

Product Summary

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

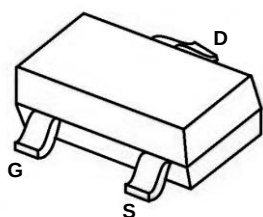
Feature

- TrenchFET Power MOSFET

Application

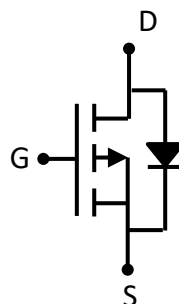
- PA Switch
- Load Switch

Package

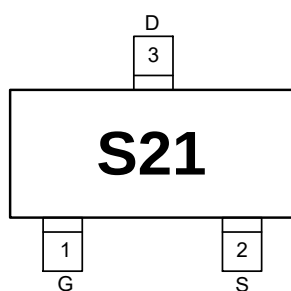


SOT-23

Circuit diagram



Marking



**Absolute maximum ratings (Ta=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	-4.5	A
Pulsed Drain Current	I_{DM}	-18	A
Power Dissipation	P_D	1.7	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	73.5	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

Electrical characteristics (T_A=25 °C, unless otherwise noted)

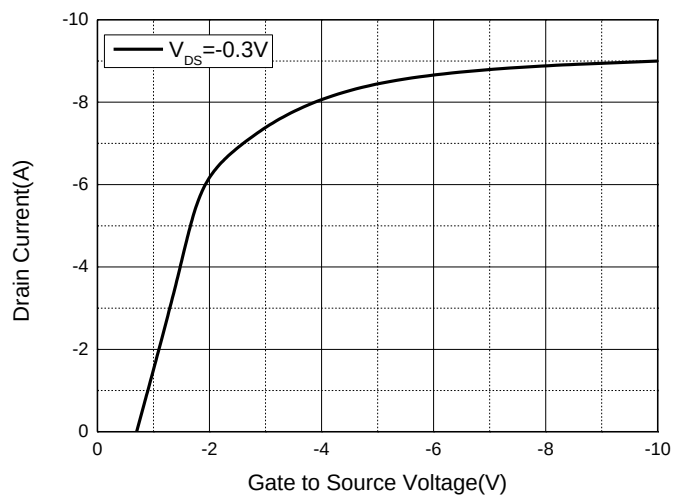
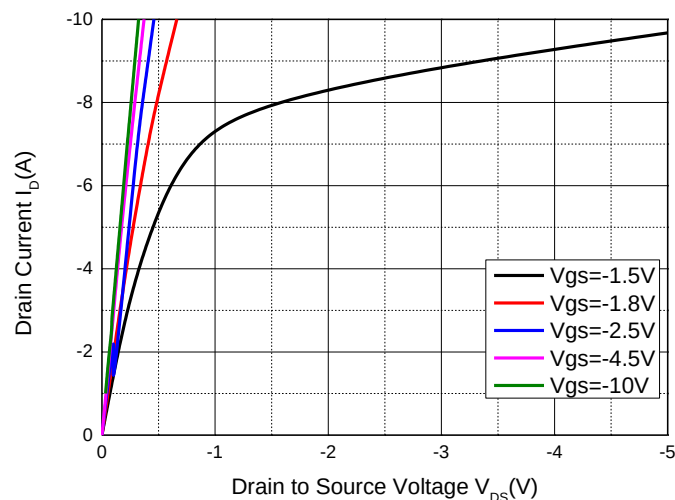
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =-250μA	-20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =-16V,V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			±100	nA
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						
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	pF
Reverse Transfer Capacitance ¹⁾²⁾	C _{rss}			80.4	113	pF
Total Gate Charge ¹⁾	Q _g	V _{DS} =-15V, V _{GS} =-4.5V,I _D =-3A		9.7	13.6	nC
Gate-Source Charge ¹⁾	Q _{gs}			2.05	2.9	nC
Gate-Drain Charge ¹⁾	Q _{gd}			2.43	3.4	nC
Switching 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
Turn-on rise time	t _r			9.6	17.3	ns
Turn-off delay time	t _{d(off)}			52	104	ns
Turn-off fall time	t _f			8.4	16.8	ns
Source-Drain Diode characteristics						
Diode Forward voltage	V _{SD}	V _{GS} =0V, I _S =-1A		-0.77	-1	V

Notes:

- 1) Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 2) These parameters have no way to verify.

