

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	22mΩ@4.5V	5.8A
	28mΩ@2.5V	

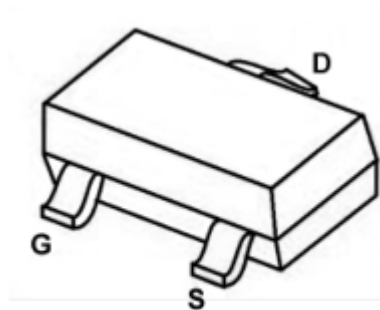
Feature

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

Application

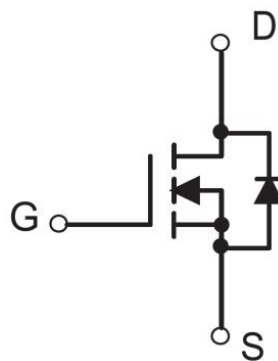
- DC/DC Converter
- Load Switch for Portable Devices
- Battery Switch

Package

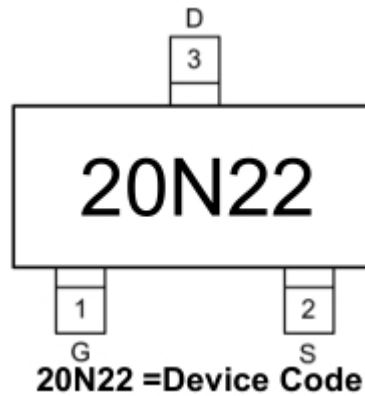


SOT-23

Circuit diagram



Marking



Absolute maximum ratings

(T_a=25°C unless otherwise noted)

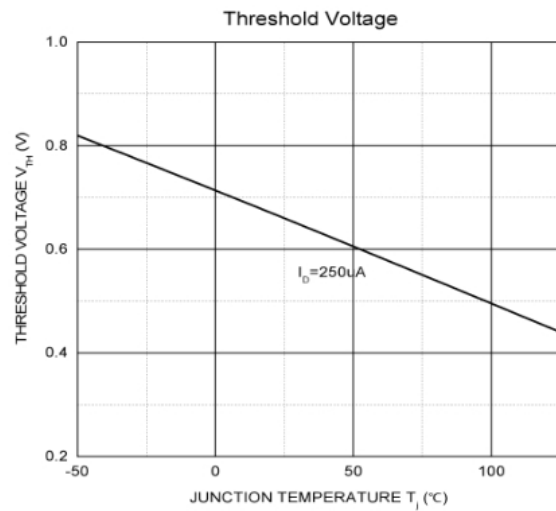
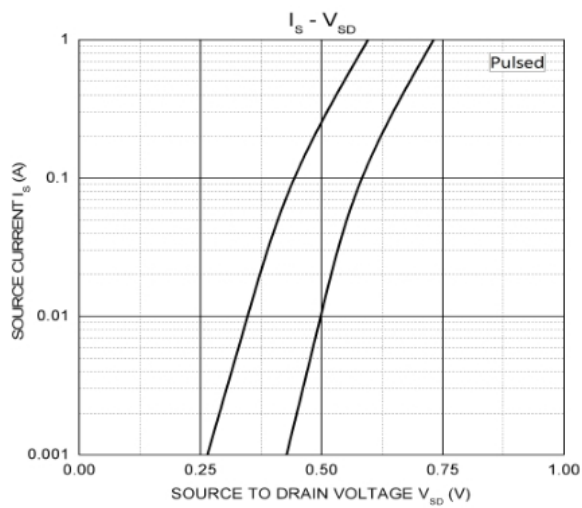
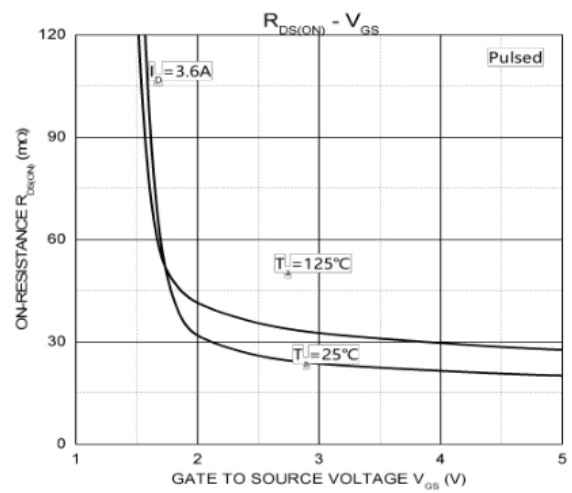
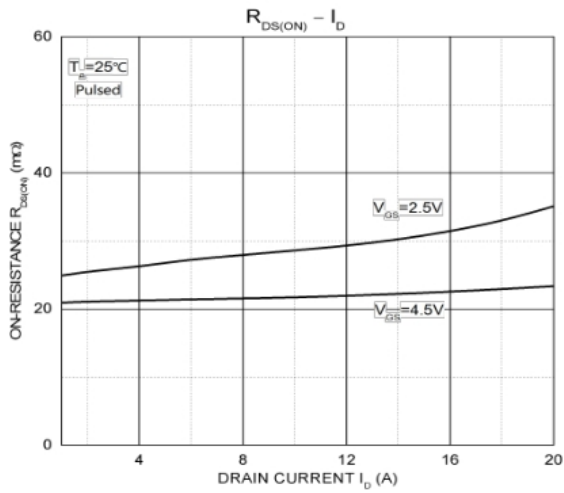
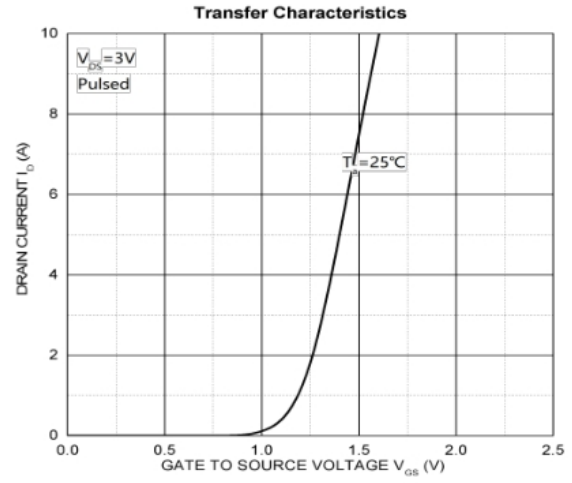
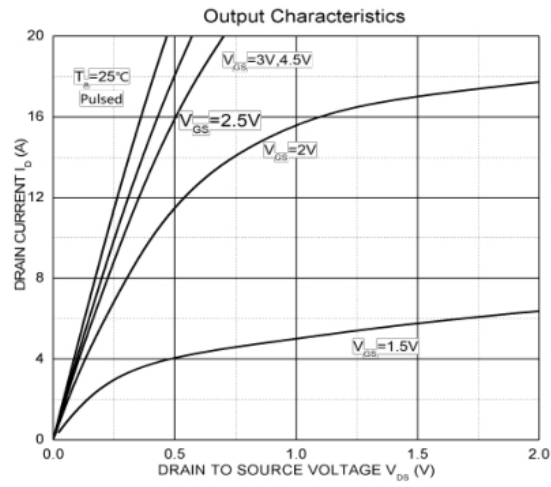
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	±12	V
Continuous Drain Current	I _D	5.8	A
Plused Drain Current	I _{DM}	23	A
Power Dissipation	P _D	1	W
Thermal Resistance from Junction to Ambient	R _{θJA}	120	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

