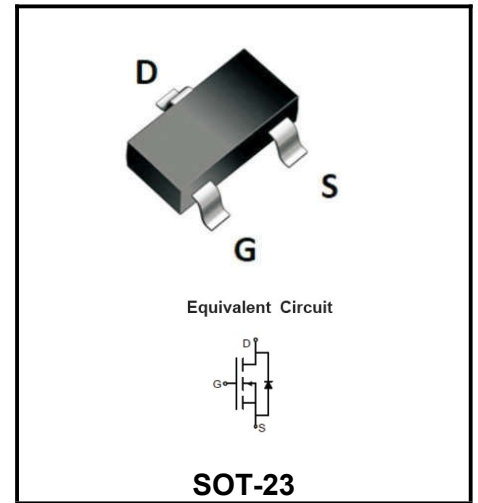


60V N-Channel Enhancement Mode MOSFET
MAIN CHARACTERISTICS

I_D	3A
V_{DS}	60V
$R_{DS(on)-typ}(@V_{GS}=10V)$	$<105m\Omega$ (Type:85m Ω)


Features

- ◆TrenchFET Power MOSFET
- ◆Load Switch for Portable Devices.
- ◆DC/DC Converter

Mechanical Data

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

Product Specification Classification

Part Number	Package	Marking	Pack
YFW2310A	SOT-23	S10	3000PCS/Tape

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameters	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	3	A
Pulsed Drain Current(note1)	I_{DM}	10	
Pulsed Drain Current	P_D	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55-+150	°C
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	357	°C/W

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	60	-	-	V
Gate-Threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	-	2	V
Gate-body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$	-	-	± 100	nA
Zero Gate Voltage Drain current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$	-	-	1	μA
Drain-Source On-Resistance(note3)	$R_{DS(on)}$	$V_{GS}=10V, I_D=3A$	-	85	105	m Ω
		$V_{GS}=4.5V, I_C=3A$	-	90	125	
Forward trans conductance(note3)	g_{fs}	$V_{DS}=15V, I_D=2A$	1.4	-	-	S
Body diode voltage(note3)	V_{SD}	$I_S=3A, V_{GS}=0V$	-	-	1.2	V
Input capacitance	C_{iss}	$V_{DS}=30V, V_{GS}=0V, f=1MHz$	-	247	-	pF
Output capacitance	C_{oss}		-	34	-	
Reverse Transfer capacitance	C_{rss}		-	19.5	-	
Total gate charge	Q_g	$V_{DS}=30V, V_{GS}=4.5V, I_D=3A$	-	6	-	nC
Gate-source charge	Q_{gs}		-	1	-	
Gate-drain charge	Q_{gd}		-	1.3	-	
Turn-on Time	$t_{d(on)}$	$V_{DD}=30V, R_L=1\Omega, V_{GS}=10V, I_D\approx 1.5A, R_G=6\Omega$	-	6	-	ns
Rise time	t_r		-	15	-	
Turn-off Time	$t_{d(off)}$		-	15	-	
Fall time	t_f		-	10	-	

