

30V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

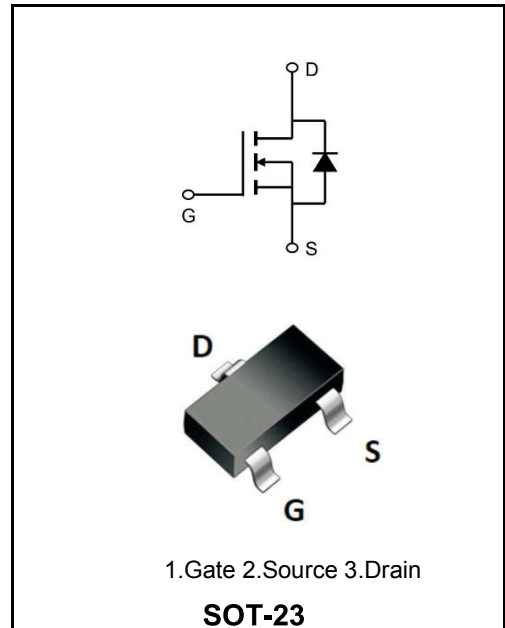
I_D	5.8A
V_{DSS}	30V
R_{DS(on)-typ}(@V_{GS}=10V)	< 35mΩ
R_{DS(on)-typ}(@V_{GS}=4.5V)	< 40mΩ
R_{DS(on)-typ}(@V_{GS}=2.5V)	< 52mΩ

Features

- ◆High dense cell design for extremely low RDS(on).
- ◆Exceptional on-resistance and maximum DC current capability.
- ◆Load/Power Switching.
- ◆Interfacing Switching

Mechanical Data

- ◆SOT-23 Small Outline Plastic Package.
- ◆Epoxy UL: 94V-0.
- ◆Mounting Position: Any.



Marking Code	
YFW3400B	.A09T

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	30	V
Gate - Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	5.8	A
Drain Current-Pulsed(note 1)	I_{DM}	30	A
Power Dissipation	P_D	1400	mW
Storage Temperature Range	T_{STG}	-55 to +150	°C
Operating Junction Temperature Range	T_J	150	°C
Thermal Resistance From Junction to Ambient (note 2)	R_{θJA}	89	°C/W

Maximum Ratings at Tc=25°C unless otherwise specified

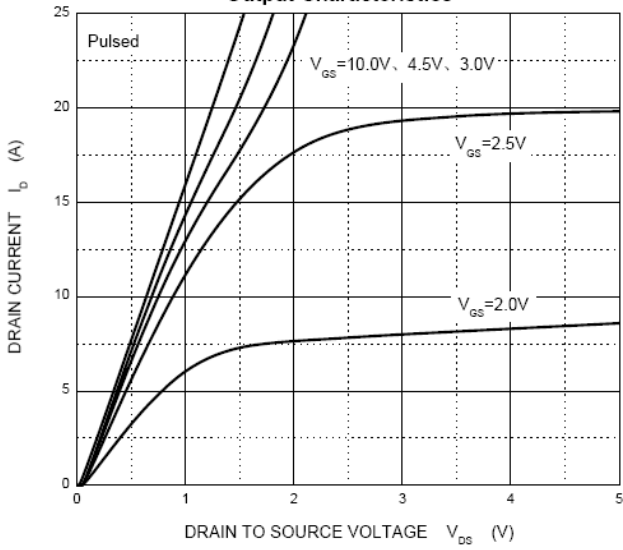
Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	30	32	-	V
Zero Gate Voltage Drain current	$V_{DS}=24V, V_{GS}=0V$	I_{DSS}			1	μA
Gate-body Leakage	$V_{GS}=\pm 12V, V_{DS}=0V$	I_{GSS}	-	-	± 100	nA
Drain-Source On-Resistance (note 3)	$V_{GS}=10V, I_D=5.8A$	$R_{DS(ON)}$	-	-	35	m Ω
	$V_{GS}=4.5V, I_D=5A$		-	-	40	
	$V_{GS}=2.5V, I_D=4A$		-	-	52	
Forward Transconductance	$V_{DS}=5V, I_D=5A$	g_{fs}	8	-	-	S
Gate-Threshold voltage*	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	0.7	-	1.4	V
Input Capacitance	$V_{DS}=15V$ $V_{GS}=0V$ $f=1MHz$	C_{iss}	-	-	1050	μF
Output Capacitance		C_{oss}	-	99	-	
Reverse Transfer Capacitance		C_{rss}	-	77		
Gate Resistance	$V_{DS}=0V, V_{GS}=0V, f=1MHz$	R_g	-	-	3.6	Ω
Turn-on delay time	$V_{GS}=10V$ $RL=2.7\Omega,$ $V_{DS}=15V$ $RGEN=3\Omega$	$t_{d(on)}$	-	-	5	ns
Rise Time		T_r	-	-	7	
Turn-Off Delay Time		$t_{d(OFF)}$	-	-	40	
Fall Time		t_f	-	-	6	
Diode forward voltage	$I_S=1A, V_{GS}=0V$	V_{SD}			1.0	V

