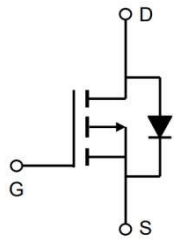
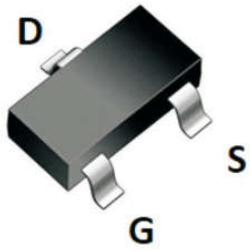
-12V P-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	-8A
V_{DSS}	-12V
R_{DSON}-typ(@V_{GS}=-4.5V)	< 20mΩ(Type:16 mΩ)





SOT23-3L

Application

- Lithium battery protection
- Wireless impact
- Mobile phone fast charging

Marking Code	
YFW2313MI	2313

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	-12	V
Gate - Source Voltage	V_{GS}	±12	V
Continuous Drain Current @T_A=25℃	I_D	8.0	A
Continuous Drain Current @T_A=70℃	I_D	5.3	A
Pulsed Drain Current [2]	I_{DM}	40	A
Total Power Dissipation[3] @T_A=25℃	P_D	1	W
Storage Temperature Range	T_{STG}	-55 to +150	°C
Operating Junction Temperature Range	T_J	-55 to +150	°C
Thermal Resistance Junction-Ambient [1]	$R_{\theta JA}$	125	°C/W
Thermal Resistance Junction-Ambient [1] (t ≤10s)	$R_{\theta JA}$	85	°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=-250uA	**V(BR)DSS**	-12	-16	-	**V**
BVDSS Temperature Coefficient	Reference to 25℃ , I_D=1mA	**$\Delta BV_{DSS/\Delta TJ}$**	-	0.029	-	**V/°C**
Gate Threshold Voltage	V_{DS}= V_{GS}, I_D=-250μA	**$V_{GS(th)}$**	-0.4	-0.7	-1.0	**V**
Static Drain-Source on-Resistance note2	V_{GS}=-4.5V, I_D=-8A	**$R_{DS(ON)}$**	-	16	20	**mΩ**
	V_{GS}=-2.5V, I_D=-5A		-	20	25	
Zero Gate Voltage Drain Current	V_{DS}=-12V , V_{GS}=0V	**I_{DSS}**	-	-	-1	**μA**
Gate to Body Leakage Current	V_{GS}=±12V, V_{DS}=0V	**I_{GSS}**	-	-	±100	**nA**
Input Capacitance	V_{DS}=-6V V_{GS}=0V f=1MHz	**C_{iss}**	-	2700	-	**pF**
Output Capacitance		**C_{oss}**	-	680	-	
Reverse Transfer Capacitance		**C_{rss}**	-	590	-	
Total Gate Charge	V_{DS}=-6V I_D=-8A V_{GS}=-4.5V	**Q_g**	-	35	-	**nC**
Gate-Source Charge		**Q_{gs}**	-	5	-	
Gate-Drain(“Miller”) Charge		**Q_{gd}**	-	10	-	
Turn-on delay time	V_{DD}=-6V I_D=-8A V_{GS}=-4.5V R_{GEN}=2.5Ω	**$t_{d(on)}$**	-	11	-	**ns**
Turn-on Rise Time		**T_r**	-	35	-	
Turn-Off Delay Time		**$t_{d(OFF)}$**	-	30	-	
Turn-Off Fall Time		**t_f**	-	10	-	
Maximum Continuous Drain to Source Diode Forward Current		**I_S**	-	-	-16	**A**
Maximum Pulsed Drain to Source Diode Forward Current		**I_{SM}**	-	-	-64	**A**
Drain to Source Diode Forward Voltage	V_{GS}=0V , I_S=-16A	**V_{SD}**	-	-0.8	-1.2	**V**

Notes:
1 、Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature
2.、Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

