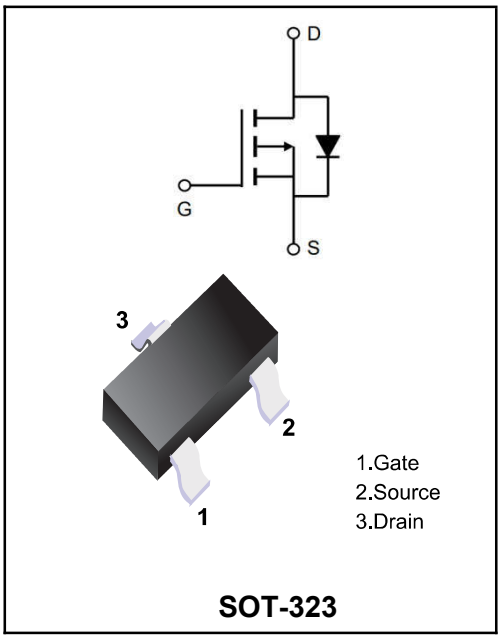
-20V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	-2.1A
V_{DSS}	-20V
R_{DSON}-typ(@V_{GS}=-4.5V)	＜0.120Ω(Typ:0.090Ω)
R_{DSON}-typ(@V_{GS}=-2.5V)	＜0.170Ω(Typ:0110Ω)



SOT-323

FEATURE

- TrenchFET Power MOSFET

APPLICATIONS

- Load Switch for Portable Devices
- DC/DC Converter

Marking Code	
YFW2301W	2301

Maximum ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	±8	
Continuous Drain Current	I_D	-2.1	A
Pulsed Drain Current	I_{DM}	-4.8	
Continuous Source-Drain Diode Current	Is	-0.72	
Maximum Power Dissipation	P_D	0.35	W
Thermal Resista nee from Junction to Ambient(t ≤5s)	$R_{\theta JA}$	357	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ∽+150	°C

Electrical characteristics (Ta=25℃ unless otherwise noted)

Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-source breakdown voltage	V_{GS}=0V, I_D=-250uA	BV_{DSS}	-20	-	-	V
Gate-source threshold voltage	V_{DS}=V_{GS}, I_D=-250uA	$V_{GS(th)}$	-0.4	-	-1	V
Gate-source leakage	V_{GS}=±8V, V_{DS}=0V	I_{GSS}	-	-	±100	nA
Zero gate voltage drain current	V_{DS} =-20V, V_{GS} =0V	I_{DSS}	-	-	-1	μA
Drain-source on-state resistance [a]	V_{GS}=-4.5V, I_D=-1A	$R_{DS(ON)}$	-	0.090	0.120	Ω
	V_{GS}=-2.5V, I_D=-0.5A		-	0.110	0.170	
Forward transconductance [a]	V_{DS} =-5V, I_D =-1.8A	g_{fs}	-	6.5	-	s
Input capacitance	V_{DS} =-10V,V_{GS} =0V,f =1MHz	C_{iss}	-	405	-	pF
Output capacitance		C_{oss}	-	75	-	
Reverse transfer capacitance		C_{rss}	-	55	-	
Total Gate Charge	V_{DS} =-10V,V_{GS} =-4.5V,I_D =-3A	Q_g	-	5.5	10	nC
	V_{DS} =-10V,V_{GS} =-2.5V,I_D =-3A			3.3	6	
Gate-Source Charge		Q_{gs}	-	0.7	-	
Gate-Drain Charge		Q_{gd}	-	1.3	-	
Gate resistance	f =1MHz	R_g		6.0		Ω
Turn-on delay time	V_{DD}=-10V, R_L=10Ω, I_D =-1A, V_{GEN}=-4.5V,Rg=1Ω	$t_{d(on)}$	-	11	20	nS
Rise Time		T_r	-	35	60	
Turn-Off Delay Time		$t_{d(OFF)}$	-	30	50	
Fall Time		t_f	-	10	20	
Continuous source-drain diode current	T_C=25℃	I_S	-	-	-1.3	A
Pulse diode forward curren [a]		I_{SM}	-	-	-10	
Body diode voltage	I_S=-0.7A	V_{SD}	-	-0.8	-1.2	V

