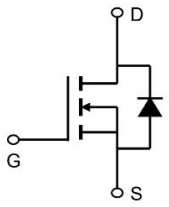
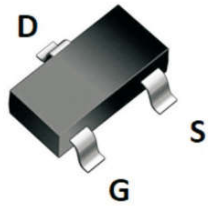
30V N-CHANNEL ENHANCEMENT MODE MOSFET

MAIN CHARACTERISTICS

I_D	5.8A
V_{DS}	30V
R_{DSON}-typ (@V_{GS}=10V)	＜26mΩ(Typ:18mΩ)
R_{DSON}-typ(@V_{GS}=4.5V)	＜28mΩ(Typ:20mΩ)





1.Gate 2.Source 3.Drain

SOT-23

FEATURES

- Case: SOT-23
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260℃/10seconds at terminals

Applications

- Power Switching Application
- Load Switching

Marking Code	
YFW3400B	.A09T

Absolute Maximum Ratings (Ta=25℃ unless otherwise noted)

Parameter		Symbols	Value	Units
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±12	V
Drain Current (DC)	TA=25℃	I_D	5.8	A
Drain Current (DC)	TA=100℃	I_D	4	A
Drain Current Pulsed（Note1）		I_{DM}	23.2	A
Total Power Dissipation		P_D	1.56	W
Junction Temperature		T_J	-55 to +150	°C
Storage Temperature		T_{STG}	-55 to +150	°C
Thermal Resistance (Junction to Ambient)（Note2）		$R_{\theta JA}$	80	°C/W

Electrical Characteristics (T_J=25℃,unless otherwise noted)

Characteristics	Conditins	Symbol	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=250μA	$V_{(BR)DSS}$	30			V
Gate Threshold Voltage	V_{GS}=VDS , I_D =250μA	$V_{GS\ (th)}$	0.5	0.9	1.3	V
Drain-Source Leakage Current	V_{DS}=30V, V_{GS}=0V	I_{DSS}			1	μA
Gate-Source Leakage Current	V_{GS}=±12V, V_{DS}=0V	I_{GSS}			±100	nA
Static Drain-Source On-Resistance（Note3）	V_{GS}=10V , I_D=5A	$R_{DS(ON)}$		18	26	mΩ
	V_{GS}=4.5V , I_D=4.5A			20	28	
Diode Forward Voltage	V_{GS}=0V ,I_S=7A, T_J=25℃	V_{SD}		0.9	1.2	V
Input Capacitance	V_{DS}=15V V_{GS}=0V f=1MHz	C_{iss}		785		pF
Output Capacitance		C_{oss}		66		
Reverse Transfer Capacitance		C_{rss}		54		
Total Gate Charge	V_{DS}=15V V_{GS}=10V I_D=3A	Q_g		19		nC
Gate-Source Charge		Q_{gs}		2		
Gate-Drain Charge		Q_{gd}		2.1		
Turn-On Delay Time	V_{DS}=15V I_D =3A V_{GS}=10V R_{GEN}=3Ω	$t_{d(on)}$		4		ns
Rise Time		T_r		11		
Turn-Off Delay Time		$t_{d(OFF)}$		24		
Fall Time		t_f		2		
Body Diode Reverse Recovery Time	I_F=3A, di/dt=100A/us	Trr		8.4		ns
Body Diode Reverse Recovery Charge		Qrr		3.3		nC

Note:
1.Repetitive Rating:Pulse Width Limited by Maximum Junction Temperature.
2.$R_{\theta JA}$ is measured with the device mounted on a 1inch² pad of 2oz copper FR4 PCB.
3.Pulse Test:Pulse Width ≤300us, Duty Cycle ≤0.5%.

