

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	13.5mΩ@-4.5V	-11A
	16mΩ@-2.5V	

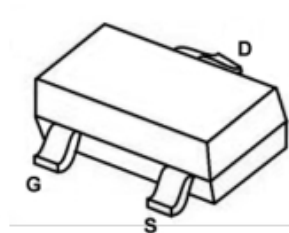
Feature

- Advanced trench MOSFET process technology
- Ultra low on-resistance with low gate charge

Applications

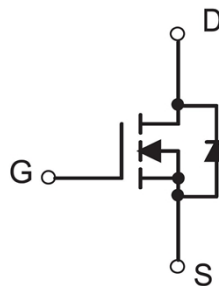
- PWM application
- Load switch
- Battery charge in cellular handset

Package

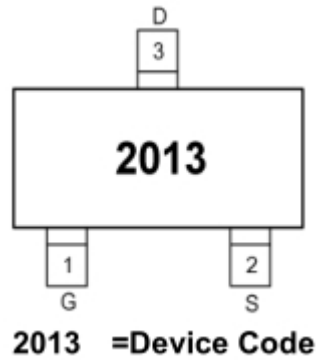


SOT-23-3L

Circuit diagram



Marking



Absolute maximum ratings

(T_a=25°C unless otherwise noted)

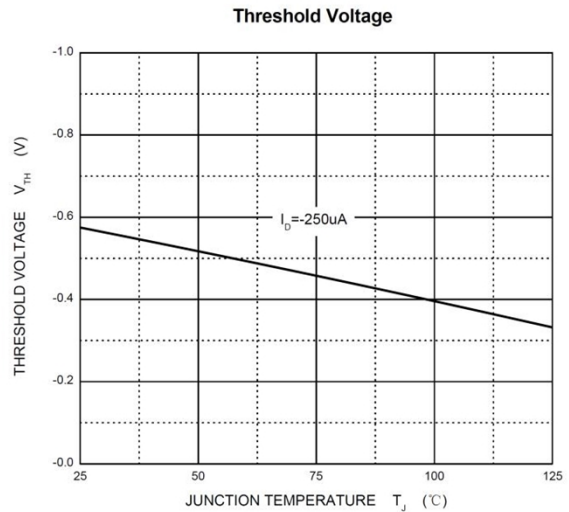