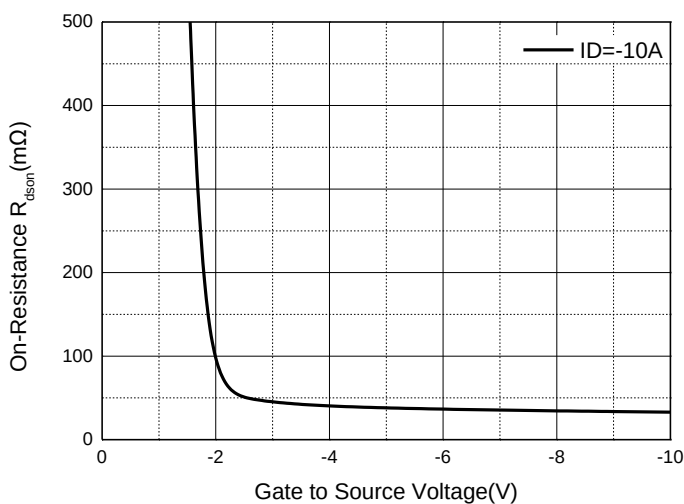
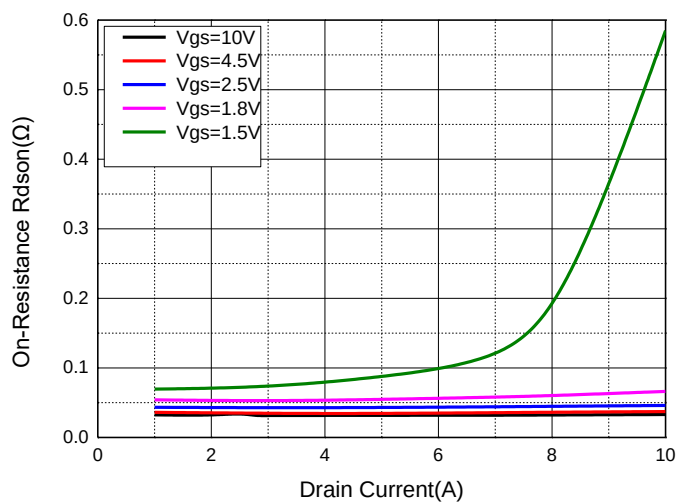


Typical Characteristics



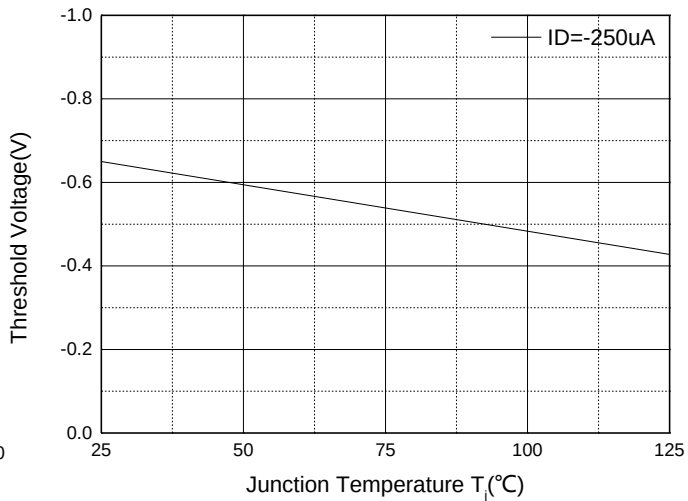
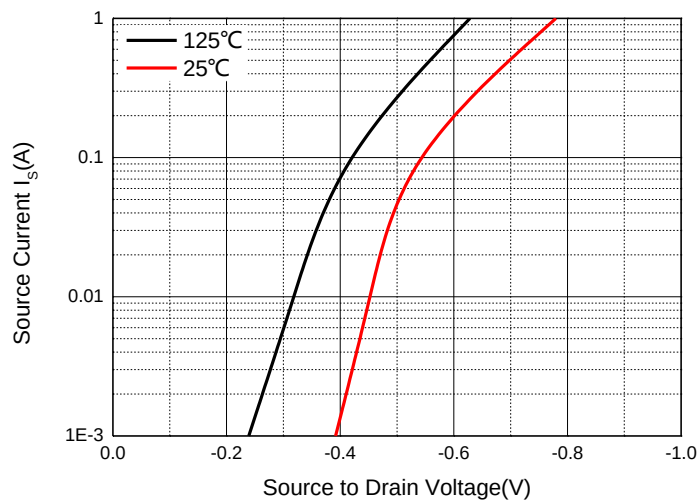
Output Characteristics