Ratings and Characteristic Curves

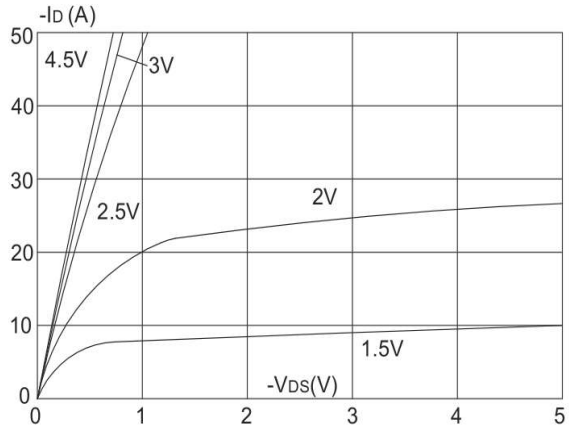


Figure1: Output Characteristics

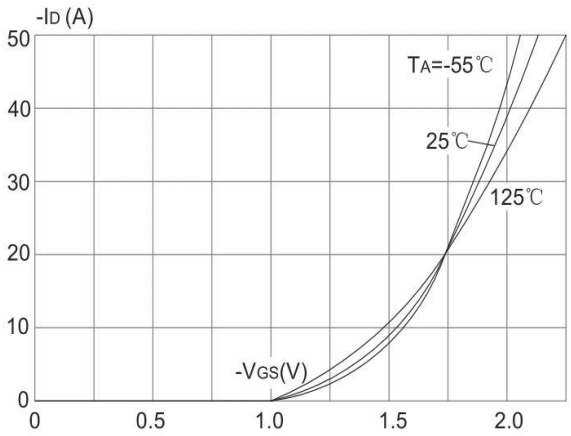


Figure 2: Typical Transfer Characteristics

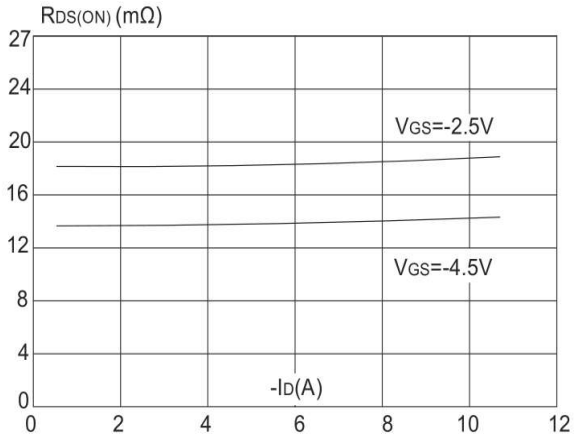


Figure 3:On-resistance vs. Drain Current

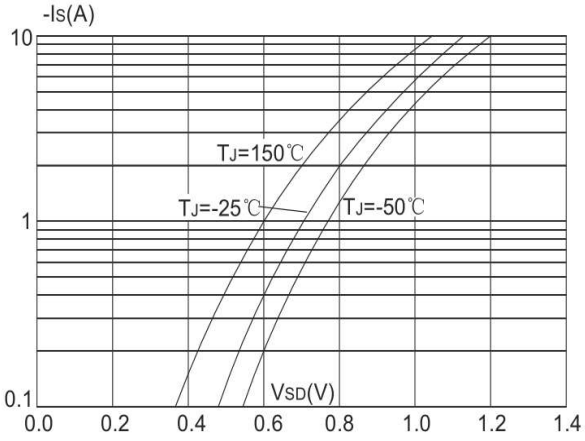


Figure 4: Body Diode Characteristics

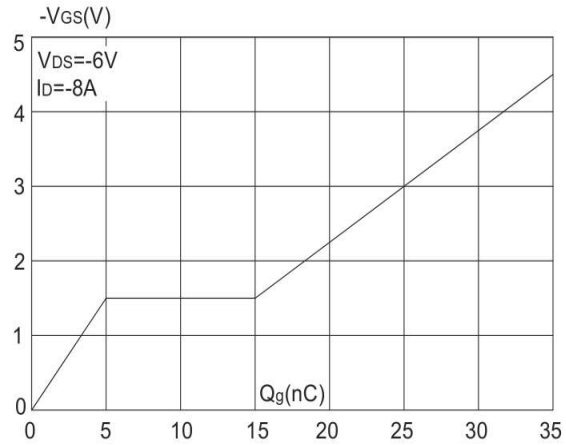


Figure 5: Gate Charge Characteristics

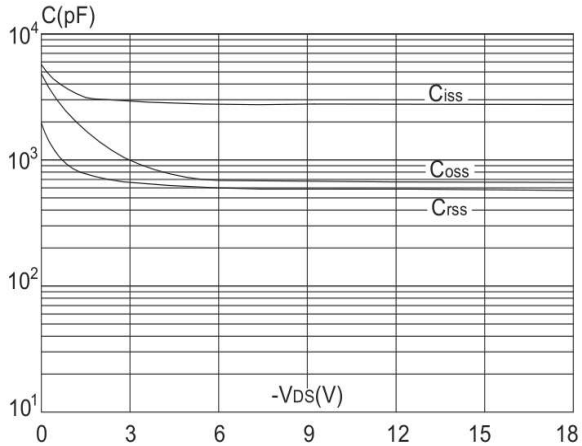


