

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	150mΩ@-4.5V	-1.2A
	200mΩ@-2.5V	

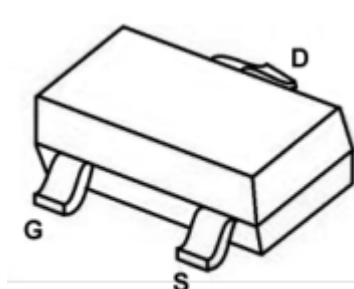
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge

Applications

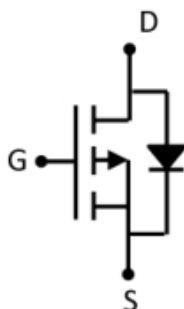
- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

Package

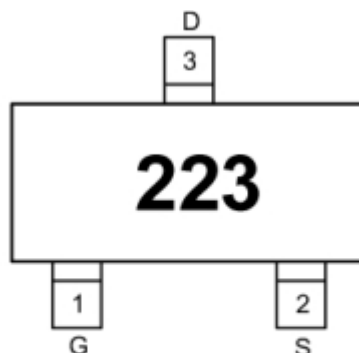


SOT-323

Circuit diagram



Marking



223 =Device Code

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
Continuous Drain Current	I _D	-1.2	A
Pulsed Drain Current	I _{DM}	-4.8	A
Power Dissipation	P _D	0.2	W
Thermal Resistance from Junction to Ambient	R _{θJA}	625	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

