



Plastic-Encapsulate MOSFETS

P-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-20V	45mΩ@-4.5V	-4.1A
	60mΩ@-2.5V	
	90mΩ@-1.8V	

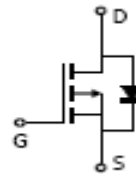
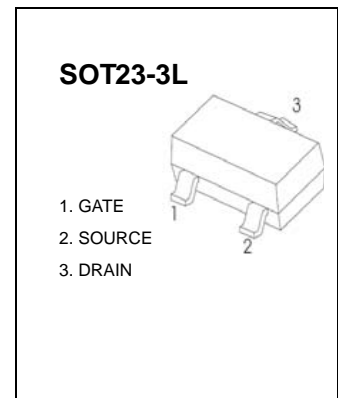
FEATURE

TrenchFET Power MOSFET

APPLICATIONS

- Load Switch for Portable Devices
- DC/DC Converter

MARKING: 2305



Maximum ratings ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	±8	
Continuous Drain Current	I_D	-4.1	A
Continuous Source-Drain Diode Current	I_S	-0.8	
Maximum Power Dissipation	P_D	0.4	W
Thermal Resistance from Junction to Ambient($t \leq 10s$)	$R_{\theta JA}$	312.5	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-50 ~ +150	



MOSFET ELECTRICAL CHARACTERISTICS

T_a=25 °C unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-20			V
Gate-source threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.5		-0.9	
Gate-source leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±8V			±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} = -8V, V _{GS} = 0V			-1	μA
Drain-source on-state resistance ^c	R _{DS(on)}	V _{GS} = -4.5V, I _D = -3.5A		30	45	mΩ
		V _{GS} = -2.5V, I _D = -3A		40	60	
		V _{GS} = -1.8V, I _D = -2.0A		60	90	
Forward transconductance ^a	g _{fs}	V _{DS} = -5V, I _D = -4.1A	6			S
Dynamic						
Input capacitance ^{b,c}	C _{ISS}	V _{DS} = -4V, V _{GS} = 0V, f = 1MHz		740		pF
Output capacitance ^{b,c}	C _{OSS}			290		
Reverse transfer capacitance ^{b,c}	C _{rss}			190		
Total gate charge ^b	Q _g	V _{DS} = -4V, V _{GS} = -4.5V, I _D = -4.1A		7.8	15	nC
		V _{DS} = -4V, V _{GS} = -2.5V, I _D = -4.1A		4.5	9	
Gate-source charge ^b	Q _{gs}	V _{DS} = -4V, V _{GS} = -2.5V, I _D = -4.1A		1.2		
Gate-drain charge ^b	Q _{gd}			1.6		
Gate resistance ^{b,c}	R _g	f = 1MHz	1.4	7	14	Ω
Turn-on delay time ^{b,c}	t _{d(on)}	V _{DD} = -4V, R _L = 1.2Ω, I _D ≈ -3.3A, V _{GEN} = -4.5V, R _g = 1Ω		13	20	ns
Rise time ^{b,c}	t _r			35	53	
Turn-off Delay time ^{b,c}	t _{d(off)}			32	48	
Fall time ^{b,c}	t _f			10	20	
Turn-on delay time ^{b,c}	t _{d(on)}	V _{DD} = -4V, R _L = 1.2Ω, I _D ≈ -3.3A, V _{GEN} = -8V, R _g = 1Ω		5	10	
Rise time ^{b,c}	t _r			11	17	
Turn-off delay time ^{b,c}	t _{d(off)}			22	33	
Fall time ^{b,c}	t _f			16	24	
Drain-source body diode characteristics						
Continuous source-drain diode current	I _S	T _C = 25°C			-1.4	A
Pulse diode forward current ^a	I _{SM}				-10	
Body diode voltage	V _{SD}	I _F = -3.3A			-1.2	V

Note :

- a. Pulse Test ; Pulse Width ≤300μs, Duty Cycle ≤2%.
- b. Guaranteed by design, not subject to production testing.
- c. These parameters have no way to verify.