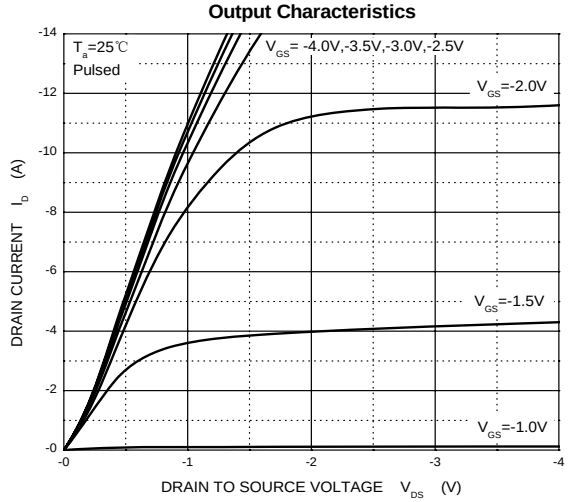
Notes :

a.Pulse Test : Pulse Width < 300μs, Duty Cycle ≤2%.

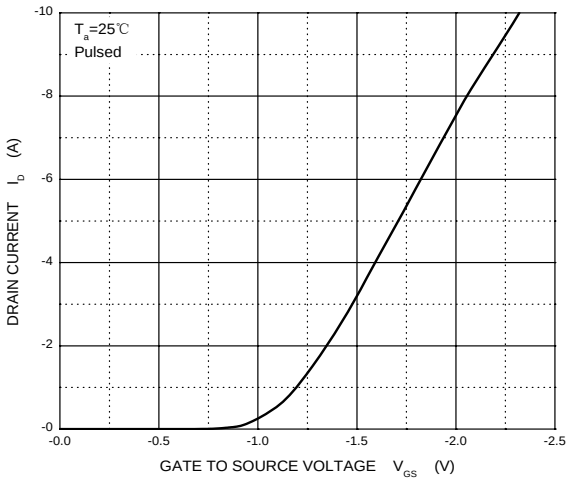
b.Guaranteed by design, not subject to production testing.

