

Product Summary

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

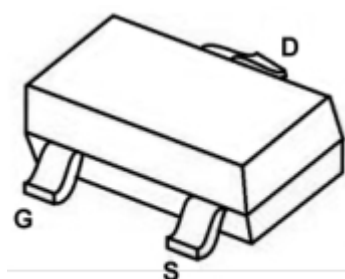
Feature

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

Applications

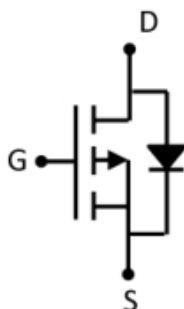
- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

Package

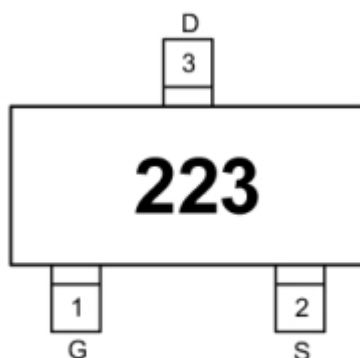


SOT-523

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	0.4	W
Thermal Resistance from Junction to Ambient	R _{θJA}	357	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

Electrical characteristics

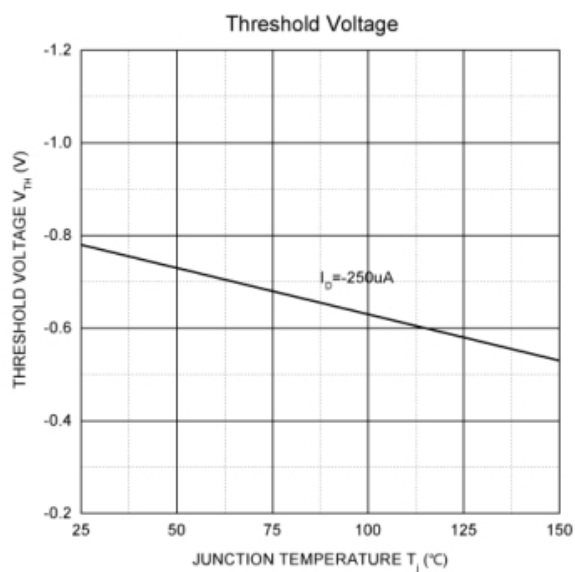
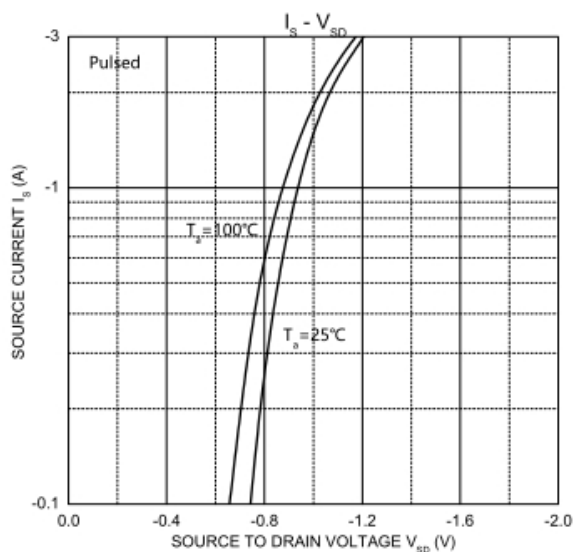
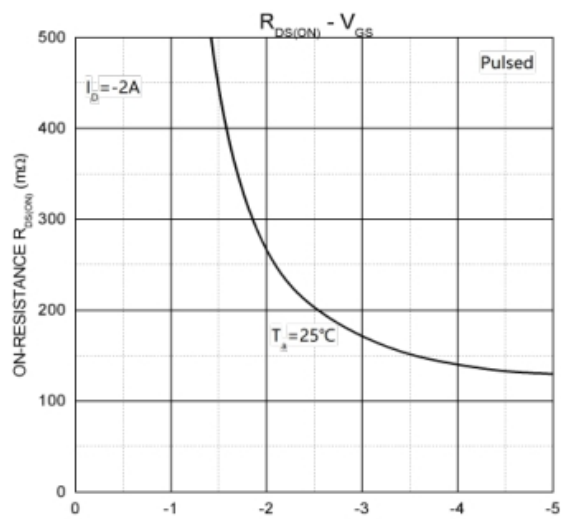
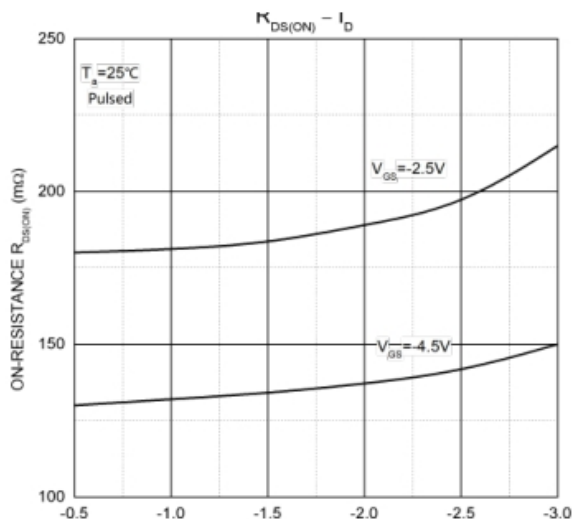
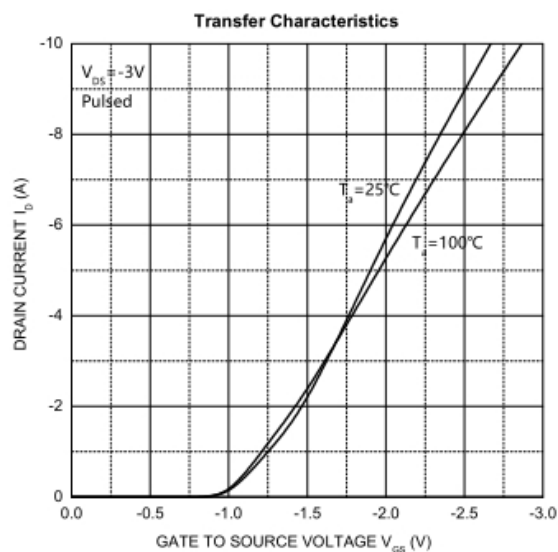
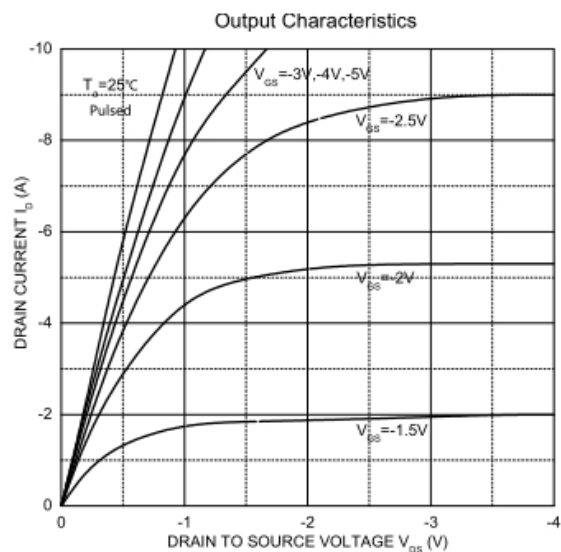
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

