Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	35mΩ@-4.5V	-4.5A
	45mΩ@-2.5V	

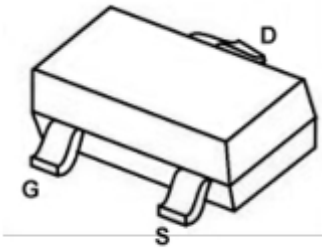
Feature

- TrenchFET Power MOSFET

Application

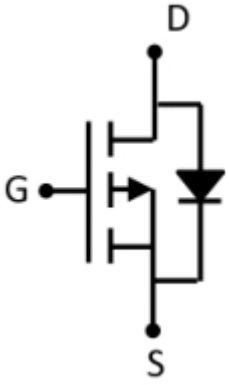
- PA Switch
- Load Switch

Package

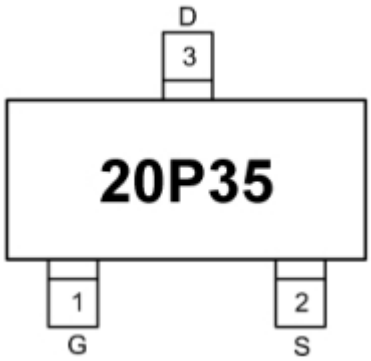


SOT-23-3L

Circuit diagram



Marking



Absolute maximum ratings

(T_a=25℃ 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	-4.5	A
Pulsed Drain Current	I_{DM}	-18	A
Power Dissipation	P_D	1.4	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	89.3	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

Electrical characteristics

(T_A=25℃, unless otherwise noted)

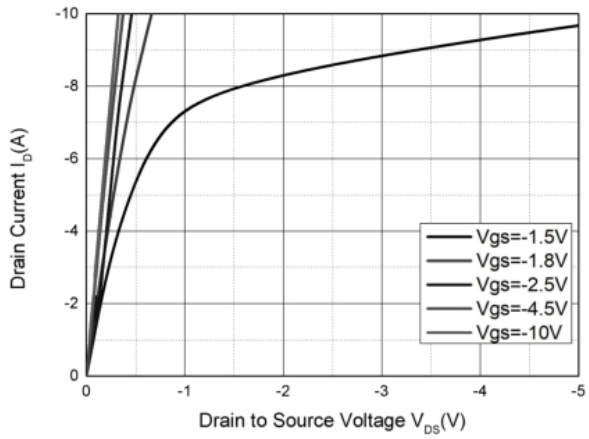
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-16V,V_{GS} = 0V			1	uA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V , V_{DS}=0V			±100	uA
Gate-source threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.4	-0.75	-0.9	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-3.3A		35	57	mΩ
		V_{GS} =-2.5V, I_D =-2.8A		45	76	
Dynamic Characteristics[2]						
Input Capacitance[1)2)]	C_{iss}	V_{DS}=-15V, V_{GS}=0V, f=1MHz		686	960	pF
Output Capacitance[1)2)]	C_{oss}			90.8	127	
Reverse Transfer Capacitance[1)2)]	C_{rss}			80.4	113	
Total Gate Charge[1)]	Q_g	V_{DS}=-15V, V_{DS}=-4.5V, I_D =-3A		9.7	13.6	pF
Gate-Source Charge[1)]	Q_{gs}			2.05	2.9	
Gate-Drain Charge[1)]	Q_{gd}			2.43	3.4	
Switching Characteristics[1)2)]						
Turn-On Delay Time	$T_{d(on)}$	V_{GEN}=-4.5V, V_{DD}=-10V, I_D =-3A, R_G=3.3Ω		4.8	9.6	nS
Rise Time	T_r			9.6	17.3	
Turn-Off Delay Time	$T_{d(off)}$			52	104	
Fall Time	T_f			8.4	16.8	
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	V_{GS}=0V , I_S=-1A		-0.77	-1	V

Note:

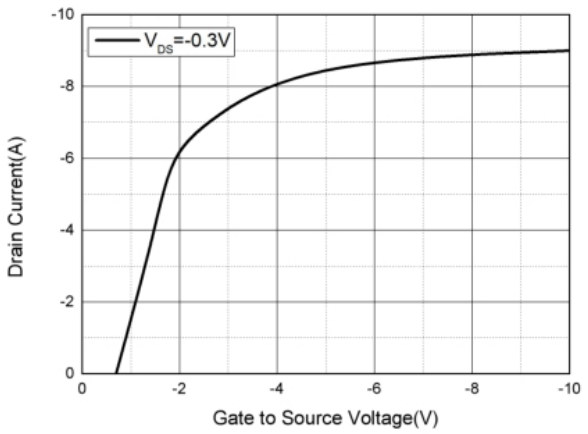
1. Pulse test: pulse width≤300μs, duty cycle≤2%.

