

30V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

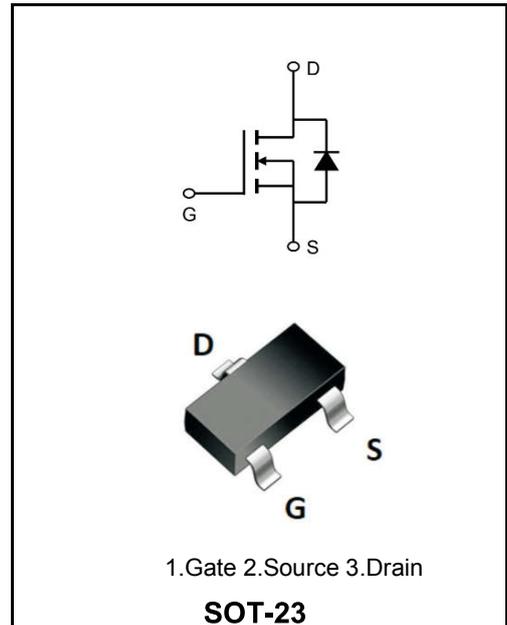
I_D	5.8A
V_{DSS}	30V
R_{DS(on)-typ}(@V_{GS}=10V)	< 35mΩ (Typ:32 mΩ)
R_{DS(on)-typ}(@V_{GS}=4.5V)	< 40mΩ (Typ:37 mΩ)
R_{DS(on)-typ}(@V_{GS}=2.5V)	< 52mΩ (Typ:43 mΩ)

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

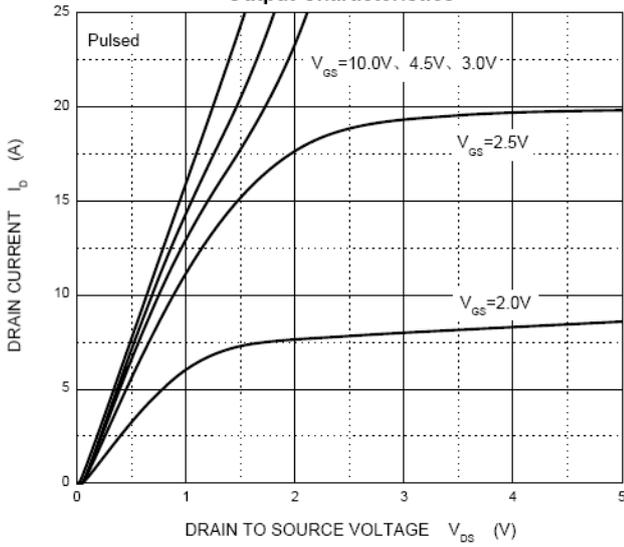
Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	30	32	-	V
Zero Gate Voltage Drain current	$V_{DS}=24V, V_{GS}=0V$	I_{DSS}			1	μA
Gate-body Leakage	$V_{GS}=\pm 12V, V_{DS}=0V$	I_{GSS}	-	-	± 100	nA
Drain-Source On-Resistance (note 3)	$V_{GS}=10V, I_D=5.8A$	$R_{DS(ON)}$	-	32	35	m Ω
	$V_{GS}=4.5V, I_D=5A$		-	37	40	
	$V_{GS}=2.5V, I_D=4A$		-	43	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:

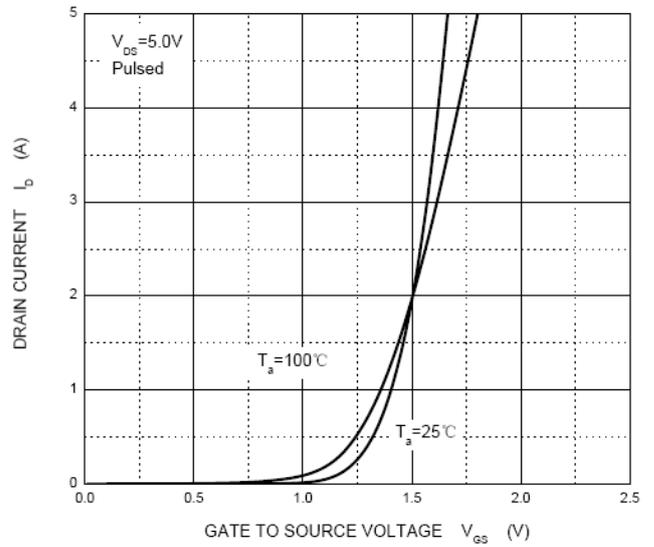
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t < 5$ sec.
3. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycles $\leq 2\%$.
4. Guaranteed by design, not subject to production testing.