Typical characteristics

Figure 1: Output Characteristics

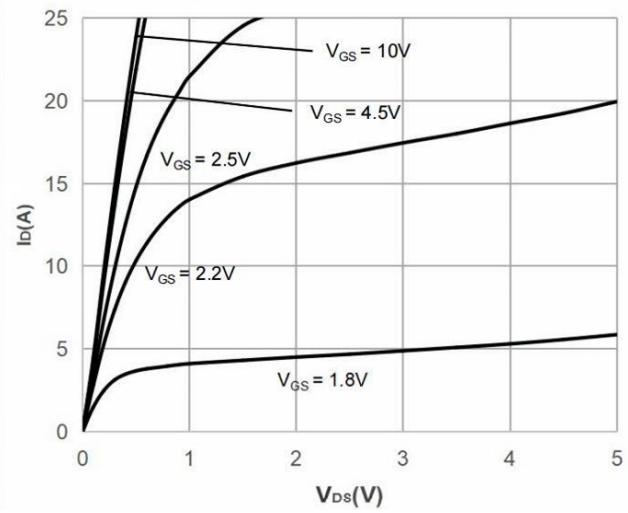


Figure 2: Typical Transfer Characteristics

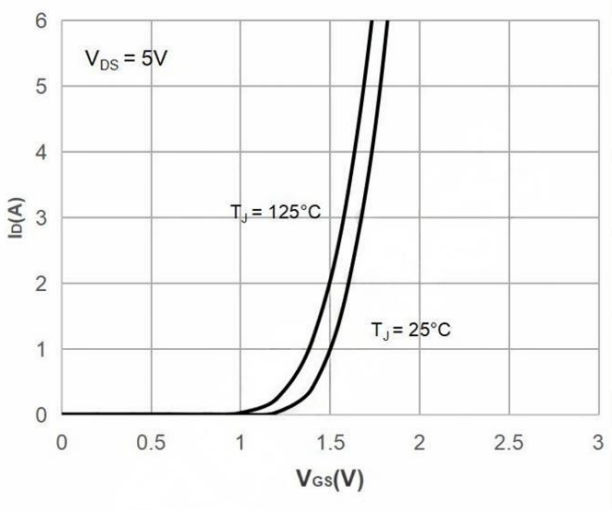


Figure 3: On-resistance vs. Drain Current

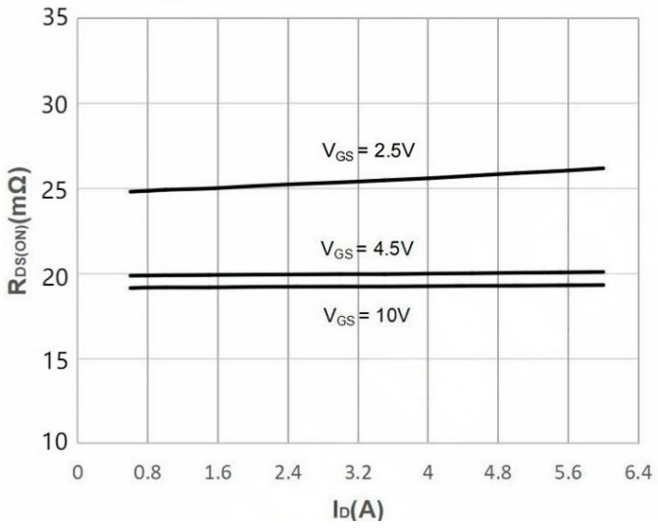


Figure 4: Body Diode Characteristics

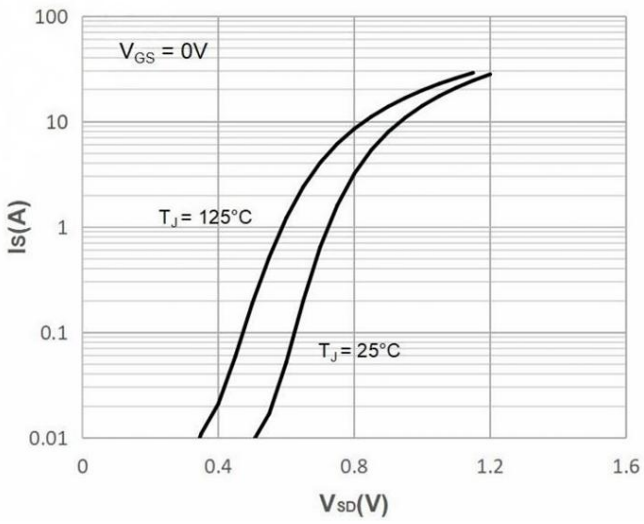


Figure 5: Gate Charge Characteristics

