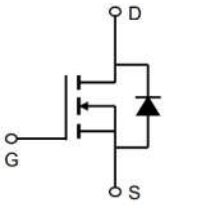
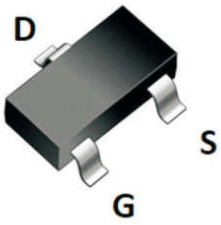
20V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	2.3A
V_{DSS}	20V
R_{DSON}-typ(@V_{GS}=4.5V)	< 56mΩ(Type:43 mΩ)





SOT-23

Pb lead-free ROHS

Application

- Battery protection
- Load switch
- Uninterruptible power supply

Product Specification Classification

Part Number	Package	Marking	Pack
YFW2300B	SOT-23	2300.	3000PCS/Tape
YFW2300B	SOT-23	A2SHB	3000PCS/Tape

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	20	V
Gate - Source Voltage	V_{GS}	±12	V
Continuous Drain Current, V_{GS} @ 4.5V @T_A=25℃	I_D	2.3	A
Continuous Drain Current, V_{GS} @ 4.5V @T_A=70℃	I_D	1.8	A
Pulsed Drain Current [A]	I_{DM}	14	A
Total Power Dissipation[3] @T_A=25℃	P_D	0.7	W
Thermal Resistance Junction-to-Ambient @Steady State	$R_{\theta JA}$	178	°C/W
Operating Junction Temperature Range	T_J , T_{STG}	-55 to +150	°C

Download from alldatasheet.com

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250uA	BV_{DSS}	20	21	-	V
Zero Gate Voltage Drain Current	V_{DS}=20V , V_{GS}=0V , T_J=25℃	I_{DSS}	-	-	1	μA
Gate-Body Leakage Current	V_{GS}=±12V, V_{DS}=0V	I_{GSS}	-	-	±100	nA
Gate -Threshold Voltage	V_{DS}=V_{GS}, I_D=250uA	$V_{GS(th)}$	0.52	0.66	0.9	V
Static Drain-Source On-Resistance	V_{GS}=4.5V, I_D=2.0A	$R_{DS(ON)}$	-	43	56	mΩ
	V_{GS}=2.5V, I_D=1.5A		-	58	78	
Input Capacitance	V_{DS}=10V V_{GS}=0V f=1.0MHz	C_{iss}	-	280	-	pF
Output Capacitance		C_{oss}	-	46	-	
Reverse Transfer Capacitance		C_{rss}	-	29	-	
Total Gate Charge	V_{GS}=4.5V V_{DS}=10V I_D=3.0A	Q_g	-	2.9	-	nC
Gate-Source Charge		Q_{gs}	-	0.4	-	
Gate-Drain Charge		Q_{gd}	-	0.6	-	
Turn-on delay time	V_{GS} =4.5V V_{DD}=10V R_L =1.5Ω R_{GEN} =3Ω	$t_{d(on)}$	-	13	-	ns
Turn-on Rise Time		T_r	-	54	-	
Turn-Off Delay Time		$t_{d(OFF)}$	-	18	-	
Turn-Off Fall Time		t_f	-	11	-	
Maximum Body-Diode Continuous Current		I_S	-	-	3.0	A
Diode Forward Voltage	V_{GS}=0V , I_S=3.0A	V_{SD}	-	-	1.2	V

Note：
1、Pulse Test: Pulse Width≤300us,Duty cycle ≤2%.
2、Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

