

FEATURE

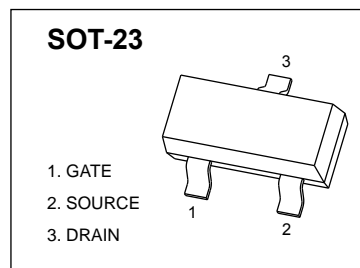
- TrenchFET Power MOSFET

P-Channel 20-V(D-S) MOSFET

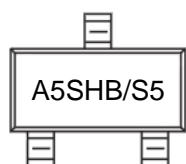
$V_{(BR)DSS}$	$R_{DS(on)Typ}$	I_D
-20V	38mΩ@-4.5V	-4A
	50mΩ@-2.5V	
	70mΩ@-1.8V	

APPLICATION

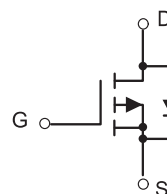
- PA Switch
- Load Switch



MARKING



Equivalent Circuit



ORDERING INFORMATION

Type No.	Marking	Package Code
LX2305A	A5SHB/S5	SOT-23

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	
Continuous Drain Current	I_D	-4	A
Pulsed Drain Current	I_{DM}	-15	
Continuous Source-Drain Diode Current	I_S	-0.59	
Maximum Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-50 ~+150	°C



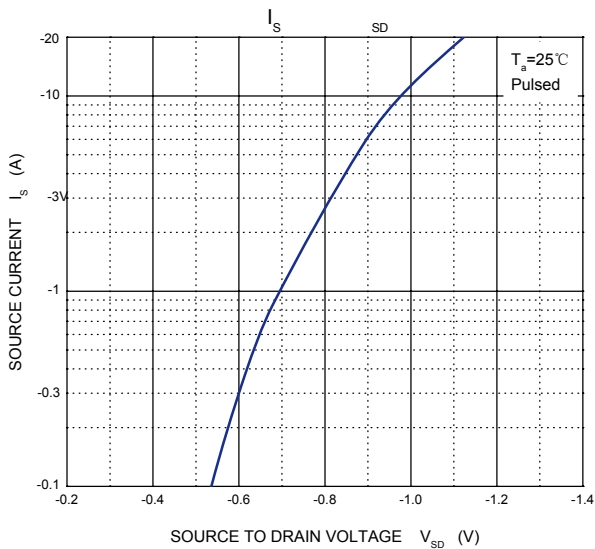
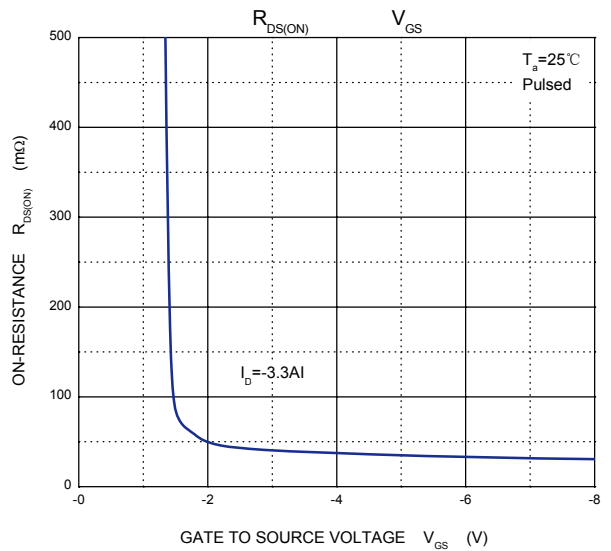
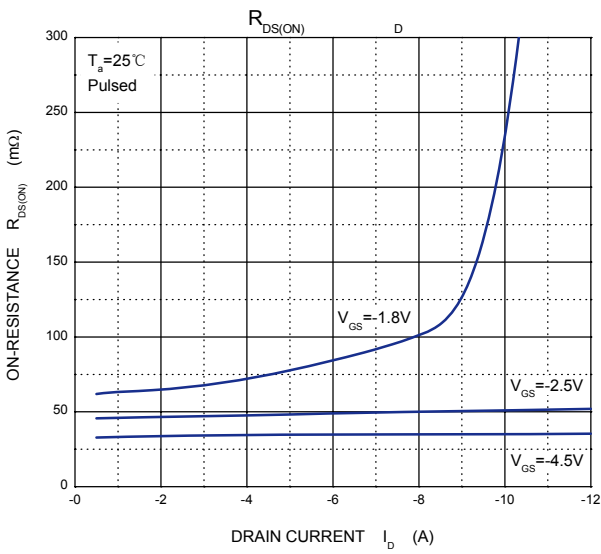
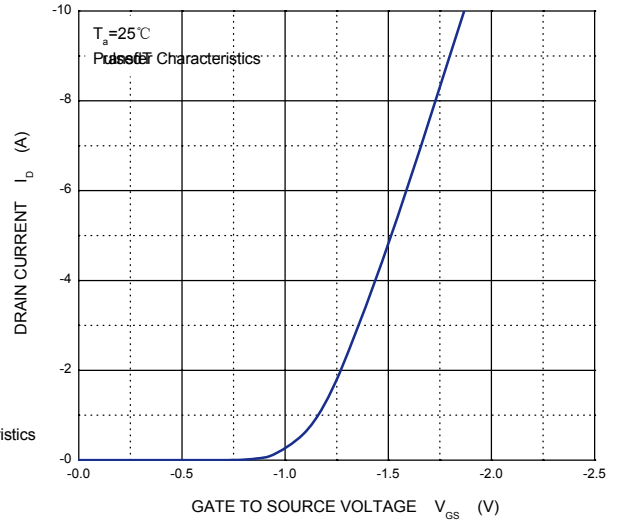
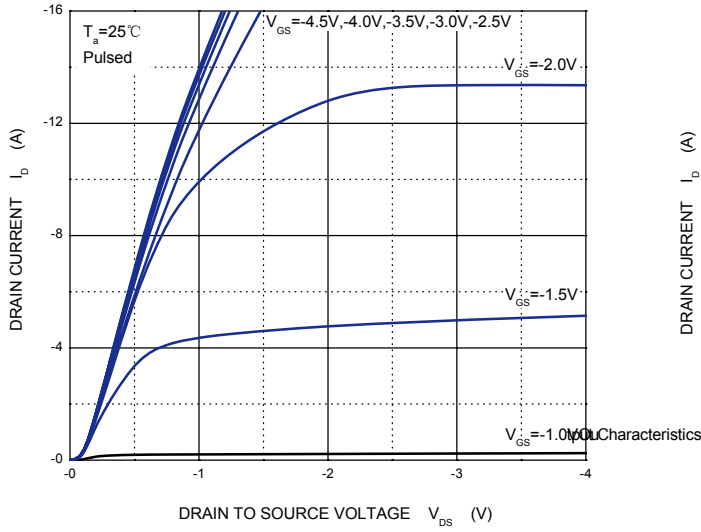
MOSFET ELECTRICAL CHARACTERISTICS