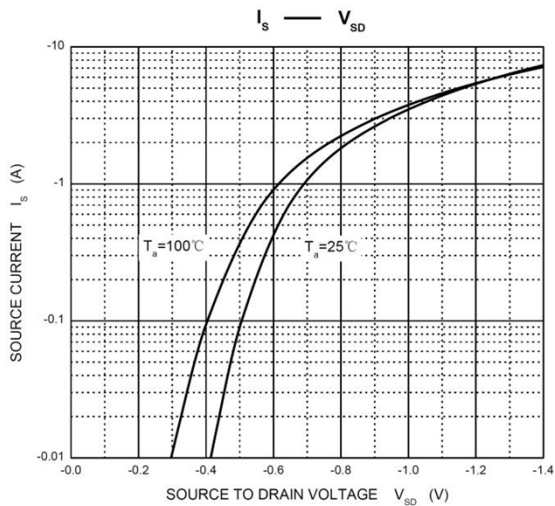
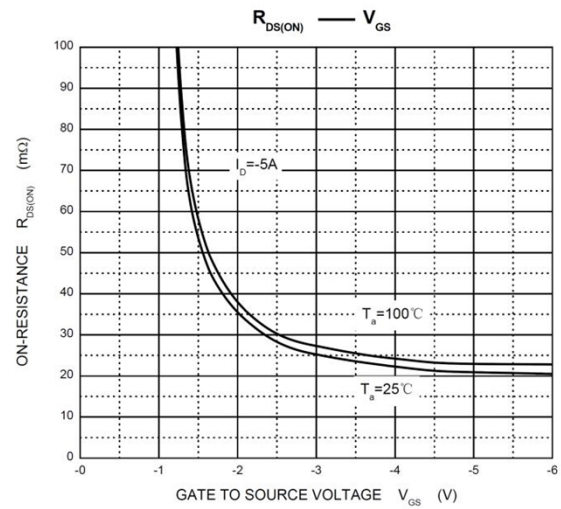
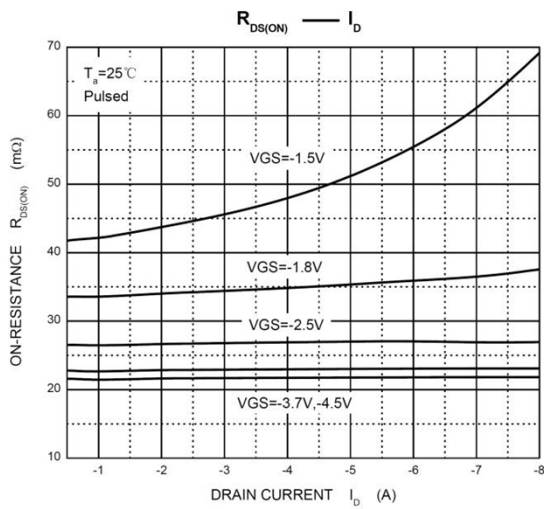
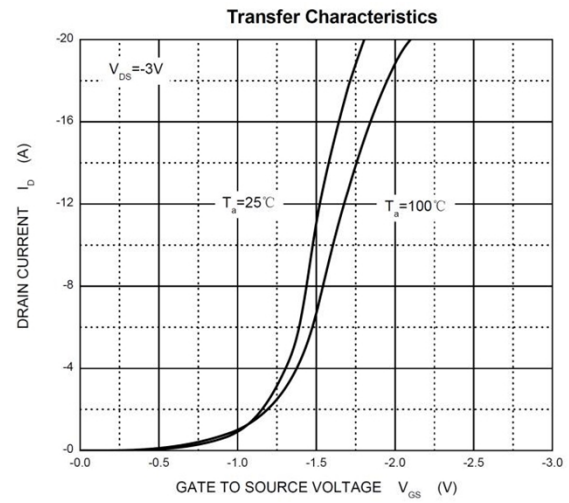
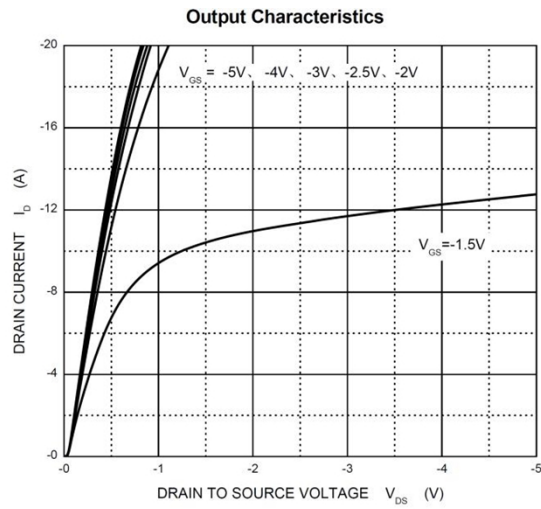
Parameter	Symbol	Value	Unit
Drain-source Voltage	V _{DS}	-20	V
Gate-source Voltage	V _{GS}	±12	V
Drain Current (T _C =25°C)	I _D	-11	A
Pulsed Drain Current ¹	I _{DM}	-44	A
Total Power Dissipation (T _C =25°C)	P _D	0.35	W
Thermal Resistance Junction-to-Case @ Steady State	R _{θJA}	357	°C/W
Junction and Storage Temperature Range	T _J , T _{STG.}	-55 ~ +150	°C