Download from alldatasheet.com

Ratings and Characteristic Curves

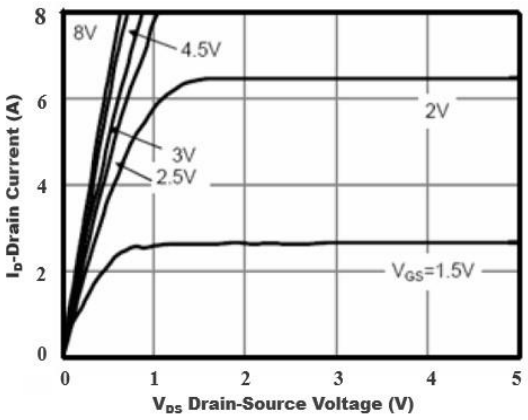


Figure1. Output Characteristics

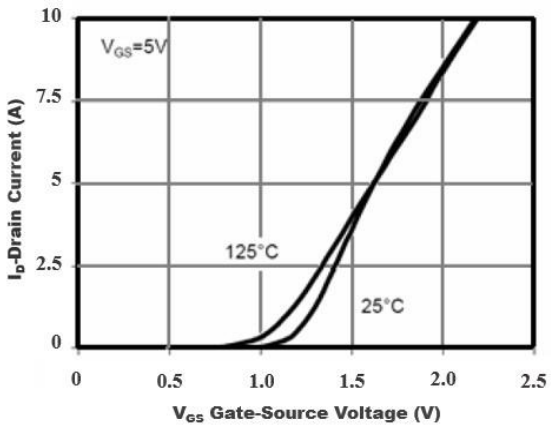


Figure2. Transfer Characteristics

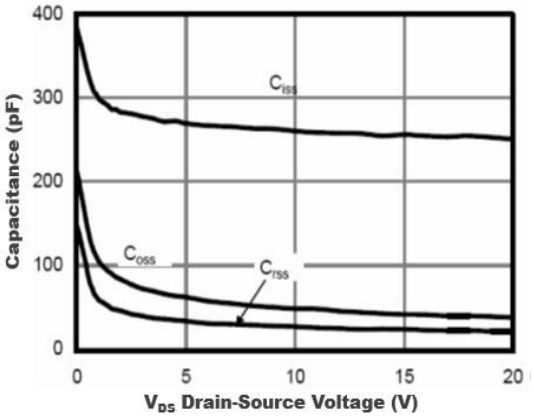


Figure3. Capacitance Characteristics

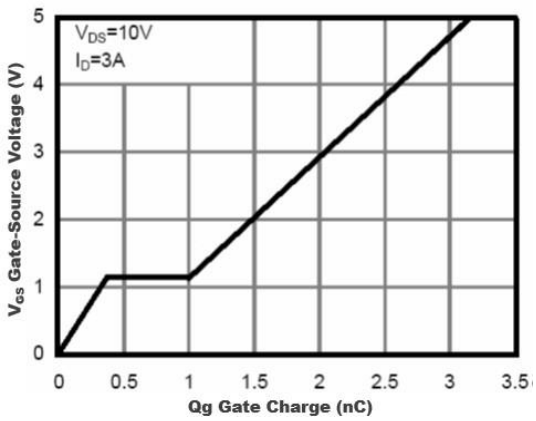


Figure4. Gate Charge

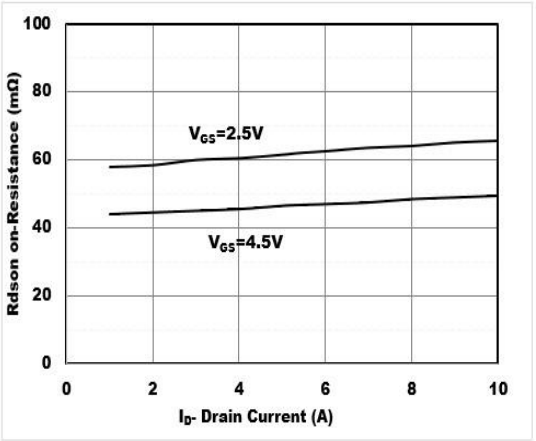


Figure5. Drain-Source on Resistance

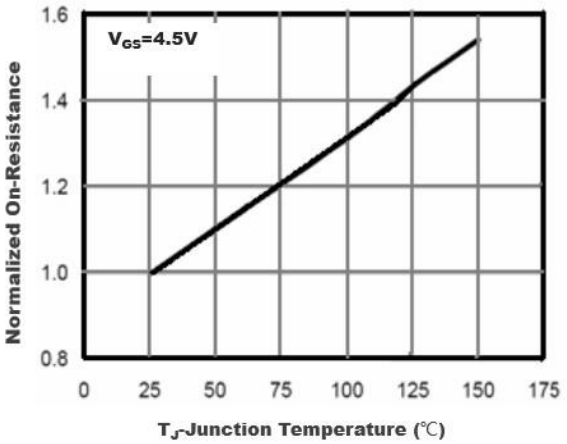