Transfer Characteristics



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

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

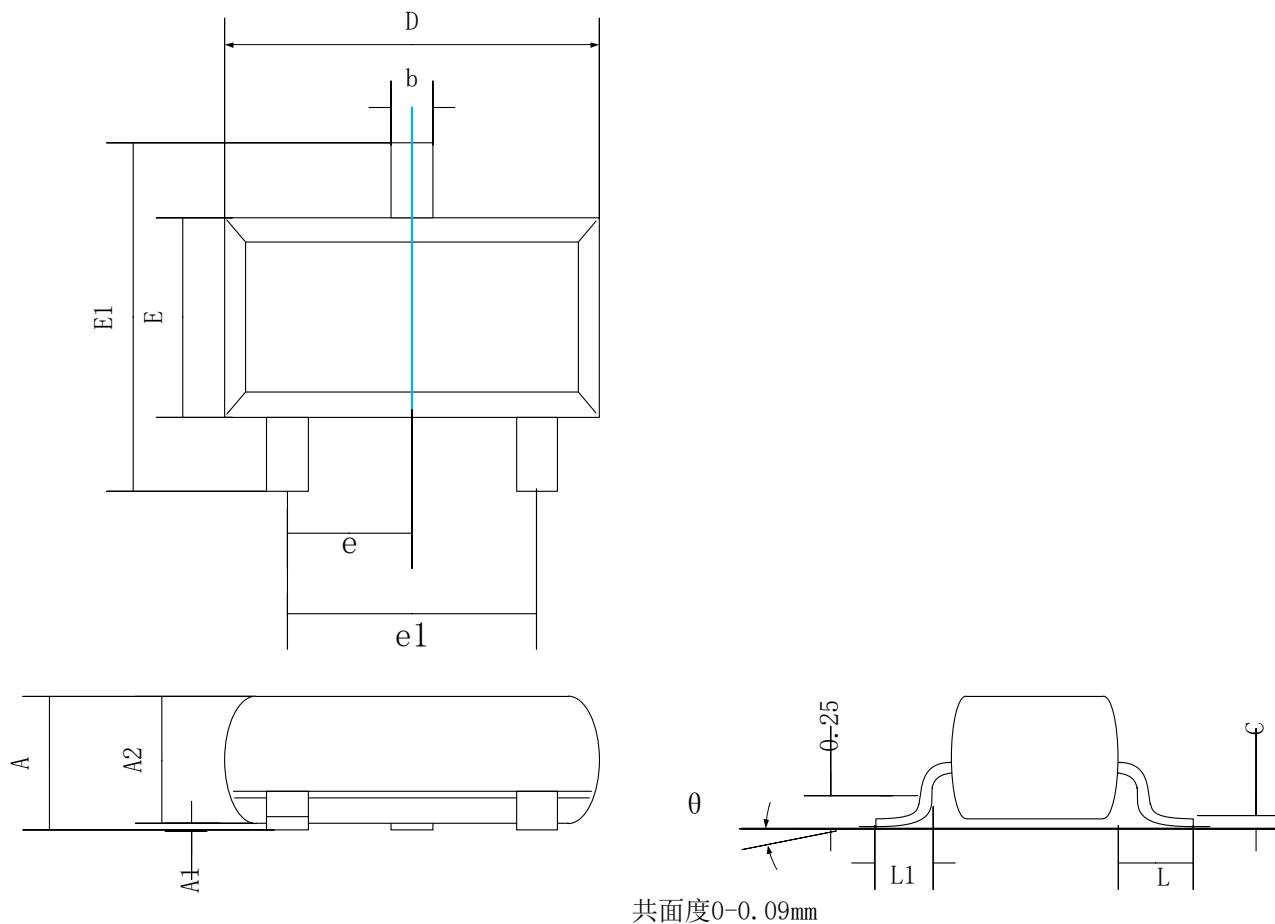


I_S VS. V_{SD}

Threshold Voltage



SOT-23 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°