

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-20V	33mΩ@-4.5V	-4.7A
	43mΩ@-2.5V	

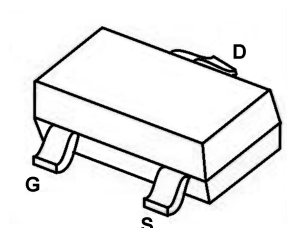
Feature

- TrenchFET Power MOSFET

Application

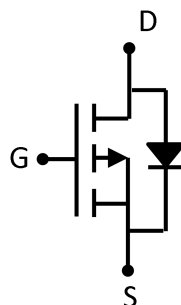
- PA Switch
- Load Switch

Package

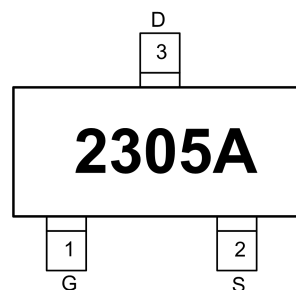


SOT-23

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}	± 10	V
Continuous Drain Current	I_D	-4.7	A
Pulsed Drain Current	I_{DM}	-20	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}\text{C}$

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

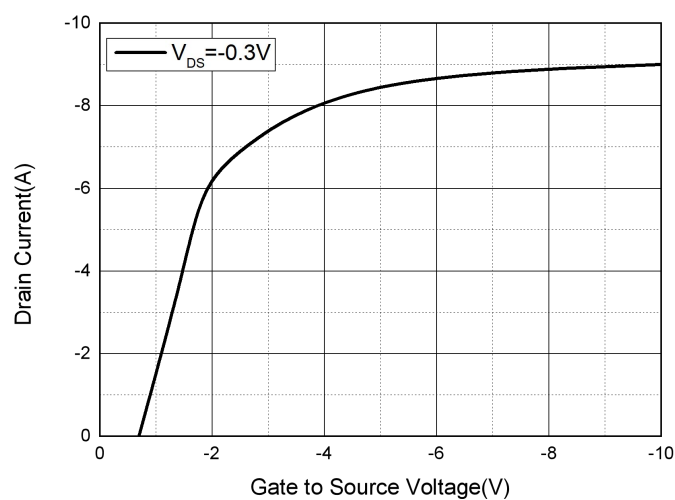
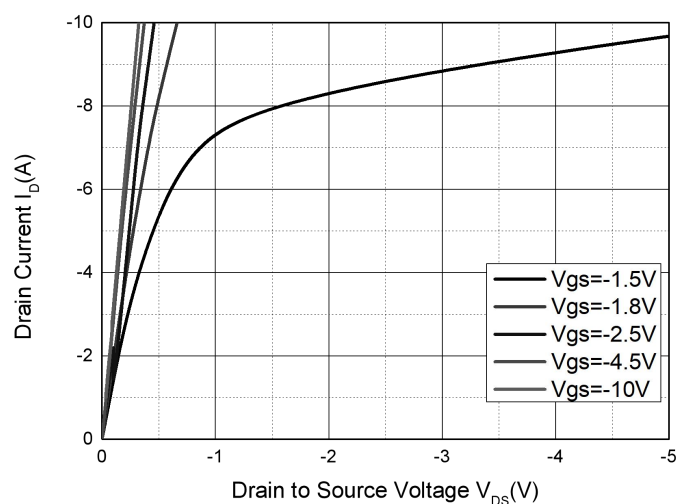
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -16V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$			± 1	μA
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4	-0.75	-1	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -2.7A$		33	39	m Ω
		$V_{GS} = -2.5V, I_D = -2.7A$		43	52	
Dynamic characteristics						
Input Capacitance ¹⁾²⁾	C_{iss}	$V_{DS} = -10V, V_{GS} = 0V, f = 1MHz$		1020		pF
Output Capacitance ¹⁾²⁾	C_{oss}			191		pF
Reverse Transfer Capacitance ¹⁾²⁾	C_{rss}			140		pF
Total Gate Charge ¹⁾	Q_g	$V_{DS} = -10V,$ $V_{GS} = -4.5V, I_D = -4.7A$		12.5	19	nC
Gate-Source Charge ¹⁾	Q_{gs}			1.7		nC
Gate-Drain Charge ¹⁾	Q_{gd}			3.3		nC
Switching ¹⁾²⁾						
Turn-on delay time	$t_{d(on)}$	$V_{GEN} = -4.5V, V_{DD} = -10V,$ $I_D = -1A, R_G = 6\Omega$		25	40	ns
Turn-on rise time	t_r			43	65	ns
Turn-off delay time	$t_{d(off)}$			71	110	ns
Turn-off fall time	t_f			48	75	ns
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	$V_{GS} = 0V, I_S = -1A$			-1.2	V

