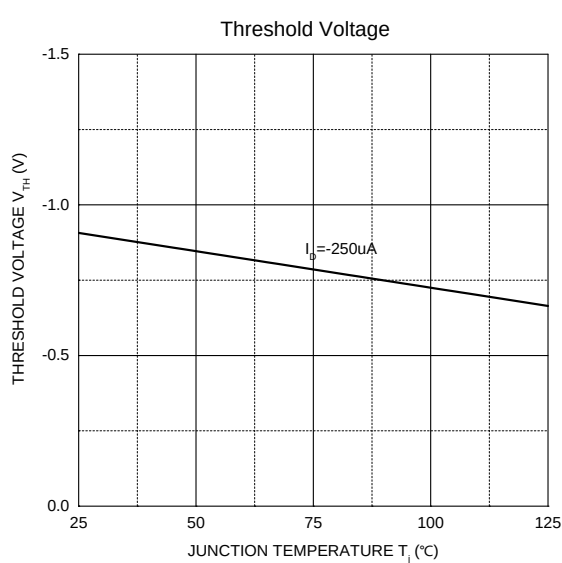
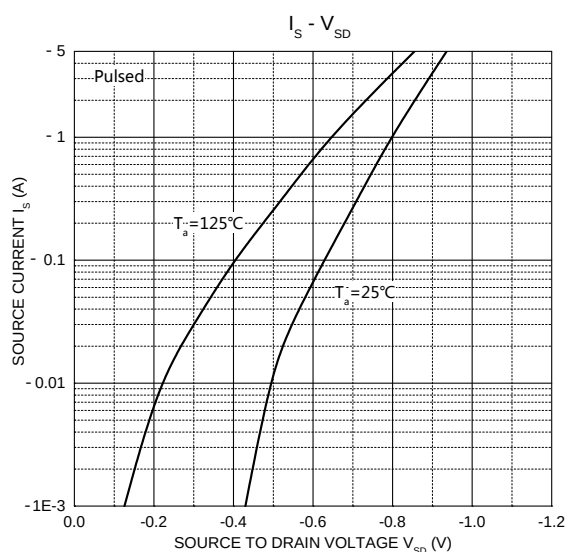
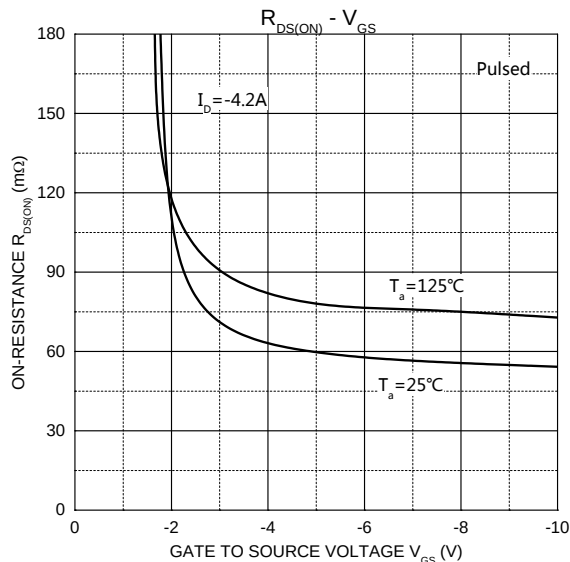
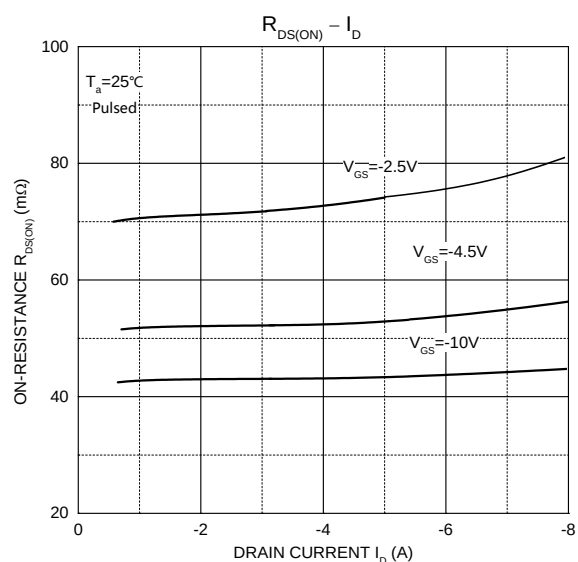
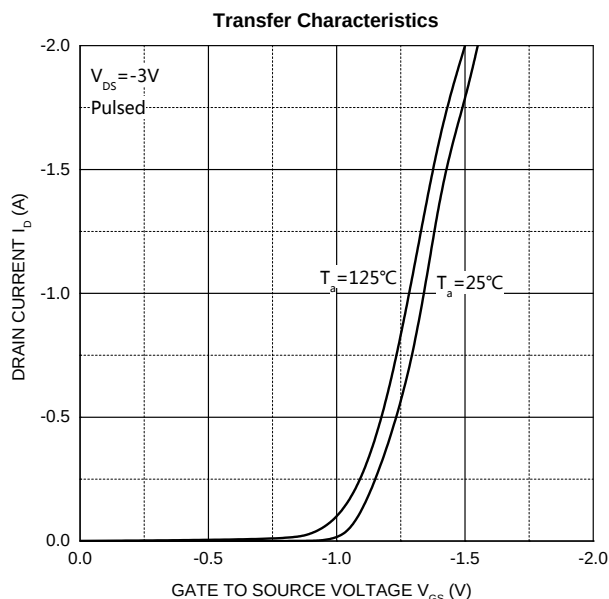
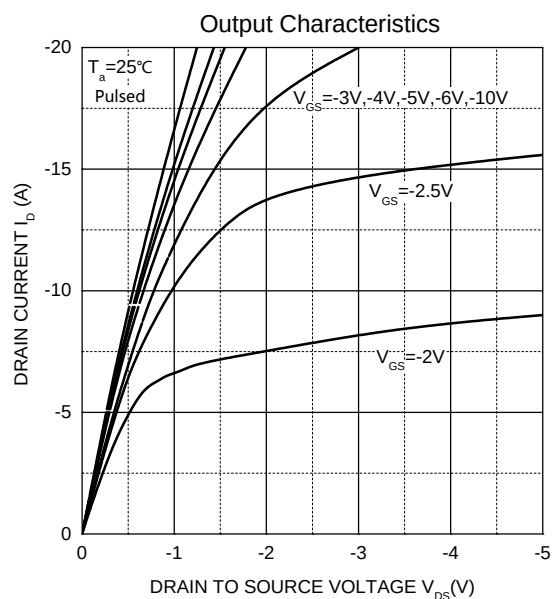
MOSFET ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise noted)