Electrical characteristics

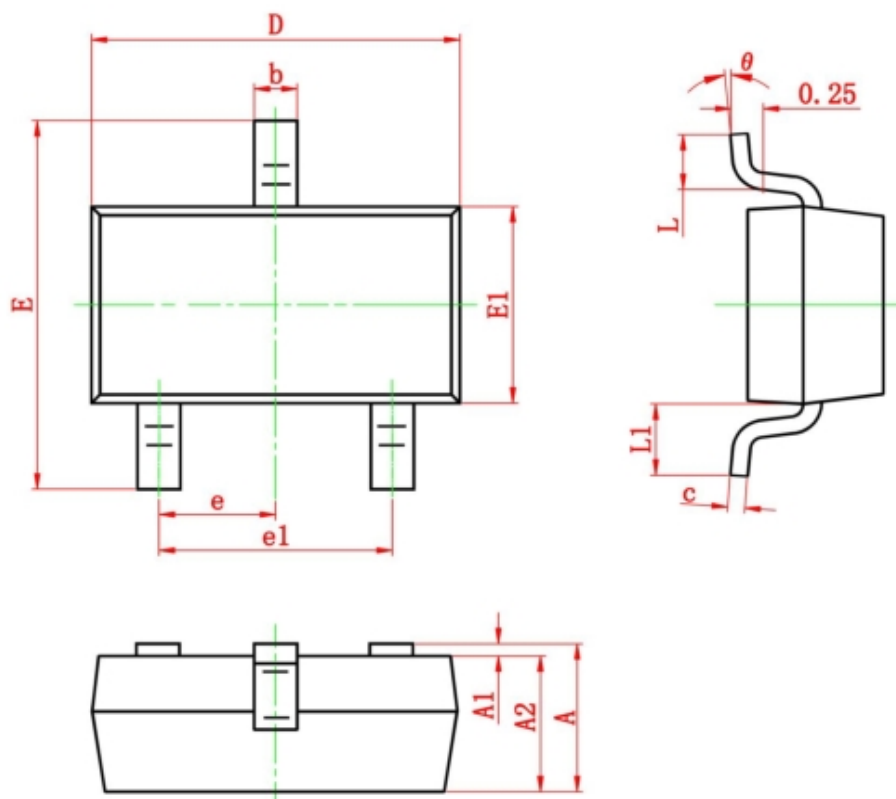
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.7	1.2	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 4.5A$		22	28	m Ω
		$V_{GS} = 2.5V, I_D = 3.5A$		28	35	
Dynamic Characteristics						
Total Gate Charge	Q_g	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 4A$		11		pF
Gate Source Charge	Q_{gs}			2.3		
Gate Drain Charge	Q_{gd}			2.5		
Input Capacitance	C_{iss}	$V_{DS} = 8V, V_{GS} = 0V, f = 1MHz$		800		pF
Output Capacitance	C_{oss}			155		
Reverse Transfer Capacitance	C_{rss}			125		
Switching Characteristics						
Turn-On Delay Time	$T_{d(on)}$	$V_{DD} = 10V, V_{GS} = 4V, I_D = 1A, R_G = 10\Omega$		18		nS
Rise Time	T_r			5		
Turn-Off Delay Time	$T_{d(off)}$			43		
Fall Time	T_f			20		
Source-Drain Diode characteristics						
Diode Forward Voltage	V_{SD}	$I_S = 1A, V_{GS} = 0V$			1.2	V

Typical Characteristics



SOT-23 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E1	1.20	1.40
E	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50
θ	0°	8°