T =25 °C unless otherwise specified

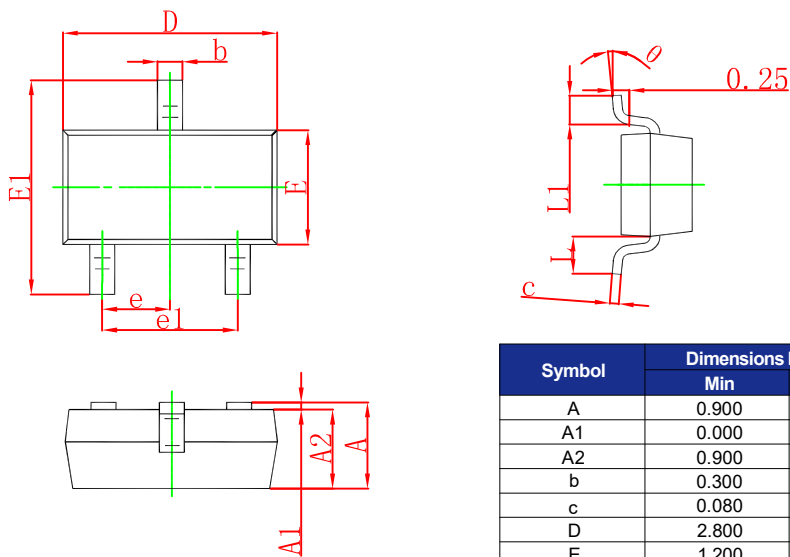
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	$V_{(BR) DSS}$	$V_{GS} = 0V, I_D = -10\mu A$	-20			V
Gate-source leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = 12V$			±100	nA
Zero Gate voltage drain current	I_{DSS}	$V_{DS} = -16V, V_{GS} = 0V$			-1.0	μA
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4		-1.0	V
Drain-source on-state resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -3.4A$		0.038	0.050	Ω
		$V_{GS} = -2.5V, I_D = -2.0A$		0.050	0.065	
		$V_{GS} = -1.8V, I_D = -2.5A$		0.070	0.085	
Forward transconductance	g_{fs}	$V_{DS} = -5V, I_D = -3.4A$	3			S
Forward diode voltage	V_{SD}	$V_{GS} = 0V, I_S = -1.6A$			-1.2	V
Dynamic						
Input capacitance ^{a,b}	C_{iss}	$V_{DS} = -6V, V_{GS} = 0V, f = 1MHz$		715		pF
Output capacitance ^{a,b}	C_{oss}			170		
Reverse transfer capacitance ^{a,b}	C_{rss}			120		
Total Gate charge ^a	Q_g	$V_{DS} = -6V, V_{GS} = -4.5V, I_D = -3.3A$			13	nc
Gate-Source charge ^a	Q_{gs}			1.2		nc
Gate-Drain charge ^a	Q_{gd}			2.2		nc
Switching^{a,b}						
Turn-on delay Time	$t_{d(on)}$	$V_{GEN} = -4.5V, V_{DD} = -6V, I_D = -1.0A, R_G = 6\Omega, R_L = 6\Omega$			25	ns
Rise time	t_r				55	
Turn-off delay time	$t_{d(off)}$				90	
Fall time	t_f				60	

Notes :

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

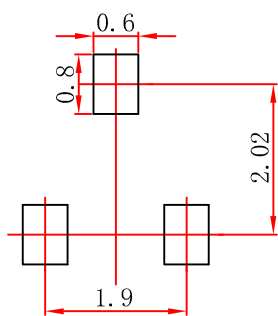


SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05mm.
 3. The pad layout is for reference purposes only.