Electrical characteristics

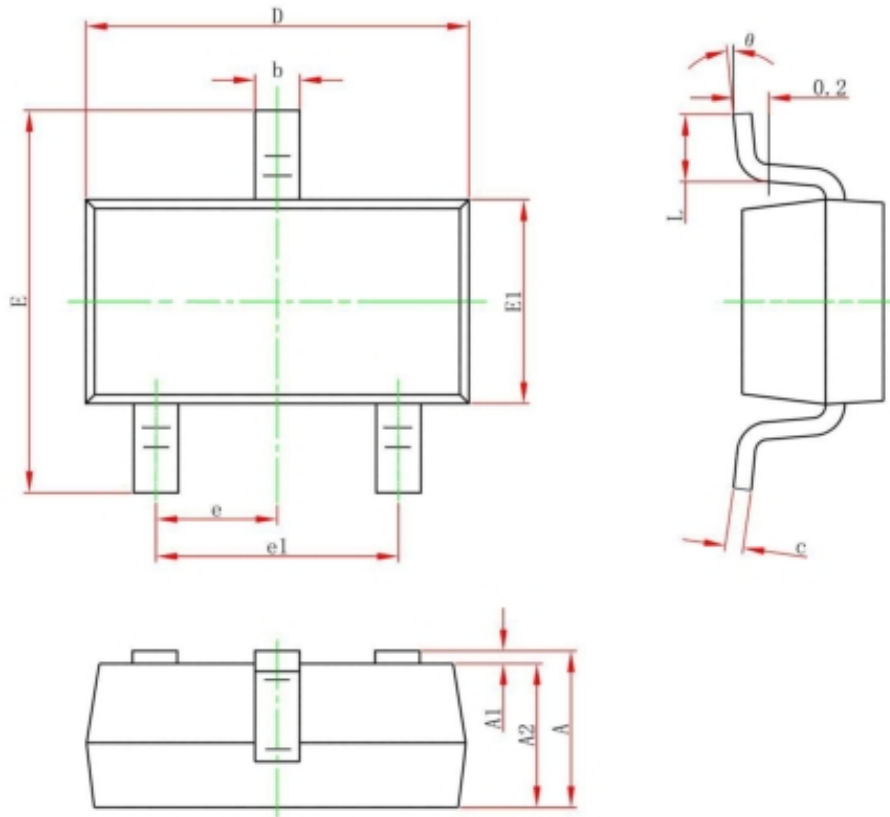
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	BV (BR)DSS	V _{GS} = 0V, I _D = -250μA	-20	-	-	V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -16V, V _{GS} = 0V	-	-	-1	uA
Gate-body leakage current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V	-	-	±0.1	uA
Gate threshold voltage ⁽¹⁾	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.4	-0.7	-1	V
Drain-source on-resistance ⁽¹⁾	R _{DS(on)}	V _{GS} = -4.5V, I _D = -5A	-	13.5	17	mΩ
		V _{GS} = -2.5V, I _D = -4A	-	16	22	
Dynamic Characteristics						
Input capacitance	C _{iss}	V _{DS} = -6V, V _{GS} = 0V, f = 1MHz		1275		pF
Output capacitance	C _{oss}			255		
Reverse transfer capacitance	C _{rss}			236		
Total Gate Charge	Q _g	V _{DS} = -6V, V _{GS} = -4.5V, I _D = -5A		14	21	nC
Gate-Source Charge	Q _{gs}			2.3		
Gate-Drain Charge	Q _{gd}			3.6		
Turn-on Delay Time	T _{d(on)}	V _{DD} = -6V, V _{GEN} = -4.5V, I _D = -4A, R _{GEN} = 1Ω		26	40	nS
Turn-on Rise Time	T _r			24	40	
Turn-Off Delay Time	T _{d(off)}			45	70	
Turn-Off Fall Time	t _f			20	35	
Source-Drain Diode Characteristics						
Diode Forward voltage	V _{SD}	I _S = -4A, V _{GS} = 0V			-1.2	V

Typical Characteristics



SOT-23-3L Package Information



Symbol	Dimensions in millimeters	
	Min.	Max.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.300	0.500
c	0.100	0.200
D	2.820	3.020
E1	1.500	1.700
E	2.650	2.950
e	0.950 Typ.	
e1	1.800	2.000
L	0.300	0.600
θ	0°	8°