Electrical characteristics

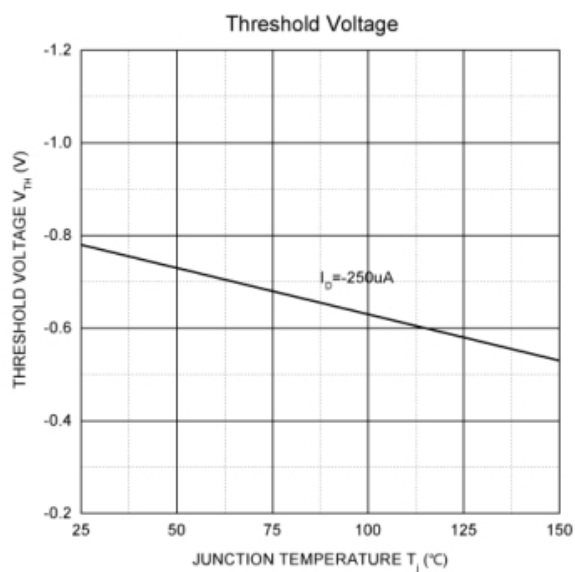
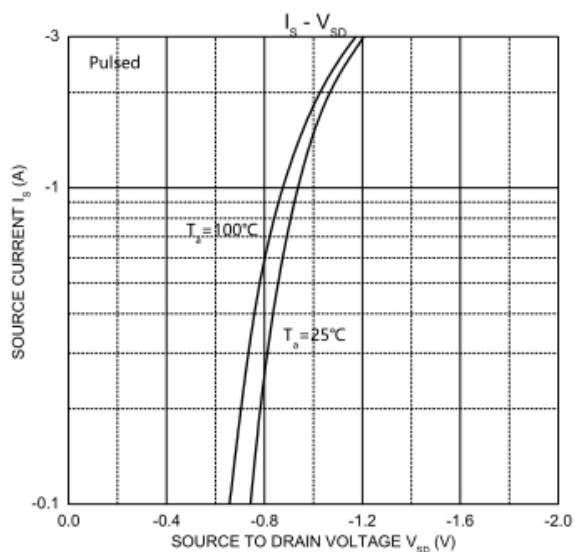
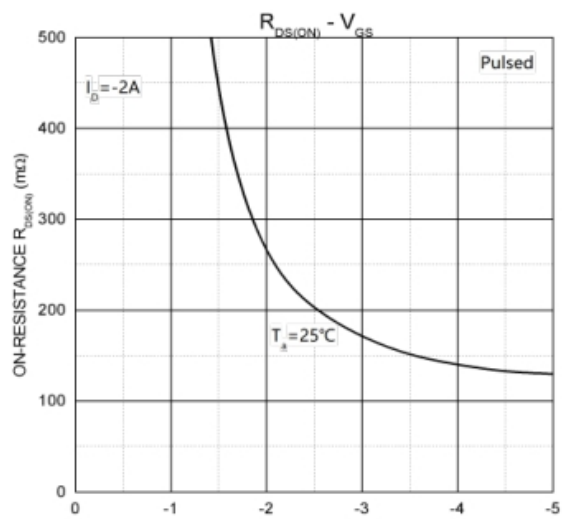
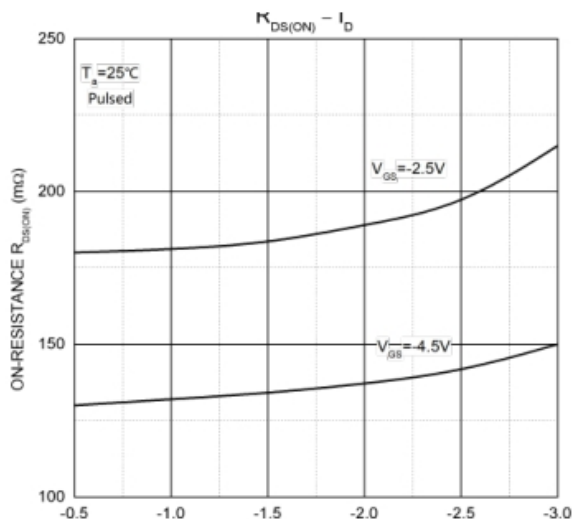
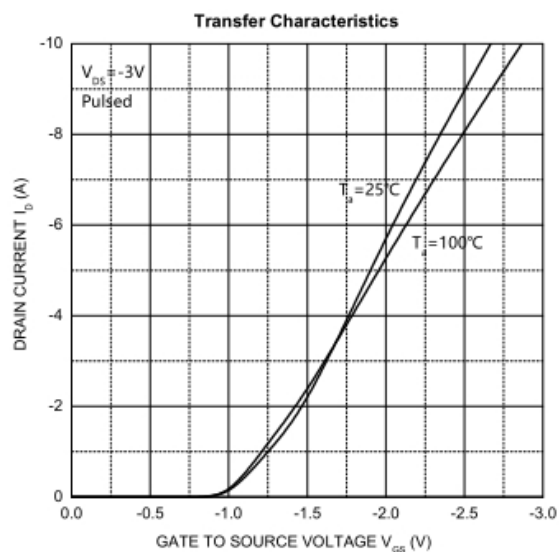
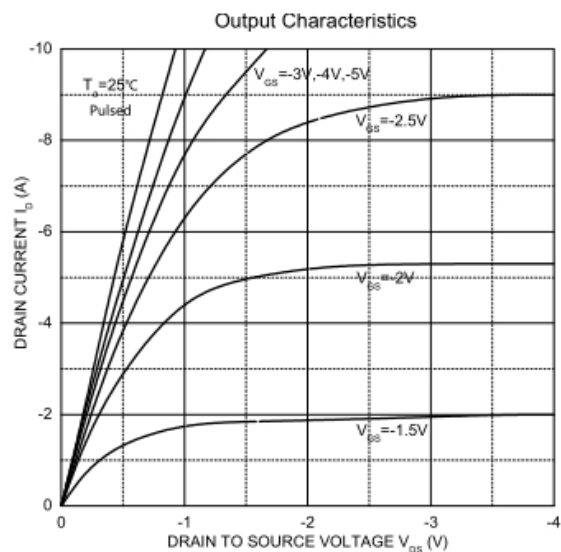
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