Notes:

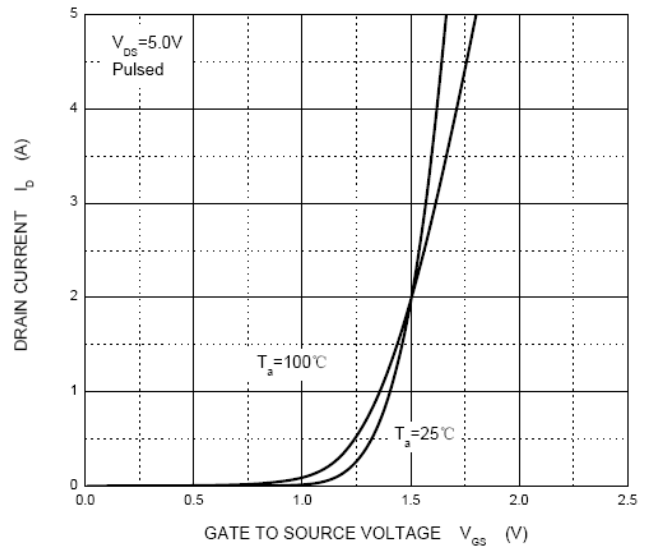
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t < 5$ sec.
3. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production testing.

Typical characteristics

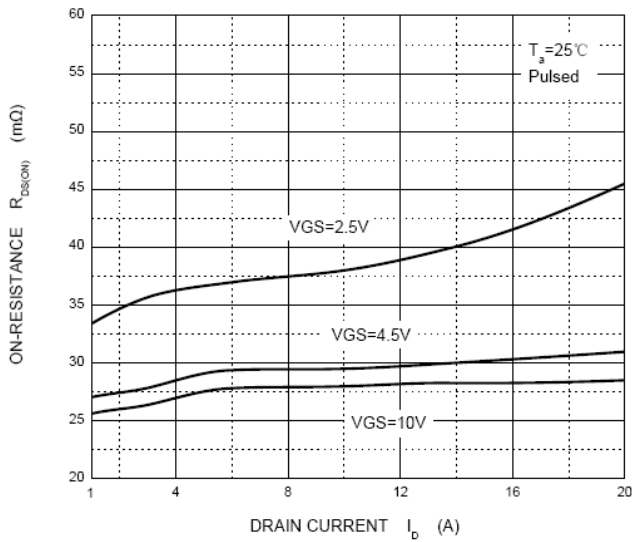
Output Characteristics



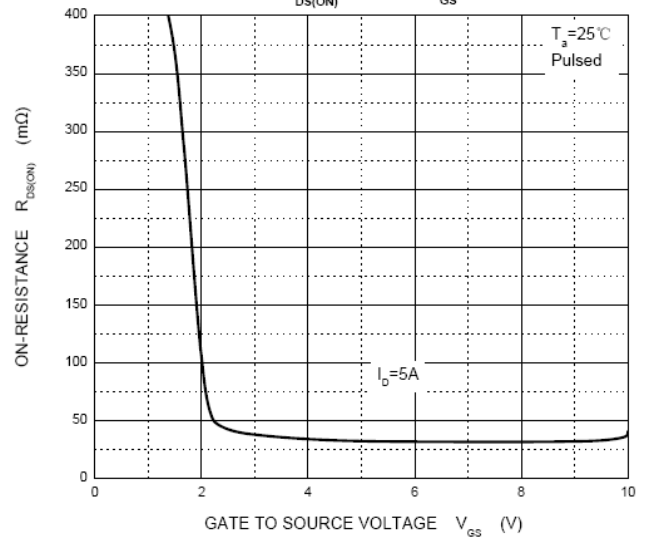
Transfer Characteristics



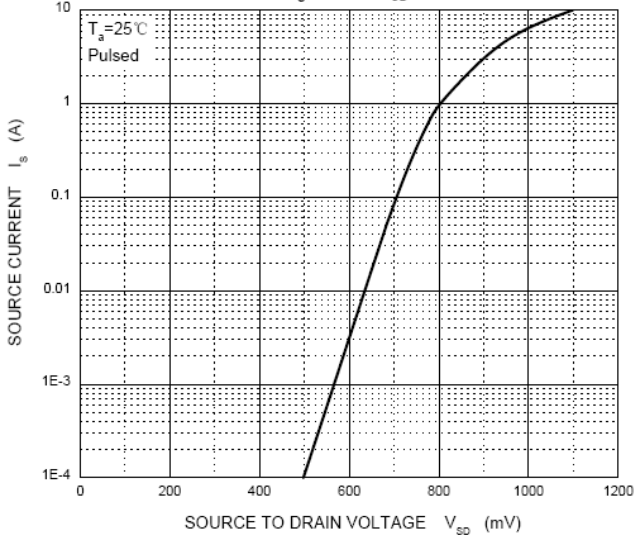
$R_{DS(ON)}$ — I_D



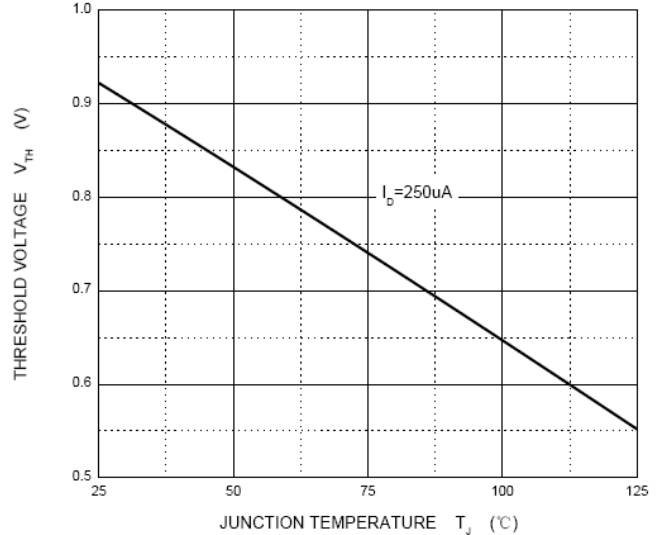
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage



Ordering information

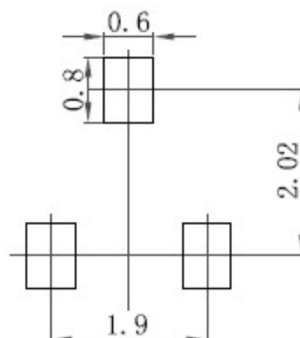
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

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



Disclaimer

The information presented in this document is for reference only. Guangdong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <https://www.yfwdiode.com>, or consult YFW sales office for further assistance.