2. These parameters have no way to verify.

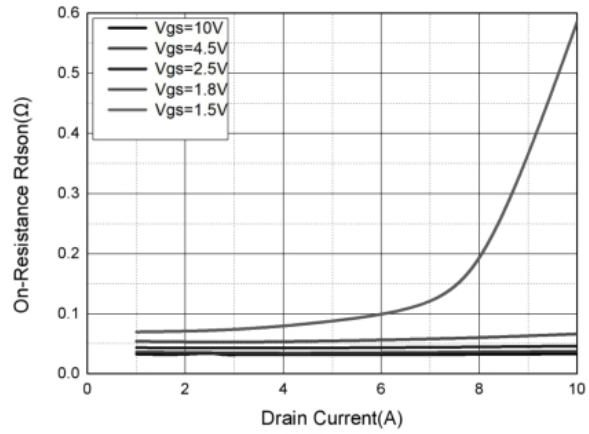
Typical Characteristics



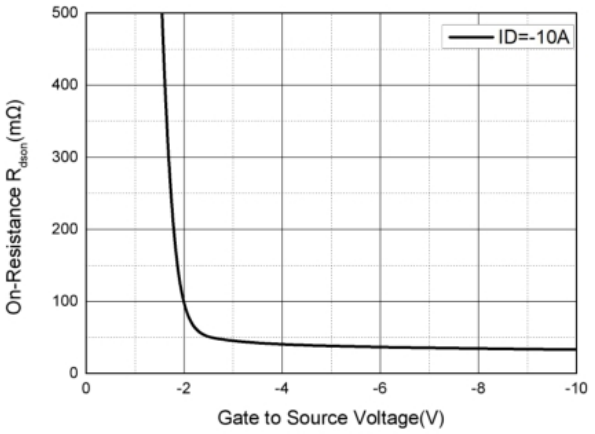
Output Characteristics



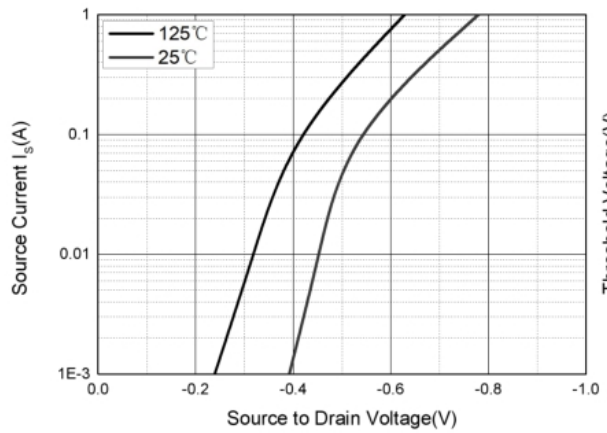
Transfer Characteristics



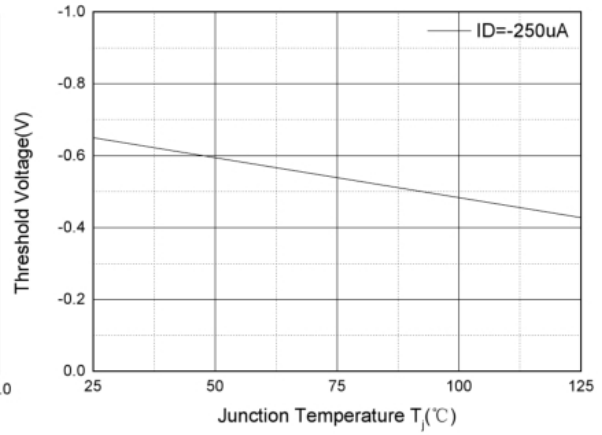
$R_{DS(ON)}$ vs. I_D



$R_{DS(ON)}$ vs. V_{GS}

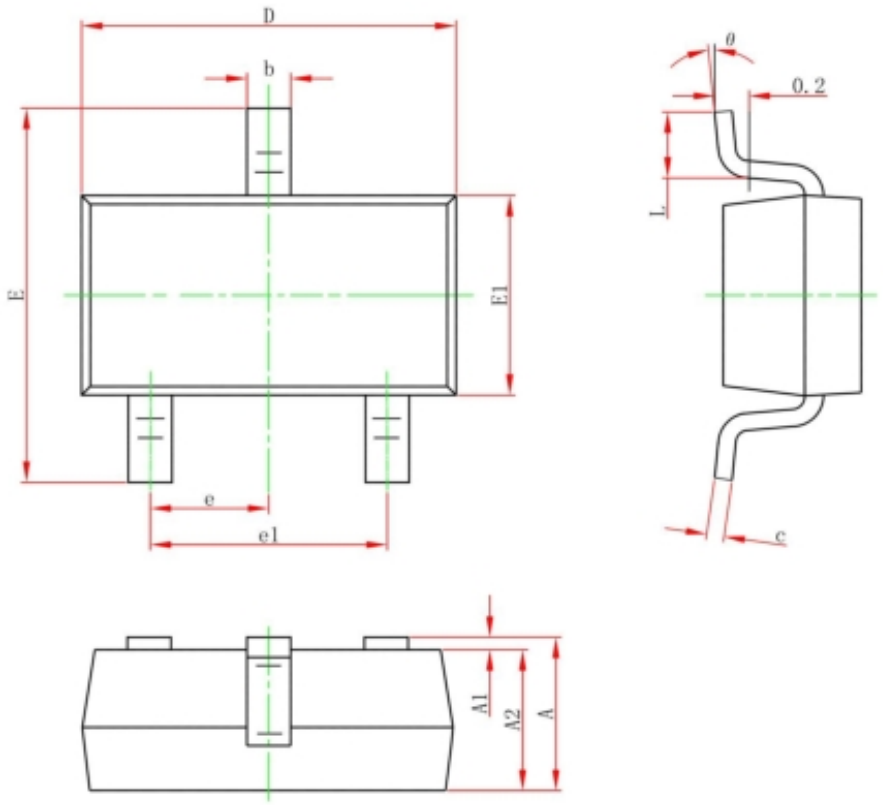


I_S vs. V_{SD}



Threshold Voltage

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°