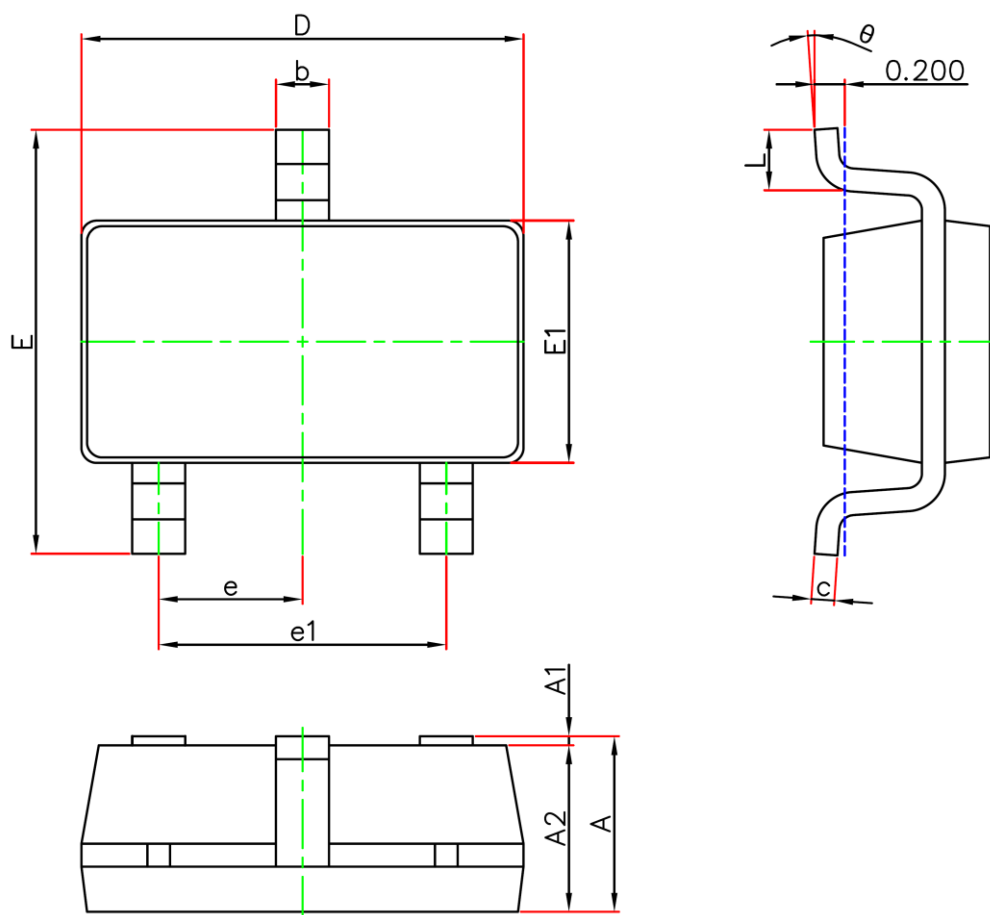
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-24V,V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			±100	nA
Gate threshold voltage ⁽³⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.7	-0.9	-1.3	V
Drain-source on-resistance ⁽³⁾	R _{DS(on)}	V _{GS} =-10V, I _D =-4.0A		43	65	mΩ
		V _{GS} =-4.5V, I _D =-3.5A		52	75	
		V _{GS} =-2.5V, I _D =-2.5A		72	90	
Forward tranconductance	g _{FS}	V _{DS} =-5V, I _D =-5A	7			S
Dynamic characteristics ⁽⁴⁾						
Input Capacitance	C _{iss}	V _{DS} =-15V,V _{GS} =0V,f =1MHz		1050		pF
Output Capacitance	C _{oss}			127		
Reverse Transfer Capacitance	C _{rss}			85		
Switching characteristics ⁽⁴⁾						
Turn-on delay time	t _{d(on)}	V _{GS} =-10V,V _{DS} =-15V, R _L =3.6Ω,R _{GEN} =6Ω			6.5	ns
Turn-on rise time	t _r				3.5	
Turn-off delay time	t _{d(off)}				40	
Turn-off fall time	t _f				13	
Source-Drain Diode characteristics						
Diode Forward voltage ⁽³⁾	V _{DS}	V _{GS} =0V, I _S =-1A			-1	V

Notes:

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t < 5\text{sec}$.
3. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics



SOT-23-3L Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0	0.150	0.000	0.006
A2	1.050	1.250	0.041	0.049
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	2.650	2.950	0.104	0.116
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°