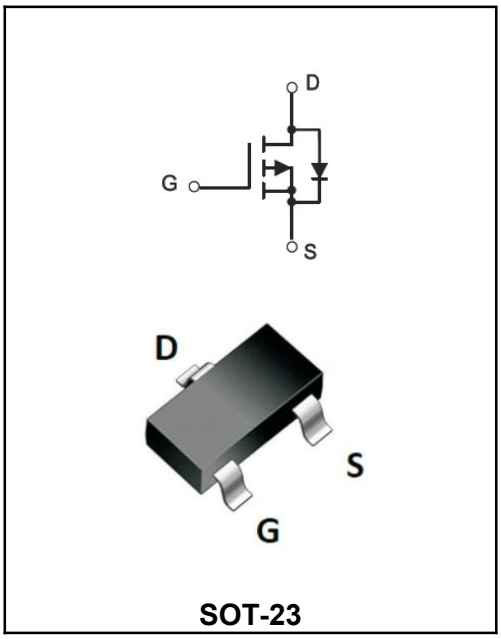
-30V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	-2.7A
V_{DSS}	-30V
R_{DSON}-typ(@V_{GS}=-10V)	＜0.088mΩ(Typ:0.073 Ω)
R_{DSON}-typ(@V_{GS}=-4.5V)	＜0.138mΩ(Typ:0.110 Ω)



SOT-23

FEATURE

- TrenchFET Power MOSFET

APPLICATIONS

- Load Switch for Portable Devices

Marking Code	
YFW2307	2307

Maximum ratings (Ta=25℃ unless otherwise noted)

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	-30	V
Gate - Source Voltage	V_{GS}	±20	V
Continuous Drain Current [a,b]	I_D	-2.7	A
Continuous Source-Drain Current [a,b]	I_S	0.91	A
Total Power Dissipation [a,b]	P_D	1.1	W
Thermal Resistance from Junction to Ambient (t≤5s)	$R_{\theta JA}$	114	°C/W
Operating Junction Temperature Range	T_J	+150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