Figure 6: Capacitance Characteristics

Ratings and Characteristic Curves

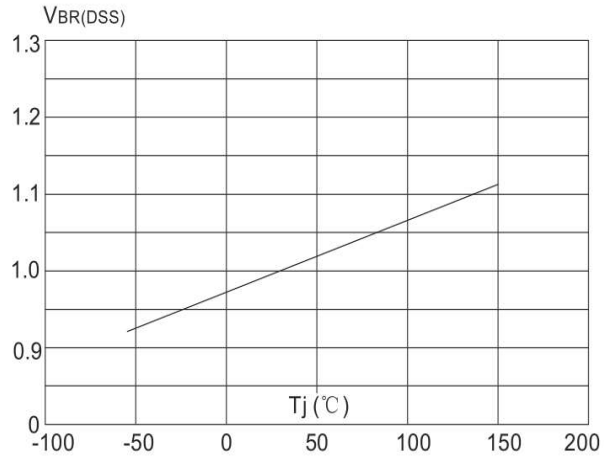


Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

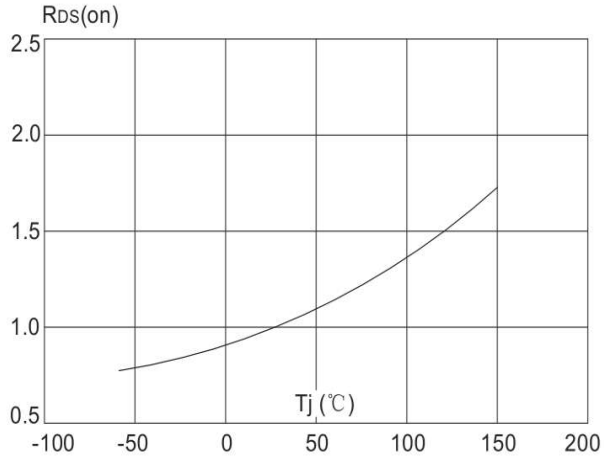


Figure 8: Normalized on Resistance vs. Junction Temperature

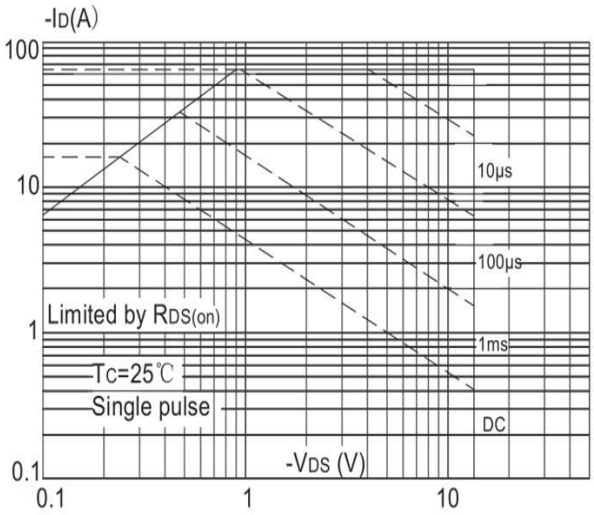


Figure 9: Maximum Safe Operating Area Case Temperature

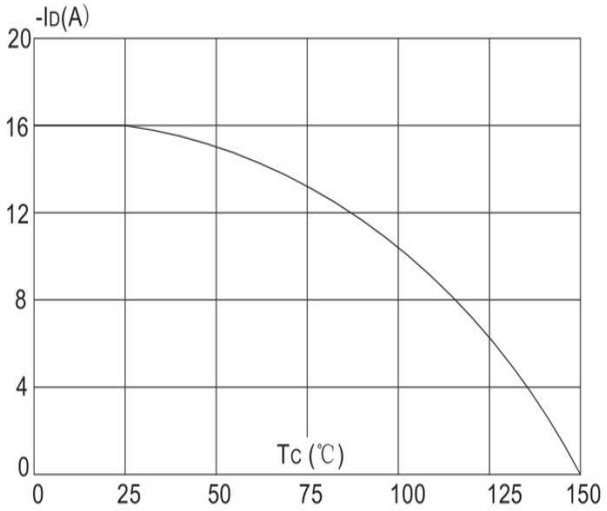


Figure 10: Maximum Continuous Drain Current vs.