Typical characteristics

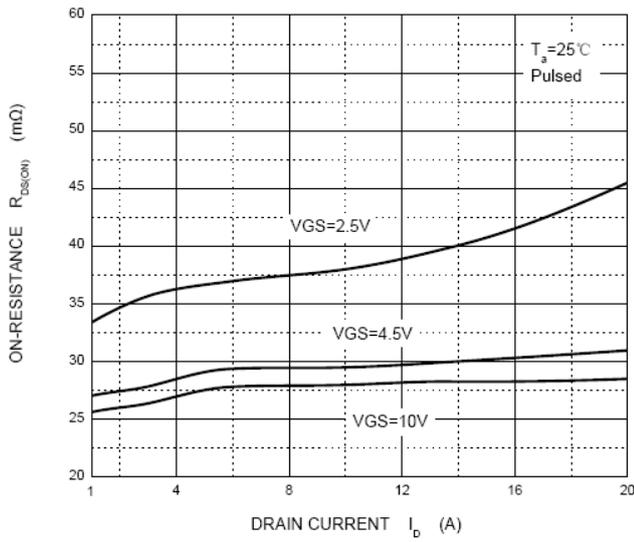
Output Characteristics



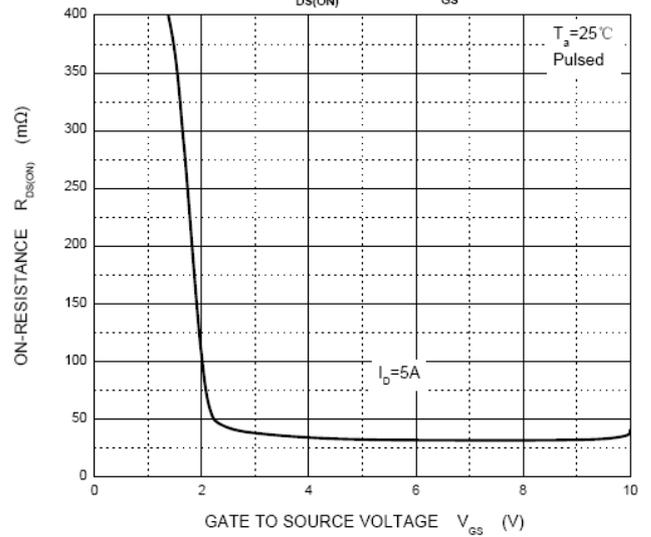
Transfer Characteristics



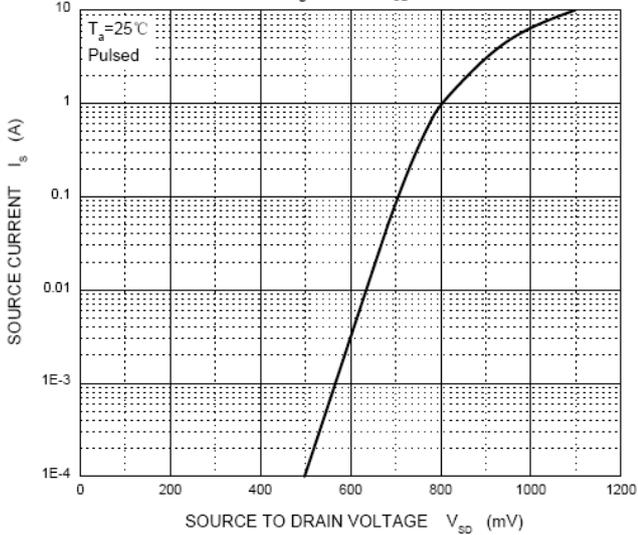
$R_{DS(ON)}$ — I_D



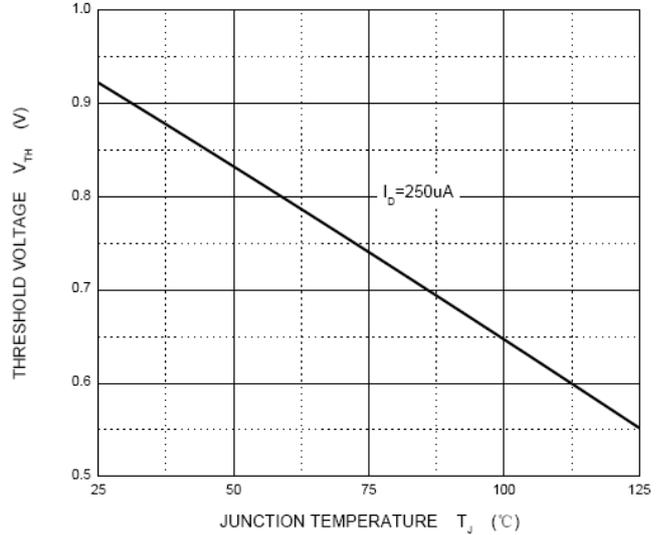
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



Threshold Voltage



Ordering information

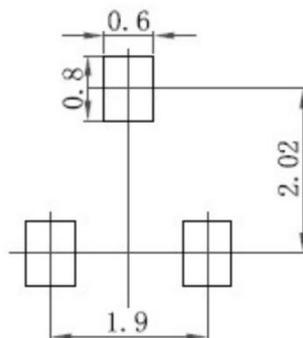
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

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



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