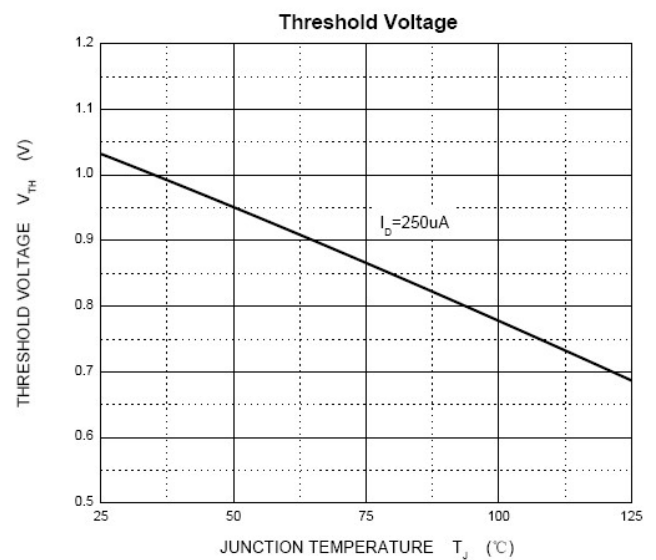
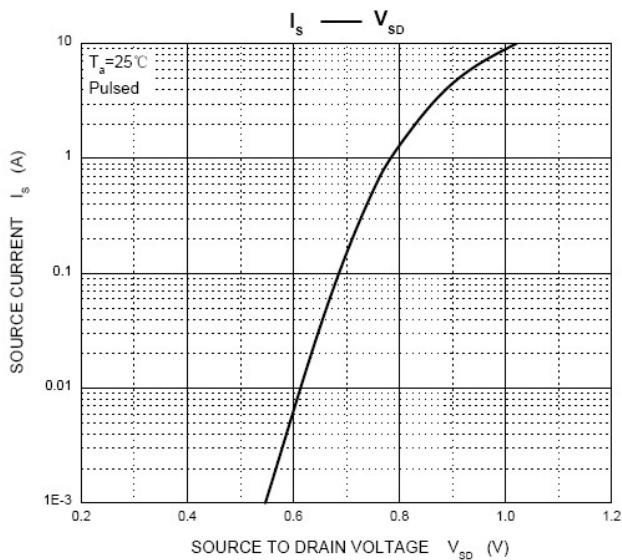
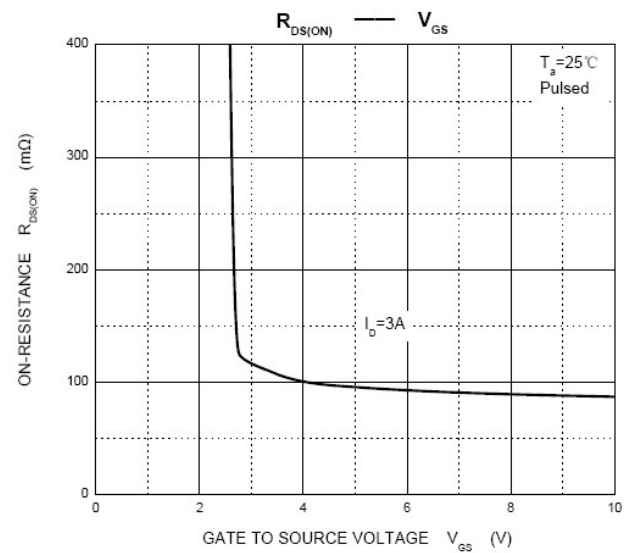
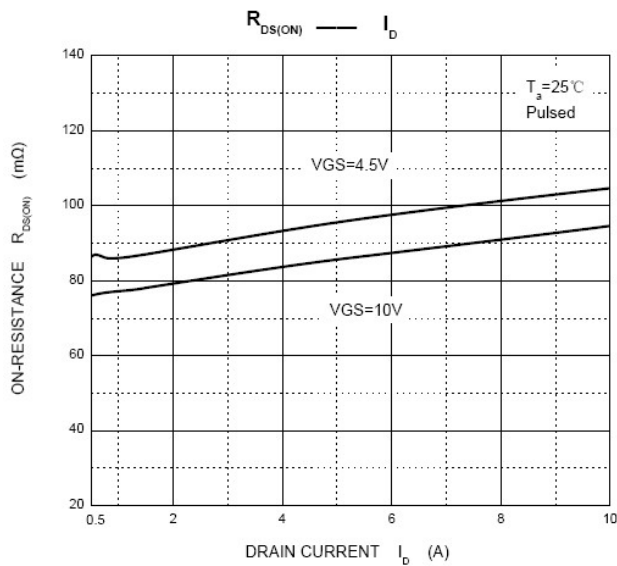
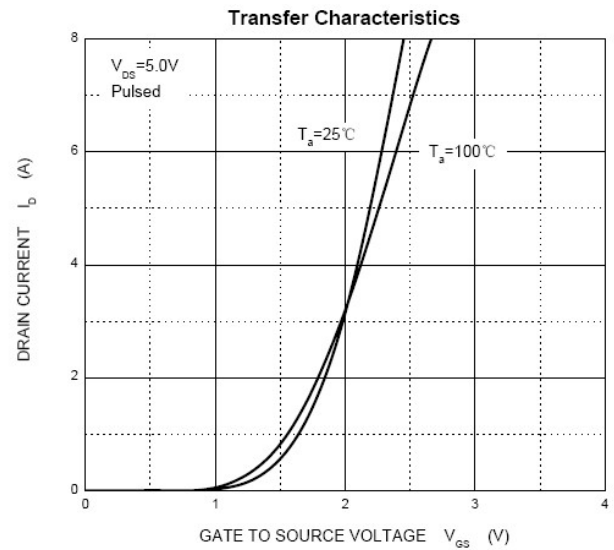
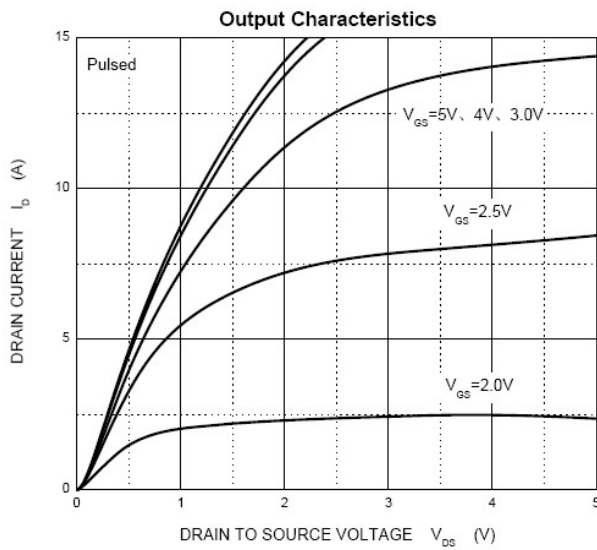
Notes:

