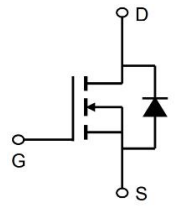
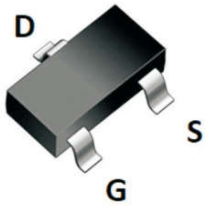
20V N-Channel Enhancement Mode MOSFET

MAIN CHARACTERISTICS

I_D	4A
V_{DSS}	20V
R_{DSON}-typ(@V_{GS}=4.5V)	＜30mΩ(Typ:25mΩ)
R_{DSON}-typ(@V_{GS}=2.5V)	＜45mΩ(Typ:32mΩ)





1.Gate 2.Source 3.Drain

SOT-23

FEATURES

- Trench FET Power MOSFET
- Load Switch for Portable Devices.
- DC/DC Converter.
- Moisture Sensitivity Level 3

MECHANICAL DATA

- Case:SOT-23
- Epoxy UL: 94V-0.
- Mounting Position: Any.

Marking Code	
YFW2302A	A2SHB

Absolute Maximum Ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	4.0	A
Continuous Source Current (Diode Conduction)	I_S	0.6	A
Power Dissipation	P_D	1250	mW
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55-+150	℃
Thermal Resistance From Junction to Ambient (note 2)	$R_{\theta JA}$	100	℃/W

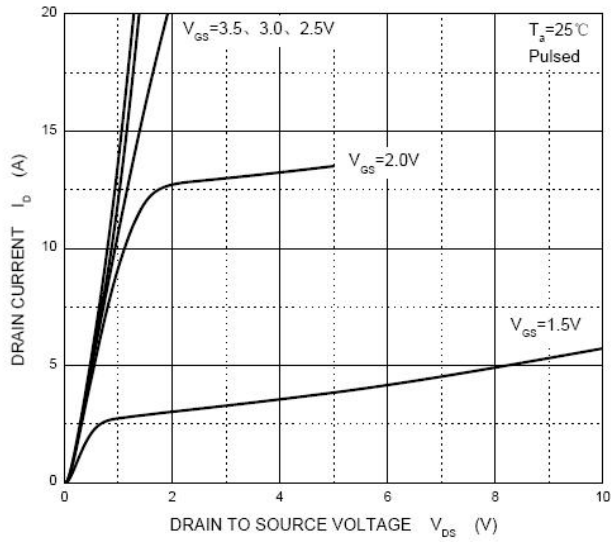
Electrical Characteristics (Ta=25℃,unless otherwise noted)

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=10uA	BV_{DSS}	20			V
Gate-Threshold voltage (note3)	V_{DS}=V_{GS}, I_D=250uA	$V_{GS(th)}$	0.6		1.2	V
Gate-body Leakage	V_{DS}=0V, V_{GS}=±12V	I_{GSS}			±100	nA
Zero Gate Voltage Drain current	V_{DS}=20V, V_{GS}=0V	I_{DSS}			1.0	μA
Drain-Source On-Resistance (note3)	V_{GS}=4.5V, I_D=3.6A	$R_{DS(ON)}$		25	30	mΩ
	V_{GS}=2.5V, I_C=3.6A			32	45	
Forward trans conductance (note3)	V_{DS}=5V, I_D=3.6A	gfs		8		S
Diode forward voltage (note3)	I_S=0.94A, V_{GS}=0V	V_{SD}		0.69	1.2	V
Input capacitance	V_{DS}=10V V_{GS}=0V f=1MHz	C_{iss}		300		pF
Output capacitance		C_{oss}		120		
Reverse Transfer capacitance		C_{rss}		80		
Total gate charge	V_{DS}=10V V_{GS}=4.5V I_D=3.6A	Q_G		4.0	10	nC
Gate-source charge		Q_{GS}		0.65		
Gate-drain charge		Q_{GD}		1.5		
Turn-on Time	V_{DD}=10V, R_L=5.5Ω, V_{GEN}=4.5V, I_D=3.6A, R_G=6Ω	$t_{d(ON)}$		7	15	ns
Rise time		t_r		55	80	
Turn-off Time		$t_{d(OFF)}$		16	60	
Fall time		t_f		10	25	

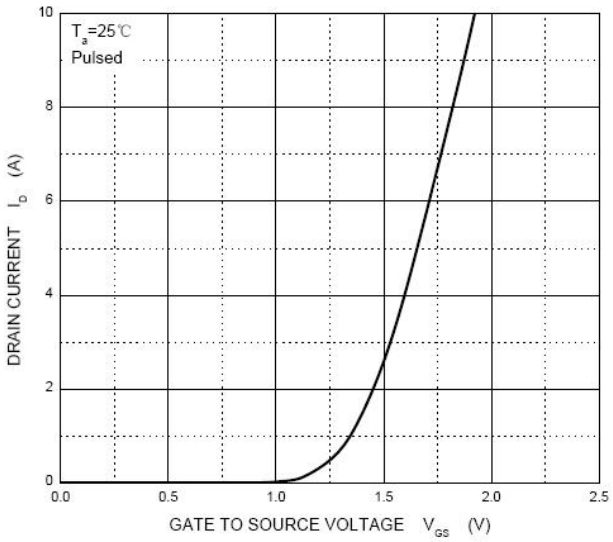
Notes :
1.Repetitive rating : Pulse width limited by junction temperature.
2.Surface mounted on FR4 board, t≤10s
3.Pulse Test: Pulse Width ≤300us, Duty Cycle≤2%.
4.Guaranteed by design, not subject to producting.