Figure6. Drain-Source on Resistance

Download from alldatasheet.com

Ratings and Characteristic Curves

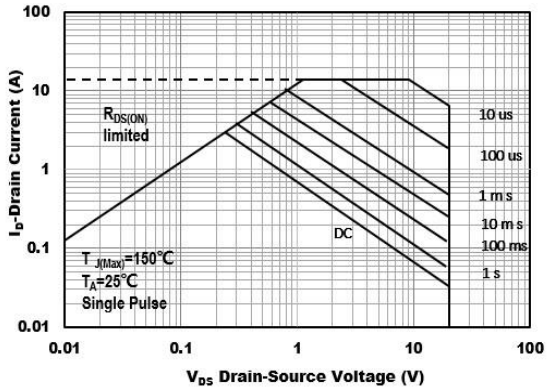


Figure7. Safe Operation Area

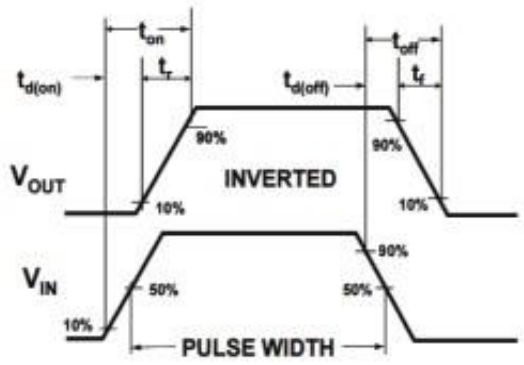
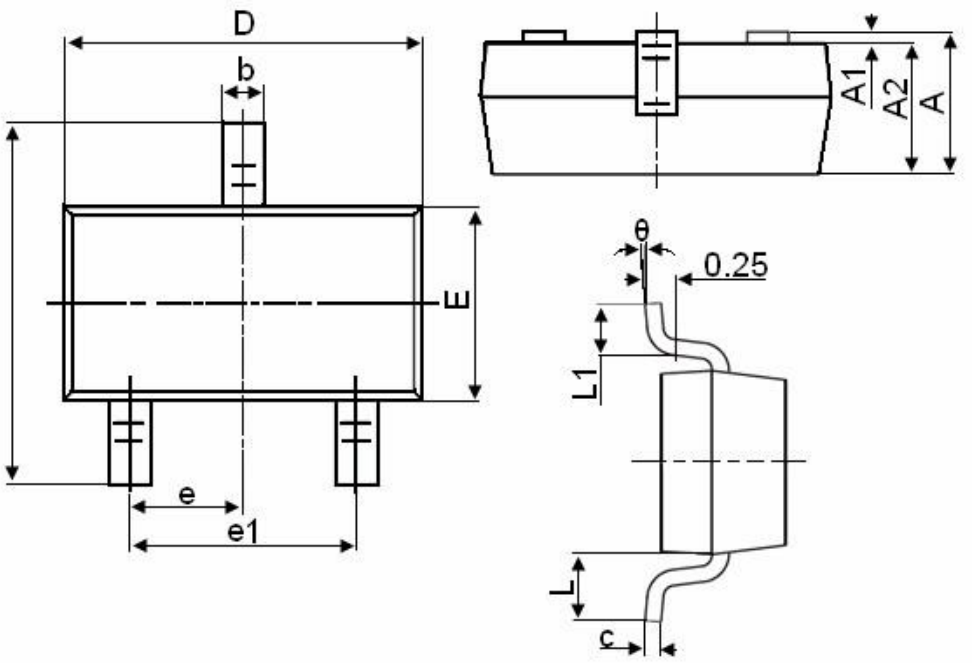


Figure8. Switching wave

Download from alldatasheet.com

Package Outline Dimensions Millimeters

SOT-23



Symbol	Dimensions in Millimeters	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Download from alldatasheet.com