1. Repetitive rating: Pulse width limited by junction temperature.

2. Surface mounted on FR4 board, $t\leq 10s$.

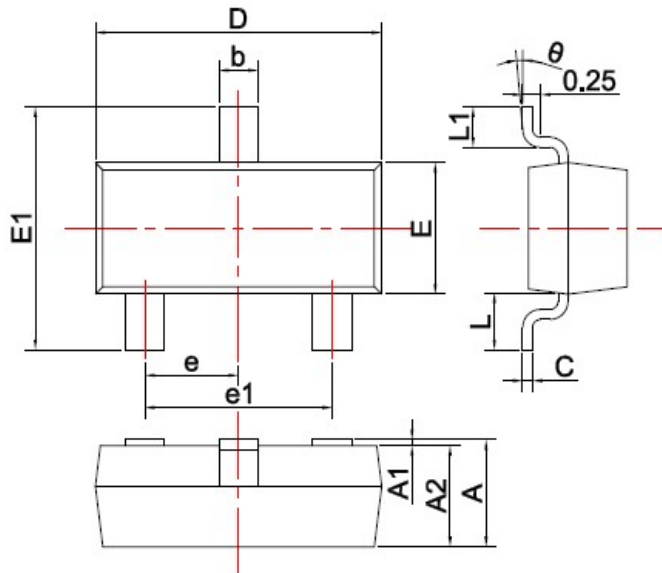
3. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

Typical characteristics



Package Outline

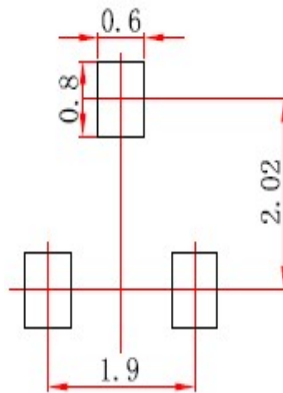
SOT-23



SYMBOL	DIMENSIONS	
	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°

Unit: mm

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:

1. Controlling dimension: In millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.