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
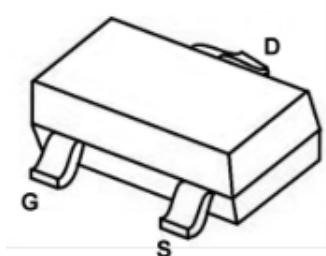
SOT-23

Circuit diagram

Marking

```
        D
        ┌─┐
        │3│
   ┌────┴─┴────┐
   │           │
   │   20P35   │
   │           │
   └─┬─┐   ┌─┬─┘
     │1│   │2│
     └─┘   └─┘
      G     S
```
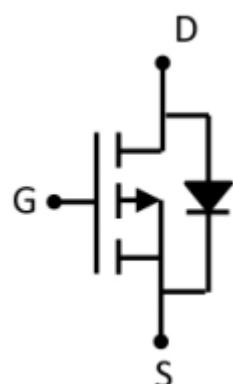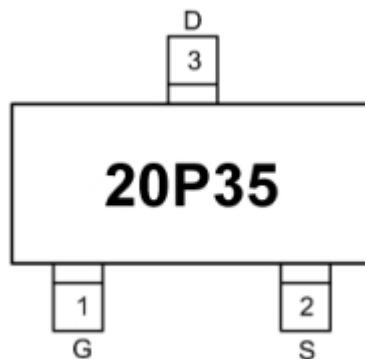
Absolute maximum ratings

(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}	-20	A
Power Dissipation	P_D	1.7	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	73.5	℃/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	
		V_{GS} =-1.8V, I_D =-2.3A		55	110	
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
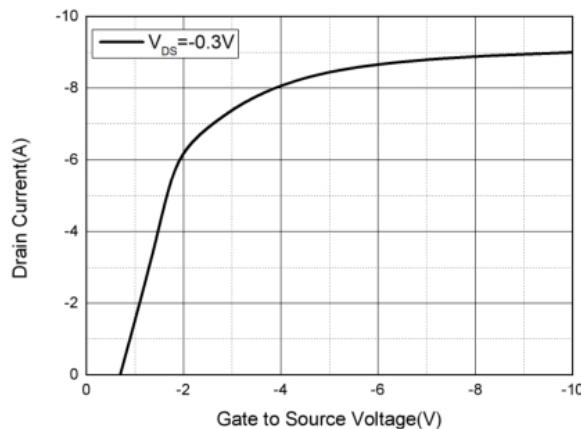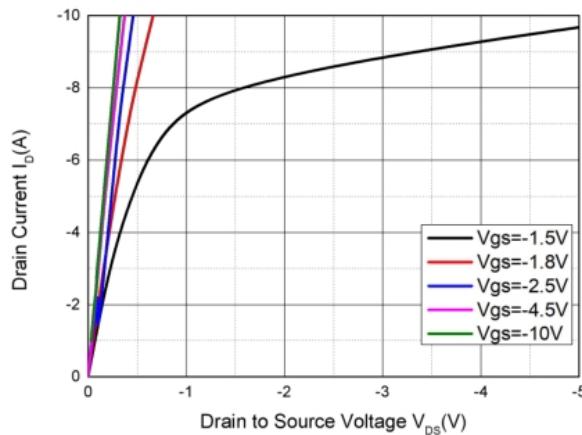
Output Characteristics

Transfer Characteristics
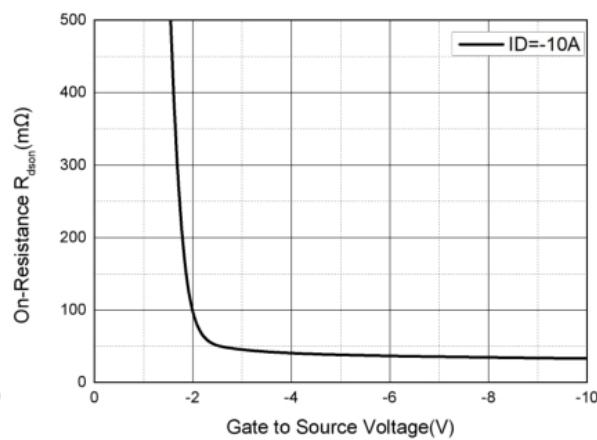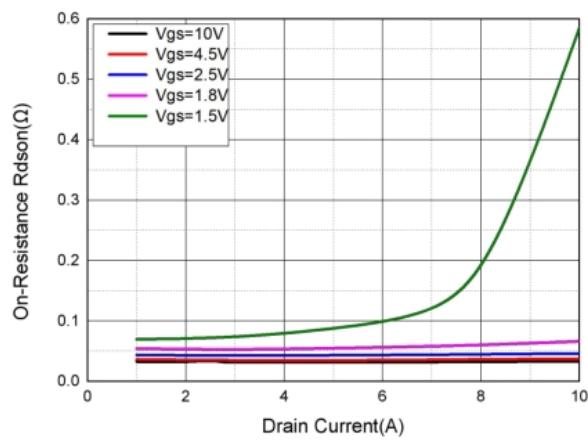
R$_{DS(ON)}$ vs. I$_D$