Notes:

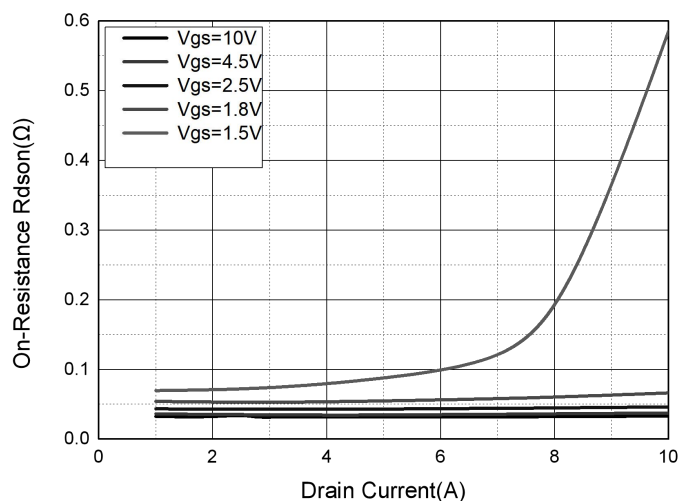
- 1) Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 2) These parameters have no way to verify.



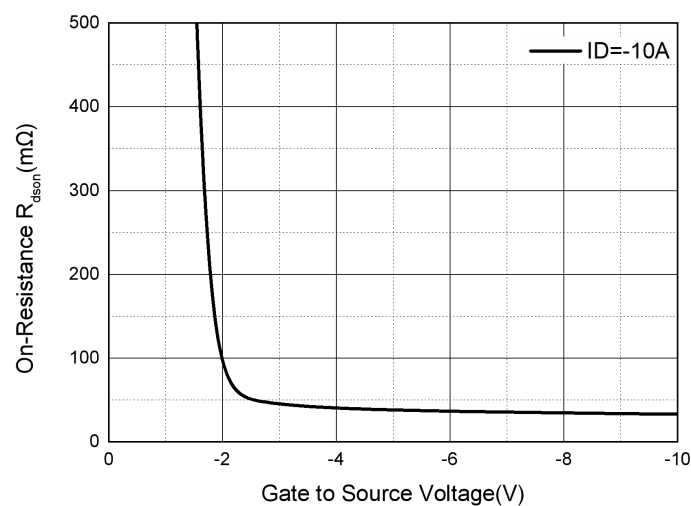
Typical Characteristics



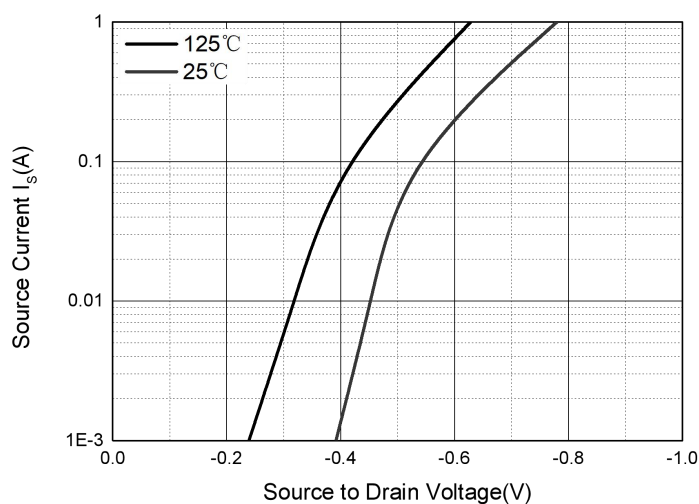