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	uA
Gate-body leakage current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V			±100	uA
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			-1.2	V

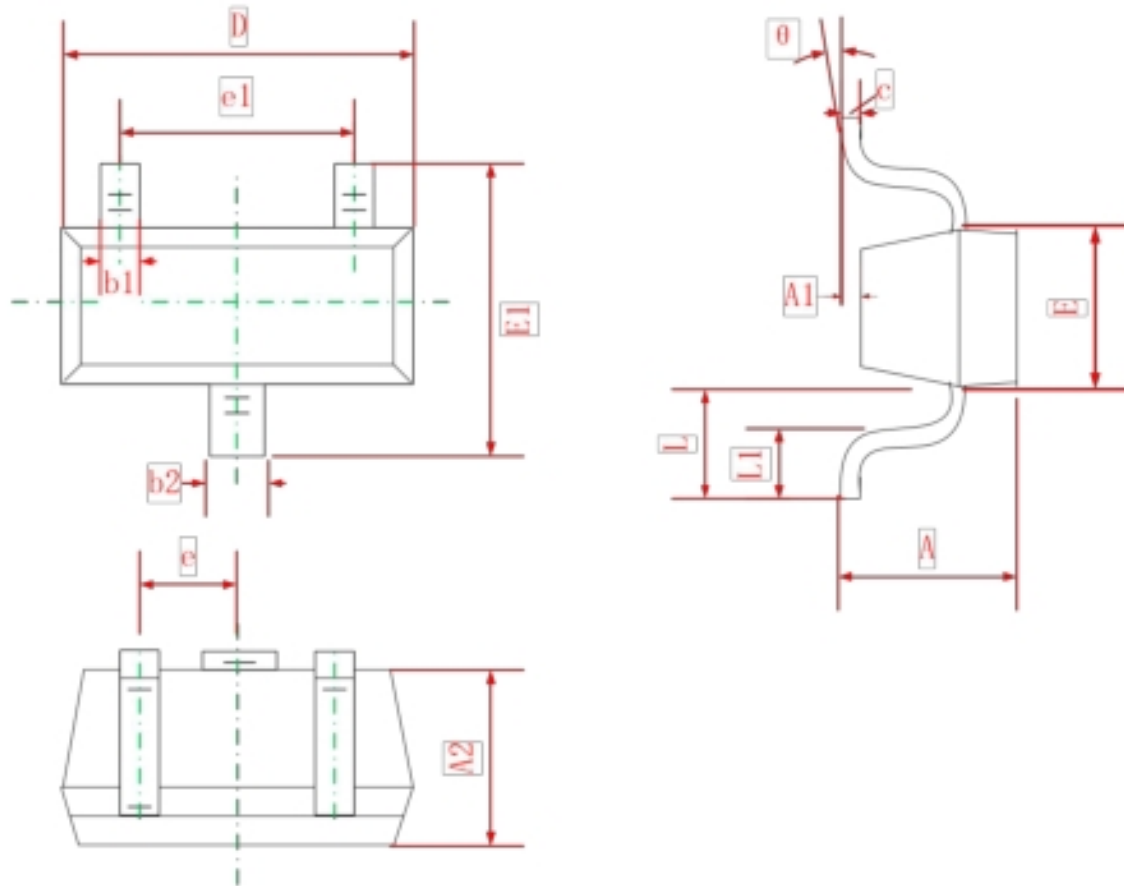
Notes:

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

Typical Characteristics



SOT-523 Package Information



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.700	0.900
A1	0.000	0.100
A2	0.700	0.800
b1	0.150	0.250
b2	0.250	0.350
C	0.100	0.200
D	1.500	1.700
E	0.700	0.900
E1	1.450	1.750
e	0.500 TYP	
e1	0.900	1.100
L	0.400 REF	
L1	0.260	0.460
θ	0°	8°