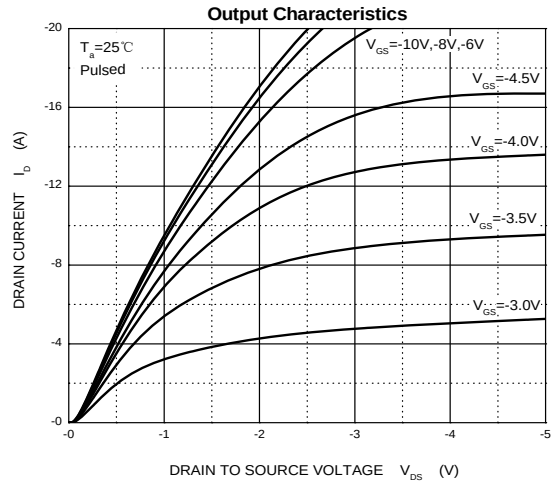
MOSFET ELECTRICAL CHARACTERISTICS

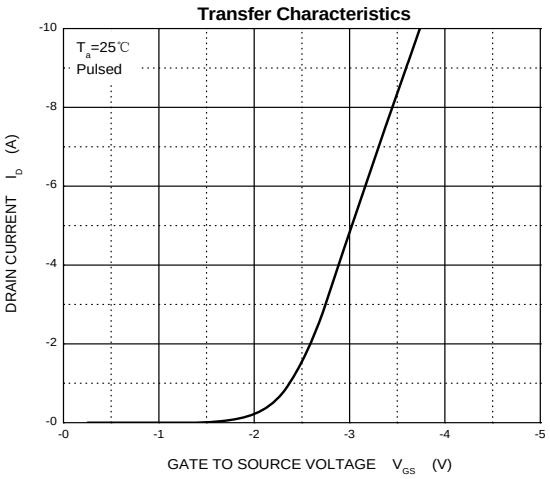
Ta =25℃ unless otherwise specified

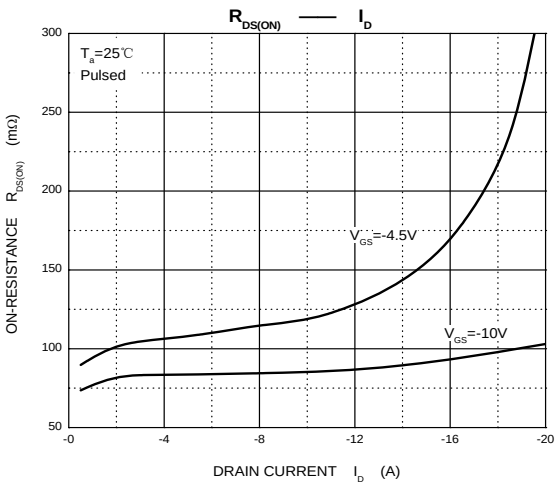
Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=-250uA	BV_{DSS}	-30	-	-	V
Gate -Threshold Voltage	V_{DS}=V_{GS}, I_D=-250uA	$V_{GS(th)}$	-1	-	-3	V
Gate-source leakage current	V_{GS}=±20V, V_{DS}=0V	I_{GSS}	-	-	±100	nA
Zero gate voltage drain current	V_{DS} =-30V,V_{GS} = 0V	I_{DSS}			-1	μA
	V_{DS} =-30V,V_{GS} = 0V,T_J=55℃				-10	μA
Static Drain-Source On-Resistance [c]	V_{GS} =-10V, I_D =-3.5A	$R_{DS(ON)}$	-	0.073	0.088	Ω
	V_{GS} =-4.5V, I_D =-2.5A		-	0.110	0.138	
Forward transconductance [c]	V_{DS} =-10V, I_D =-3.5A	g_{FS}	-	7	-	S
Input Capacitance	V_{DS}=-15V V_{GS}=0V f=1MHz	C_{iss}	-	340		pF
Output Capacitance		C_{oss}	-	67		
Reverse Transfer Capacitance		C_{rss}	-	51		
Turn-on delay time	V_{DD}=-15V, R_L=15Ω, I_D=-1A, V_{GEN}=-4.5V,R_g=1Ω	$t_{d(on)}$	-	40	60	ns
Rise Time		T_r	-	40	60	
Turn-Off Delay Time		$t_{d(OFF)}$	-	20	40	
Fall Time		t_f	-	17	30	
Total Gate Charg	V_{DS} =-15V V_{GS} =-4.5V I_D =-2.5A	Q_g	-	4.1	6.2	nC
Gate-Source Charge		Q_{gs}	-	1.3	-	
Gate-Drain Charge		Q_{gd}	-	1.8	-	
Gate resistance	f=1MHz	Rg	-	10	-	Ω
Diode Forward Voltage[2]	I_S=-0.75A, ,V_{GS} =0	V_{SD}	-	-0.8	-1.2	V

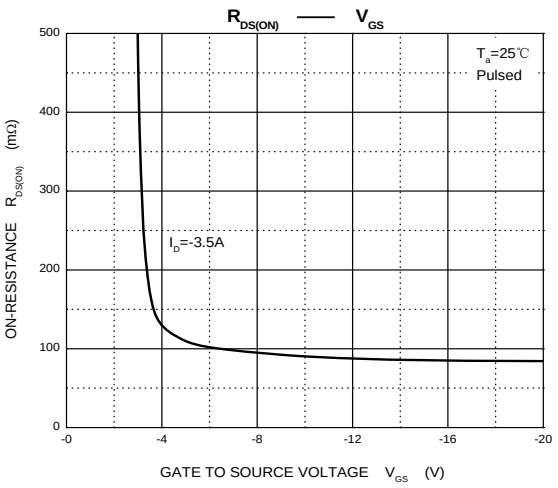
Notes:
a. t=5s.
b. Surface mounted on 1” ×1” FR4 board.
c. Pulse Test : Pulse Width < 300μs, Duty Cycle ≤2%.
d. Guaranteed by design, not subject to production testing.

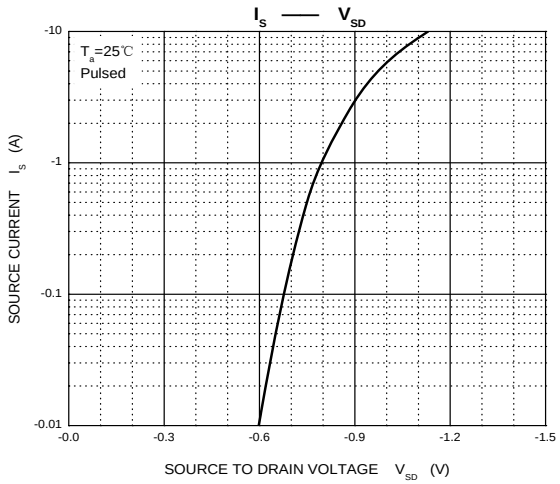
Typical Characteristics









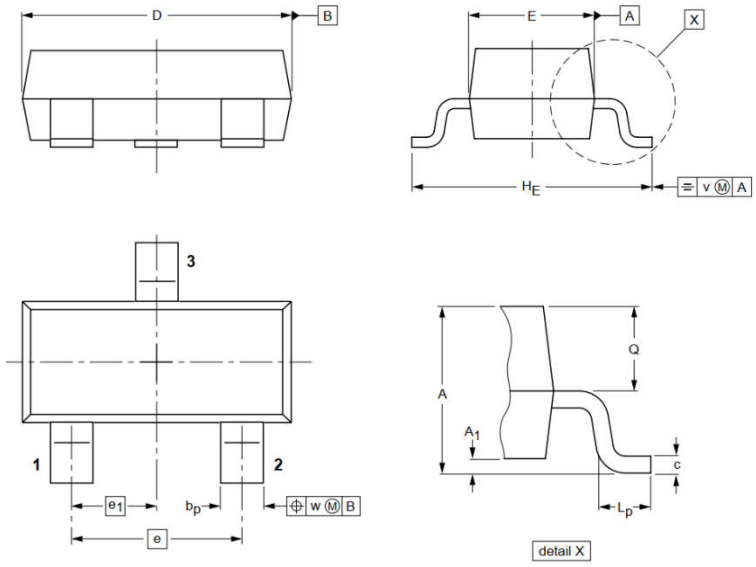


Ordering information

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

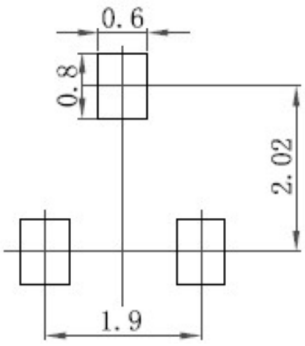
Package Dimensions

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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