Typical Characteristics

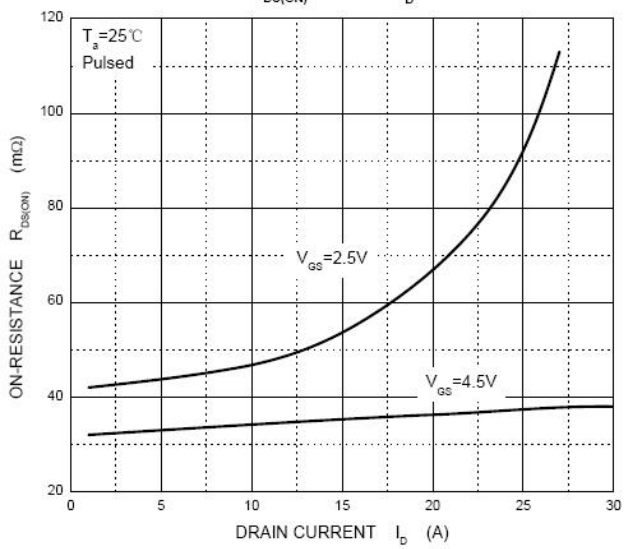
Output Characteristics



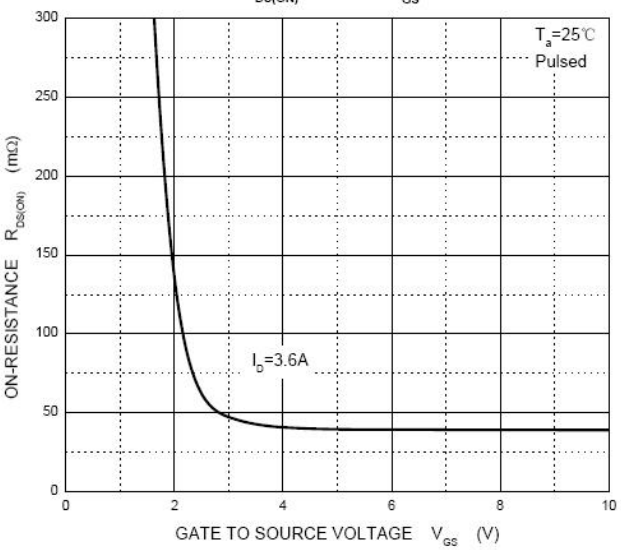
Transfer Characteristics



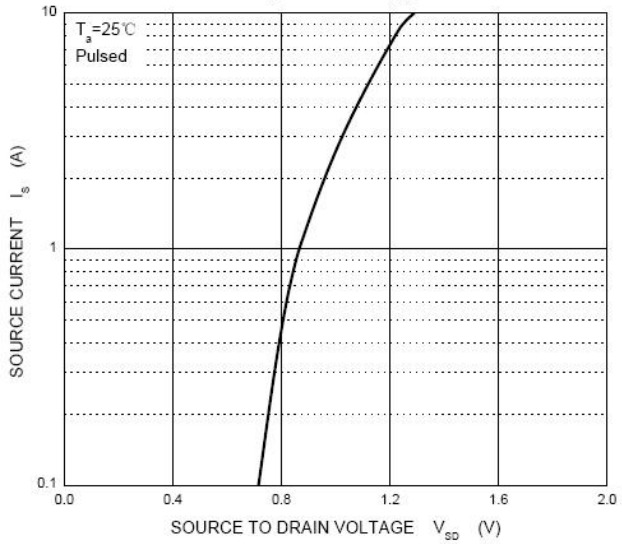
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

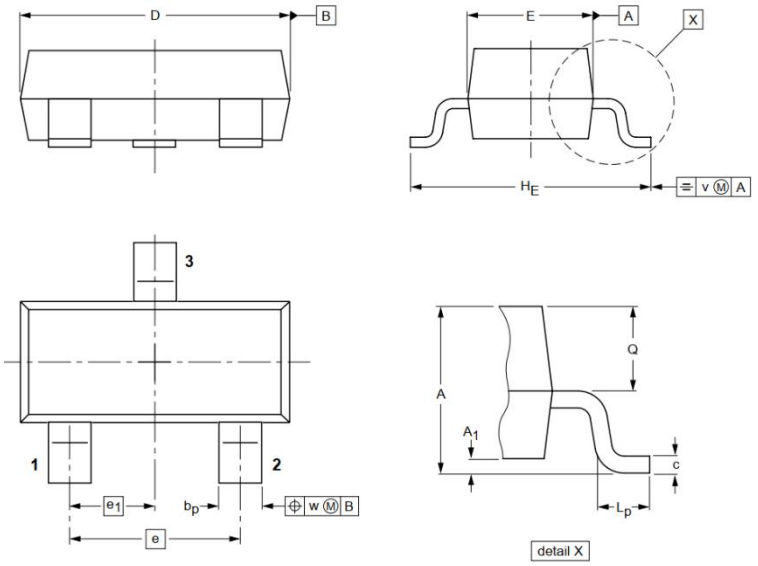


Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

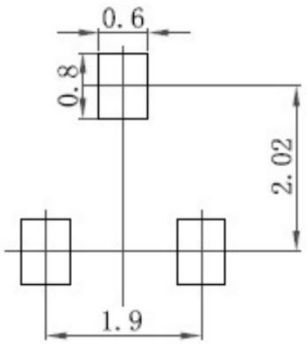
Package Dimensions

SOT-23



Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
e	1.9		75	
e1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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