Output Characteristics



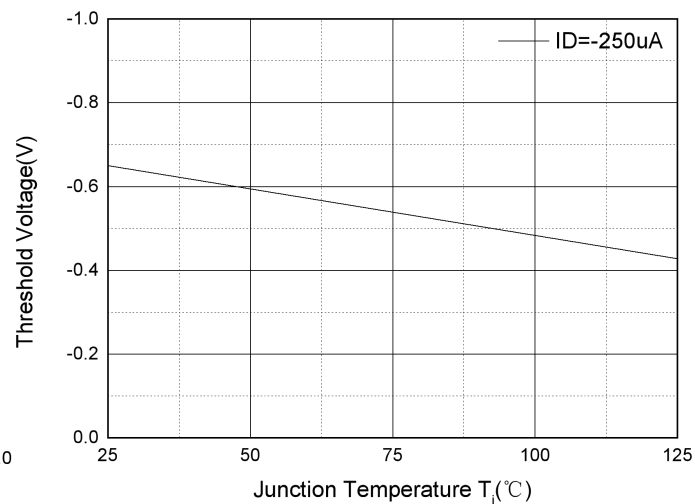
$R_{DS(on)}$ vs. I_D



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



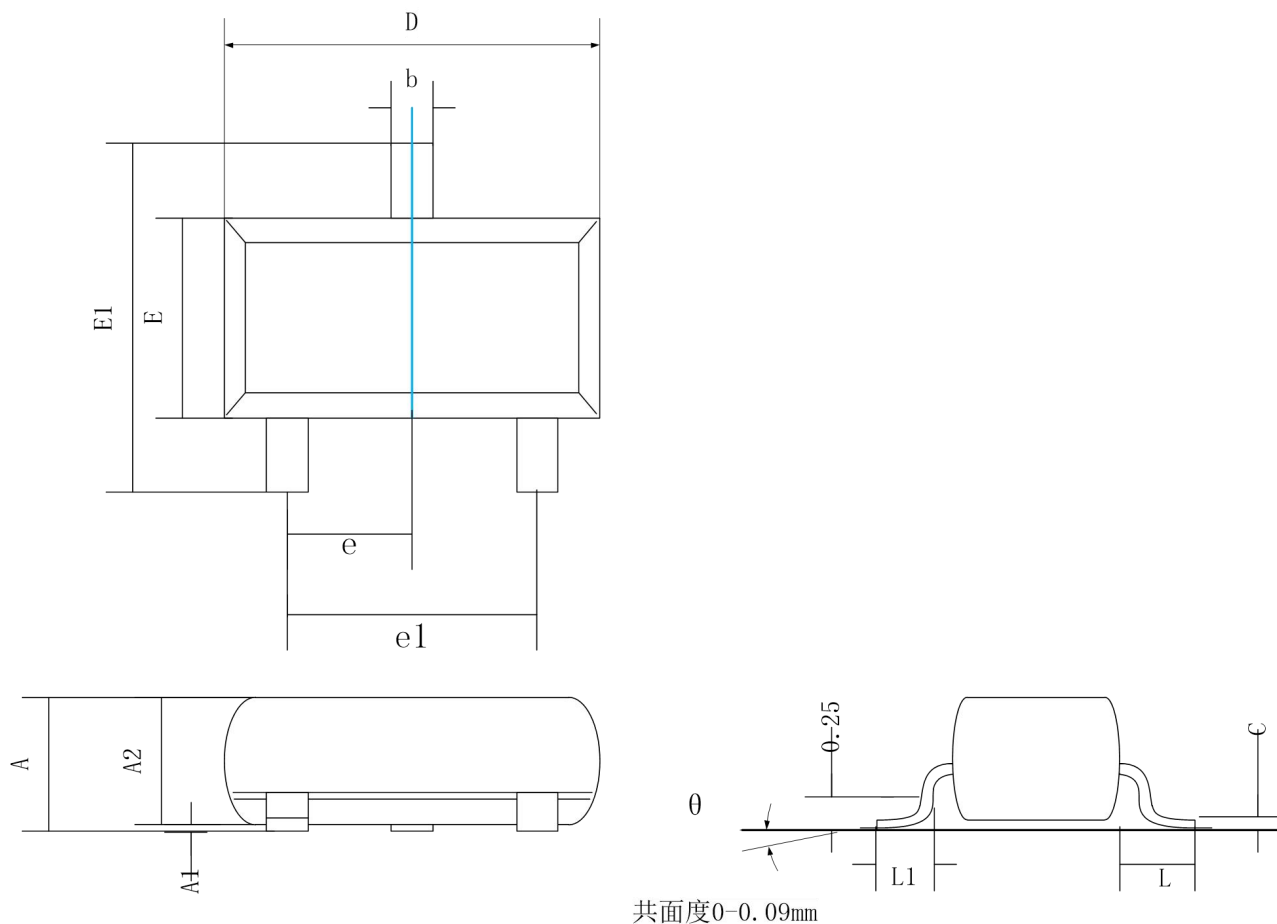
I_S vs. V_{SD}



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°