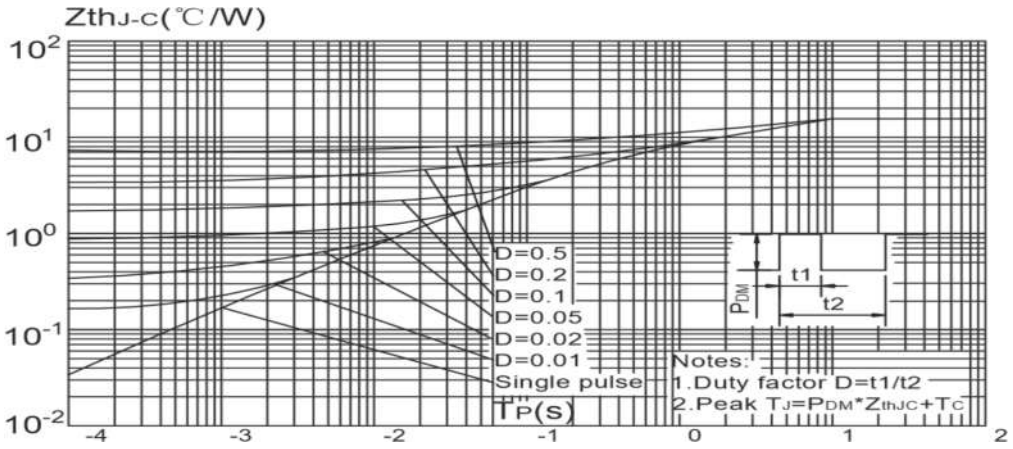


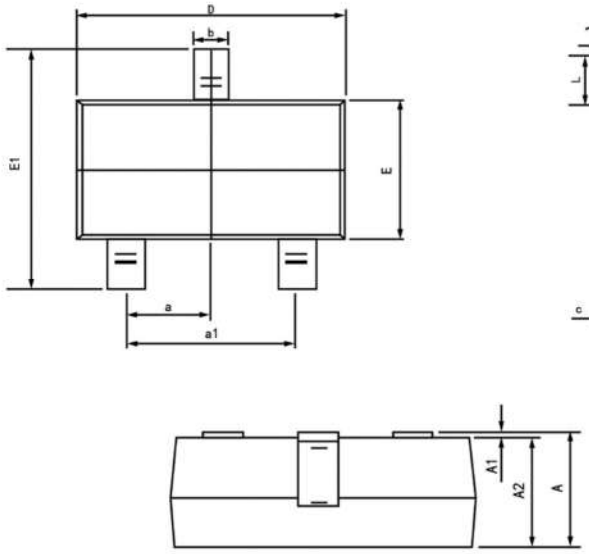
Figure.11: Maximum Effective Transient Thermal Impedance, Junction-to-Case

Ordering information

Package	Packing Description	Base Quantity	Packing Quantity
SOT23-3L	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

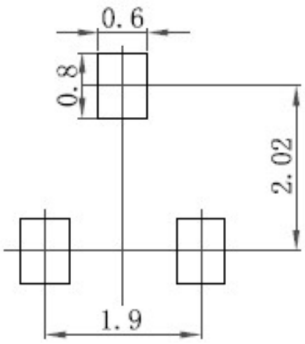
Package Dimensions

SOT23-3L



Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	1.05	1.25	41	49.2
A1	0.10		3.93	
A2	1.05	1.15	41	45
b	0.30	0.50	12	20
c	0.10	0.20	3.93	7.9
D	2.82	3.02	111	119
E	1.50	1.70	59	67
E1	2.65	2.95	104	116
e	0.95		37.4	
e1	1.80	2.00	71	78
L	0.30	0.066	12	26
Θ	8°			

The recommended mounting pad size



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