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} = -20V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V			±100	μA
Gate threshold voltage ⁽¹⁾	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.4	-0.65	-1.0	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} = -4.5V, I _D = -1A		150	180	mΩ
		V _{GS} = -2.5V, I _D = -0.5A		200	270	
Dynamic Characteristics						
Input capacitance	C _{iss}	V _{DS} = -10V, V _{GS} =0V, f=1MHz		270		pF
Output capacitance	C _{oss}			55		
Reverse transfer capacitance	C _{rss}			30		
Total Gate Charge	Q _g	V _{DS} = -10V, V _{GS} = -4.5V, I _D = -2A		2.7		nC
Gate-Source Charge	Q _{gs}			0.46		
Gate-Drain Charge	Q _{gd}			0.7		
Turn-on Delay Time	T _{d(on)}	V _{DD} = -10V, V _{GEN} = -4.5V, R _L =5Ω, R _{GEN} =3Ω		10		nS
Turn-on Rise Time	T _r			5		
Turn-Off Delay Time	T _{d(off)}			21		
Turn-Off Fall Time	t _f			7		
Source-Drain Diode Characteristics						
Diode Forward voltage	V _{DS}	I _S = -1.25A, V _{GS} = 0V			-1.3	V

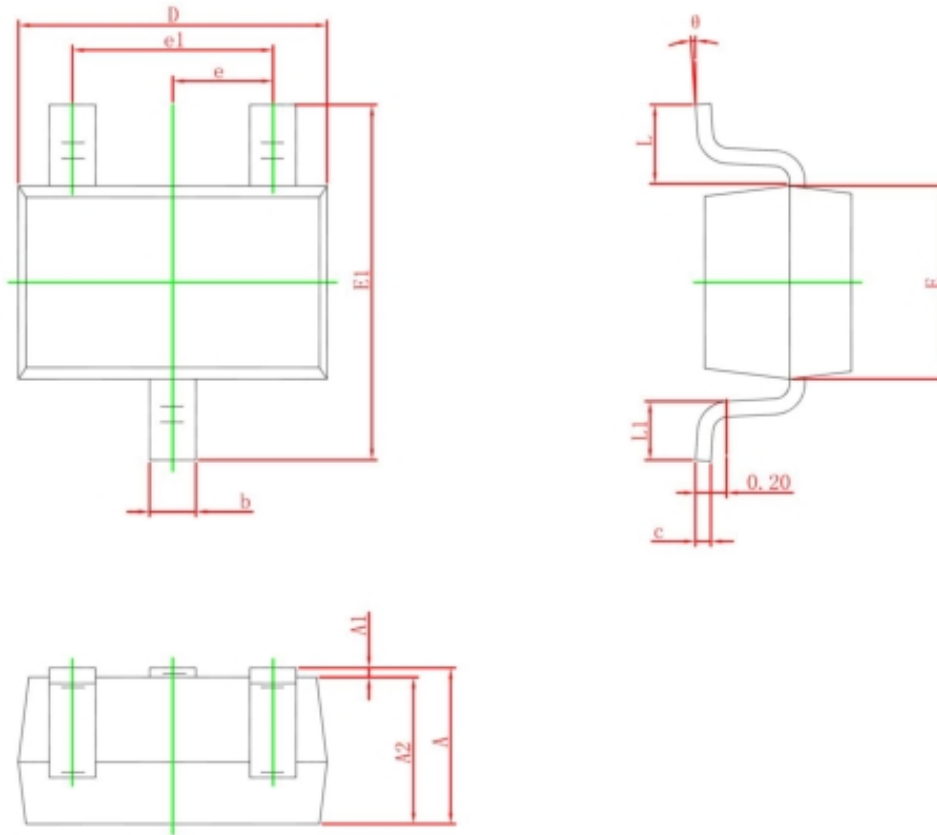
Notes:

1. Pulse Test: Pulse Width < 300 μs , Duty Cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics



SOT-323 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°