R$_{DS(ON)}$ vs. V$_{GS}$
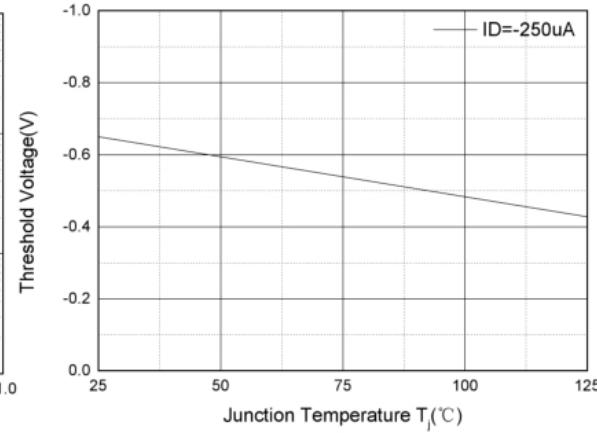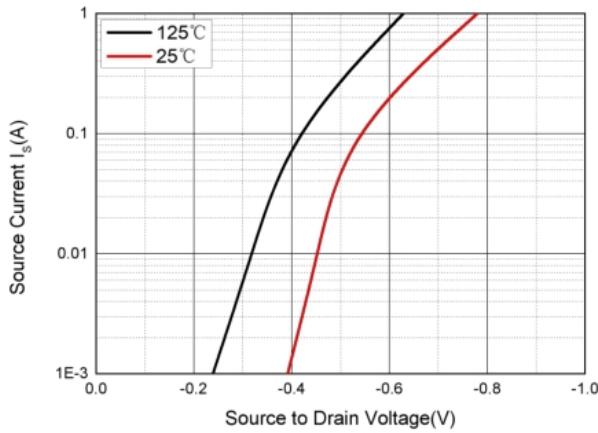
I$_S$ vs. V$_{SD}$

Threshold Voltage

SOT-23-3L Package Information
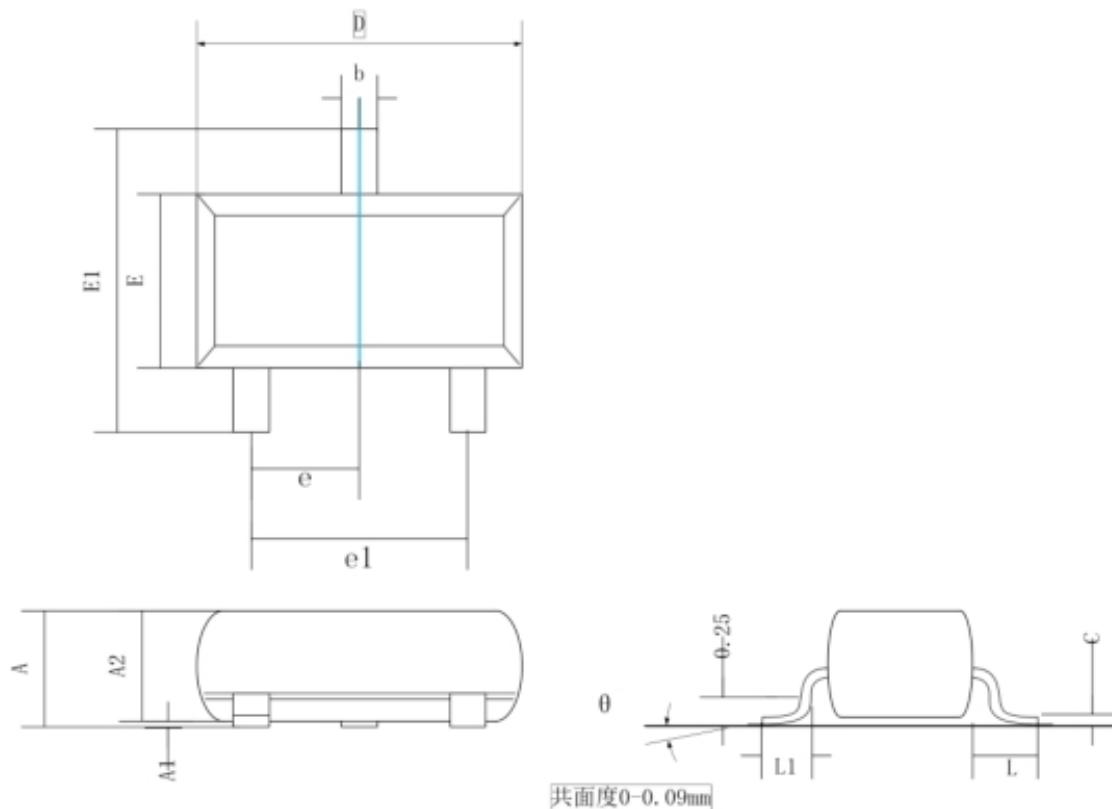
Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95 REF.	
e1	1.80	2.00
L	0.55 REF.	
L1	0.30	0.50
θ	0°	8°