Typical Characteristics

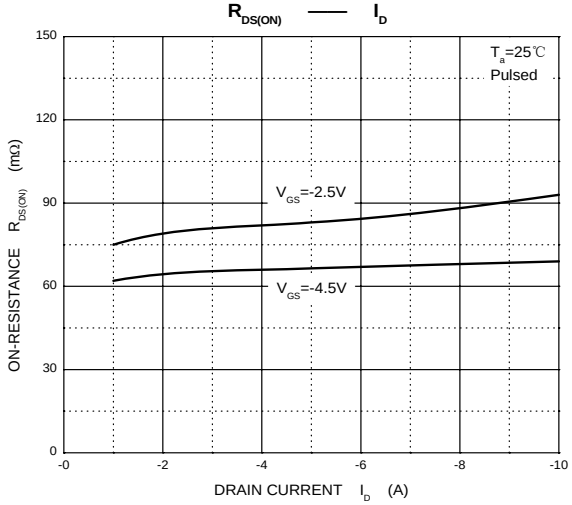
Output Characteristics



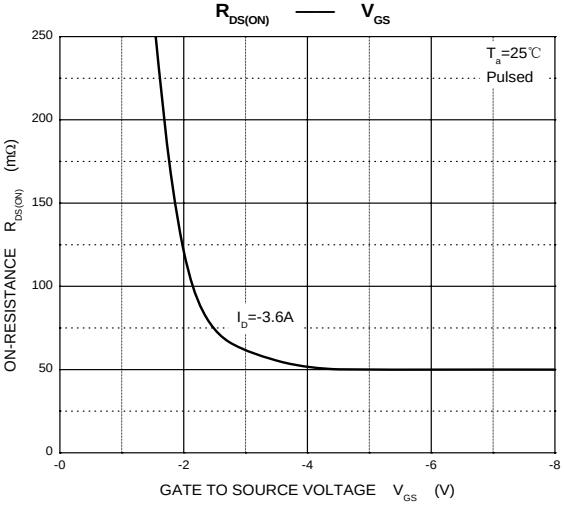
Transfer Characteristics



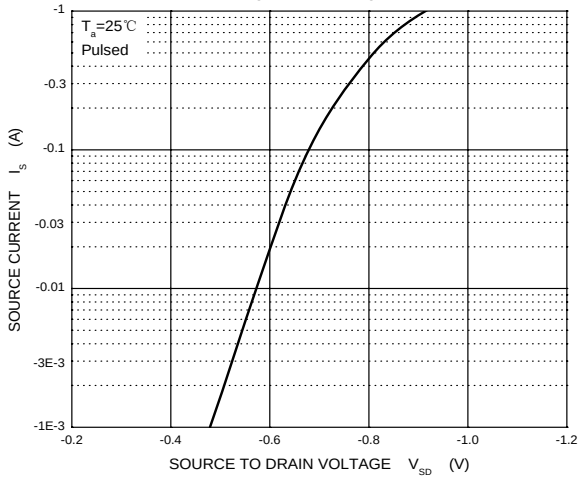
RDS(ON) — ID



RDS(ON) — VGS



IS — VSD

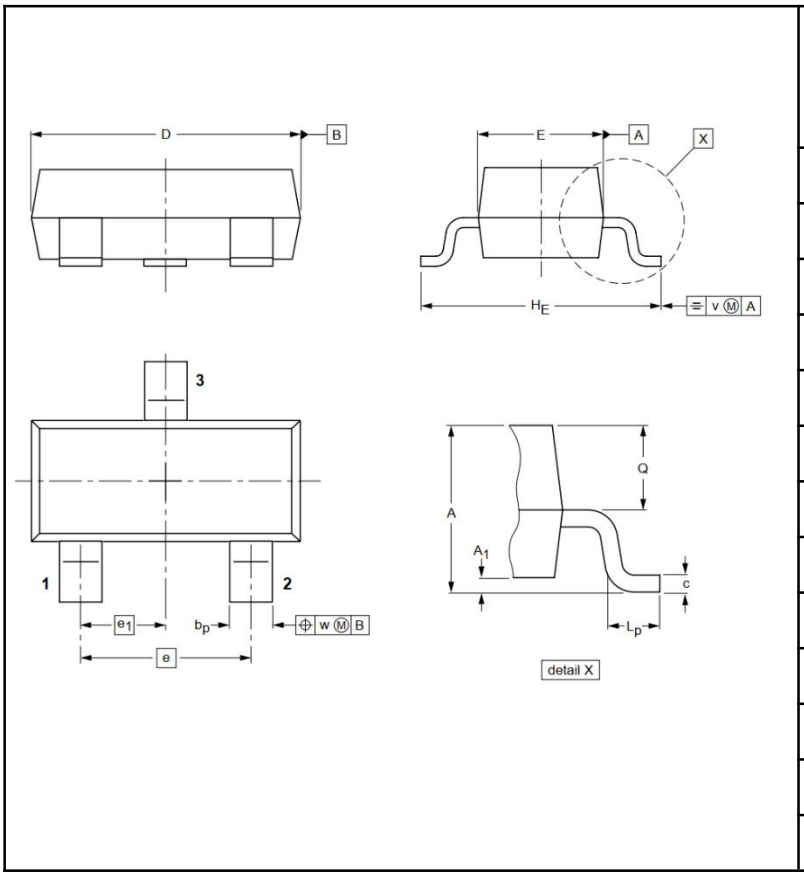


Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT-323	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

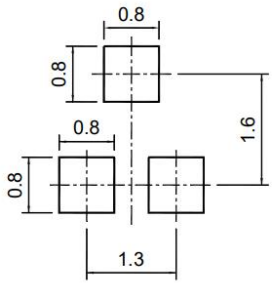
Package Dimensions

SOT-323



Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.8	1.1	32	43
A1	0.1		4	
bp	0.3	0.4	12	16
C	0.10	0.25	4	10
D	1.8	2.2	71	87
E	1.15	1.35	45	53
e	1.3		51	
e1	0.65		26	
HE	2.0	2.2	79	87
Lp	0.15	0.45	6	18
Q	0.13	0.23	5.1	9
v	0.2		8	
W	0.2		8	

The recommended mounting pad size



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