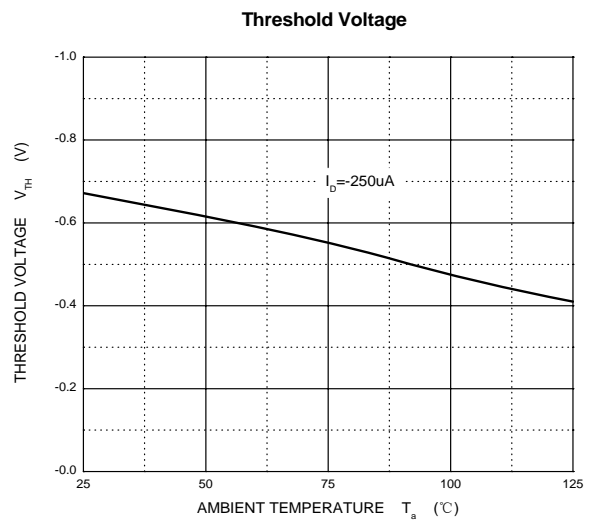
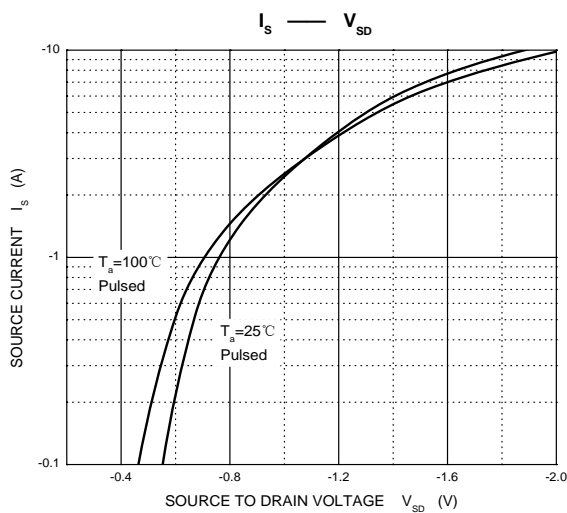
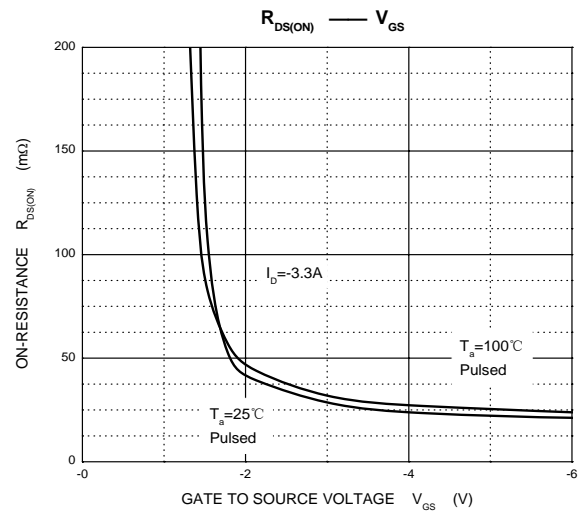
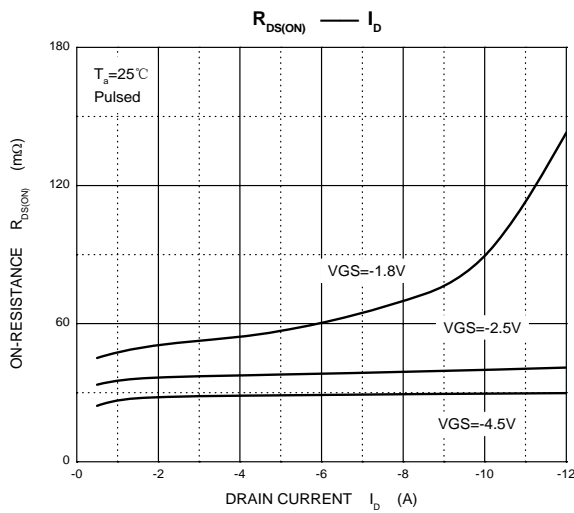
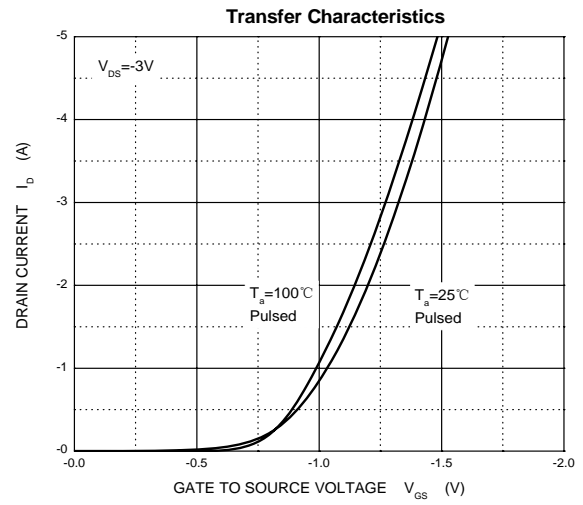
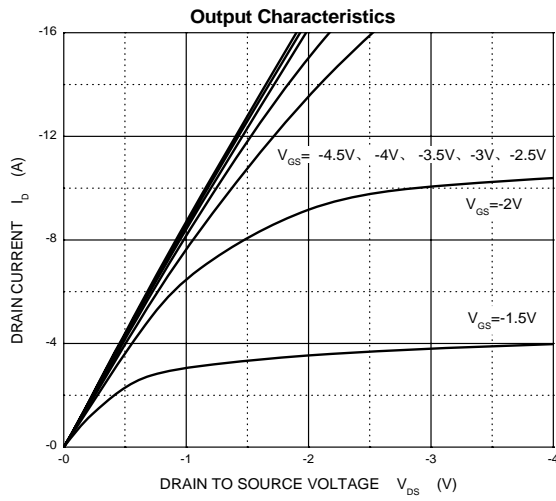
CHINA BASE
INTERNATIONAL

