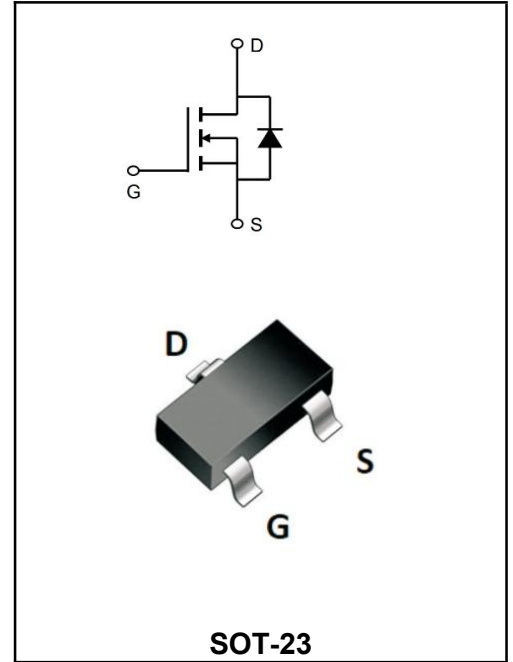


30V N-Channel Enhancement Mode Field Effect Transistor

MAIN CHARACTERISTICS

I_D	4A
V_{DS}	30V
R_{DS(ON)-typ(@V_{GS}=10V)}	< 55mΩ (Typ:33mΩ)



Marking Code	
YFW3402B	3402B

DESCRIPTION

The YFW3402B uses advanced trench technology to provide excellent RDS(ON), low gate charge and operation with gate voltage as low as 2.5V. This device is suitable for use as load switch or in PWM.

FEATURES

- ◆Features
- ◆Lead free product is acquired
- ◆Surface mount package

MECHANICAL DATA

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

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature 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	4	A
Drain Current-Pulsed(note 1)	I_{DM}	15	A
Operating and Storage Temperature Range	T_J , T_{STG}	-50 to +150	°C
Thermal Resistance From Junction to Ambient (note 2)	R_{θJA}	357	°C/W

Electrical Characteristics

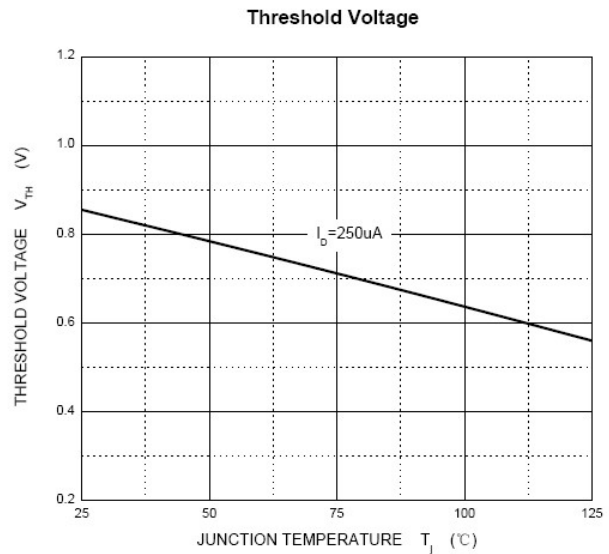
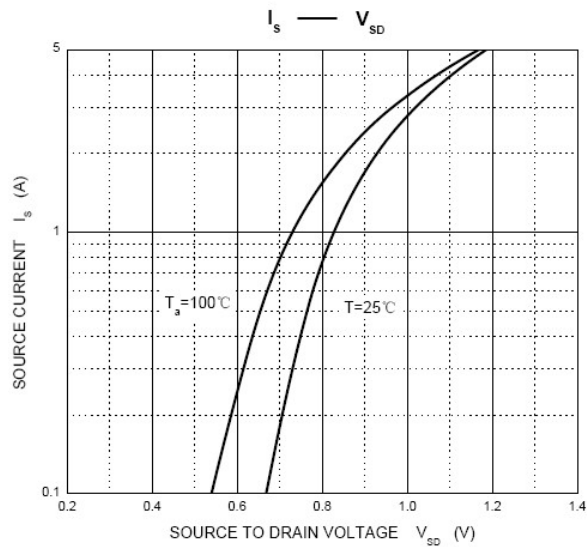
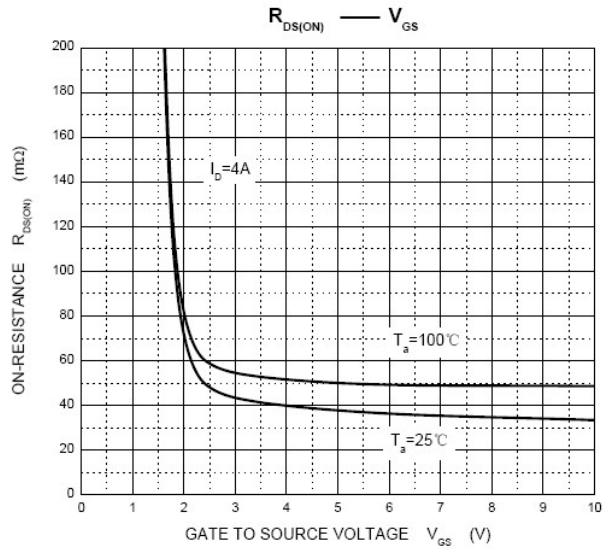
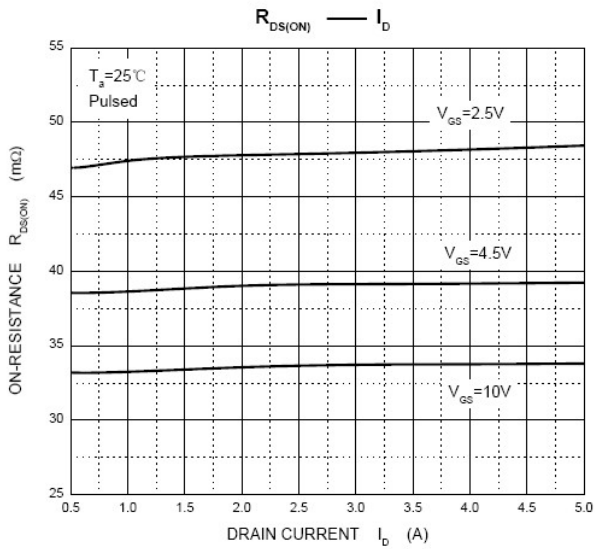
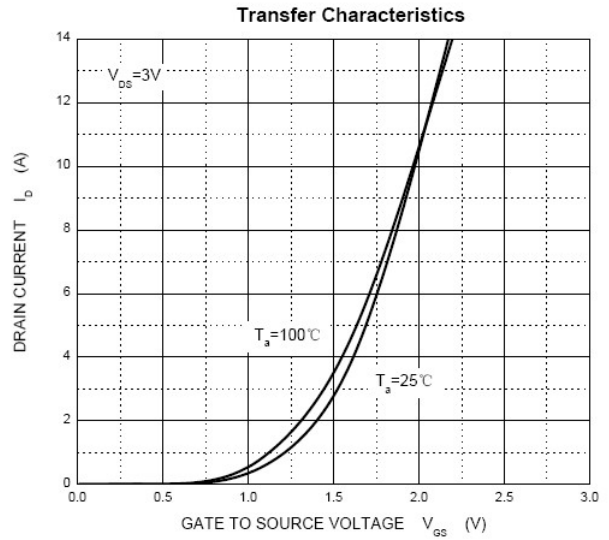
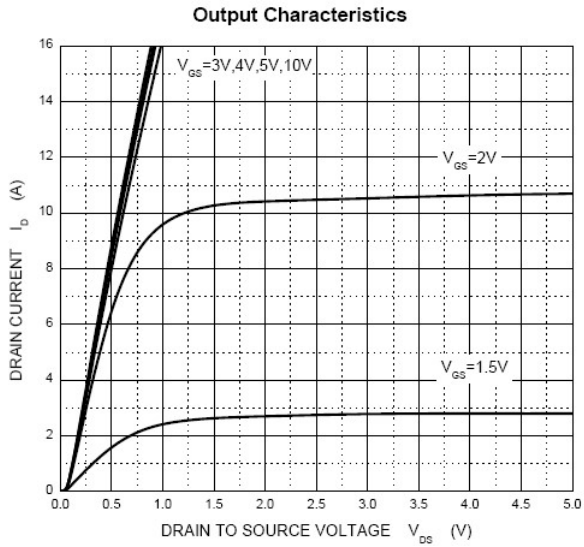
Ratings at 25°C ambient temperature unless otherwise specified