SOT-23-3L

CB2305

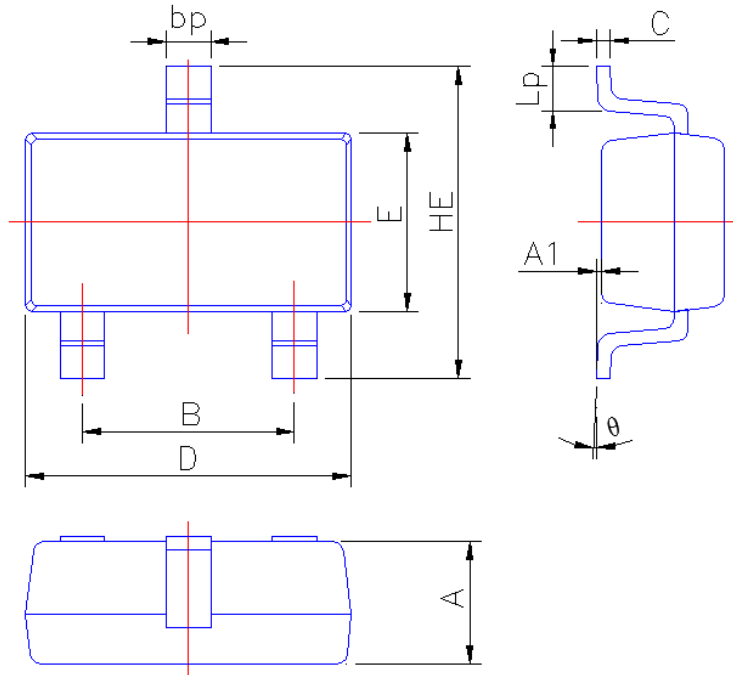


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SOT-23-3L Package Outline Dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	1.05	1.20
A1	0.010	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.09	0.15
D	2.80	3.00
E	1.50	1.70
HE	2.60	3.00
Lp	0.25	0.55
θ	2°	6°