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	30	-	-	V
Zero Gate Voltage Drain Current	$V_{DS}=24V, V_{GS}=0V$	I_{DSS}	-	-	1.0	μA
Gate to Body Leakage Current	$V_{GS}=\pm 12V, V_{DS}=0V$	I_{GSS}	-	-	± 100	nA
Gate -Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	0.6	0.85	1.4	V
Static Drain-Source on-Resistance (note3)	$V_{GS}=10V, I_D=4A$	$R_{DS(on)}$	-	33	55	m Ω
	$V_{GS}=4.5V, I_D=3A$		-	39	70	
	$V_{GS}=2.5V, I_D=2A$		-	48	110	
Forward trans conductance	$V_{DS}=15V, I_D=4A$	g_{fs}	-	8	-	S
Input Capacitance	$V_{DS}=15V$ $V_{GS}=0V$ $f=1.0MHz$	C_{iss}	-	390	-	μF
Output Capacitance		C_{oss}	-	54.5	-	
Reverse Transfer Capacitance		C_{rss}	-	41	-	
Gate resistance	$V_{DS}=0V, V_{GS}=0V, f=1MHz$	R_g	-	3	-	Ω
Turn-on Time	$V_{GS}=10V$ $R_L=3.75\Omega$ $V_{DS}=15V$ $R_{GEN}=6\Omega$	$t_{d(on)}$	-	3.3	-	ns
Rise time		T_r	-	1.0	-	
Turn-off Time		$t_{d(OFF)}$	-	21.7	-	
Fall time		t_f	-	2.1	-	
Total Gate Charge	$V_{DS}=15V$ $V_{GS}=4.5V$ $I_D=4A$	Q_g	-	4.34	-	nC
Gate to Source Charge		Q_{gs}	-	0.6	-	
Gate to Drain Charge		Q_{gd}	-	1.38	-	
Diode forward voltage	$V_{GS}=0V, I_S=1A$	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



Ordering information

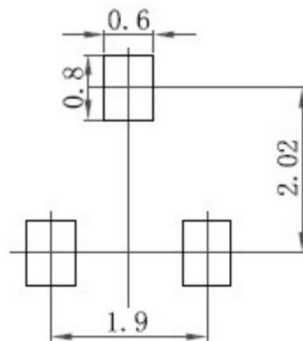
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

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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