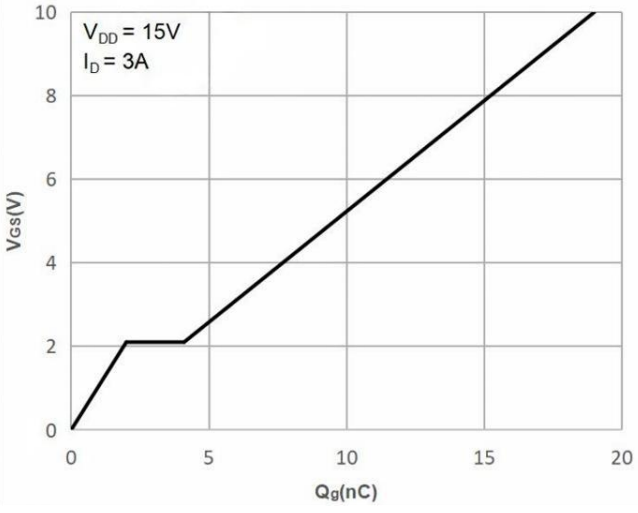


Figure 6: Capacitance Characteristics

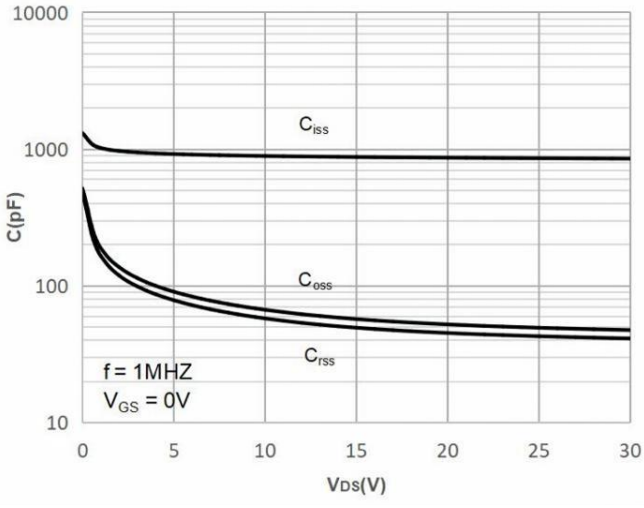


Figure 7: Normalized Breakdown voltage vs. Junction Temperature

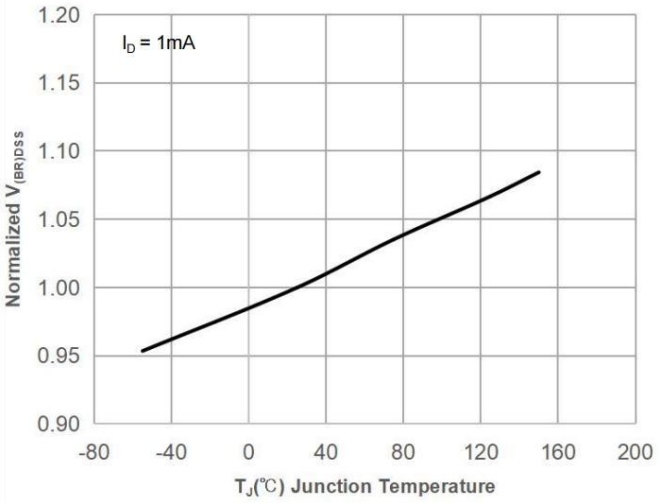


Figure 8: Normalized on Resistance vs. Junction Temperature

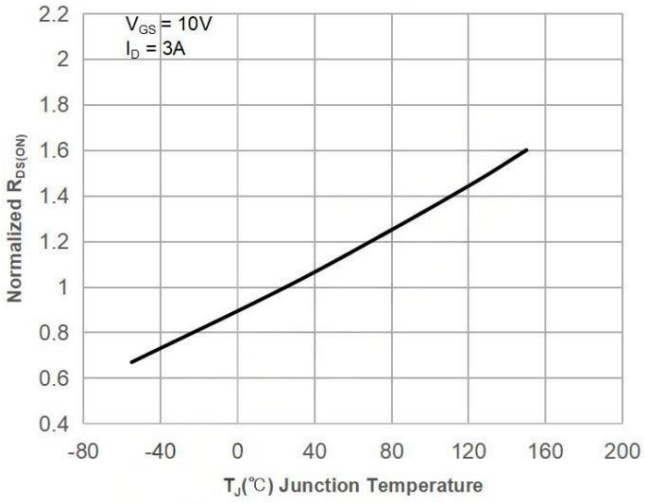


Figure 9: Maximum Safe Operating Area

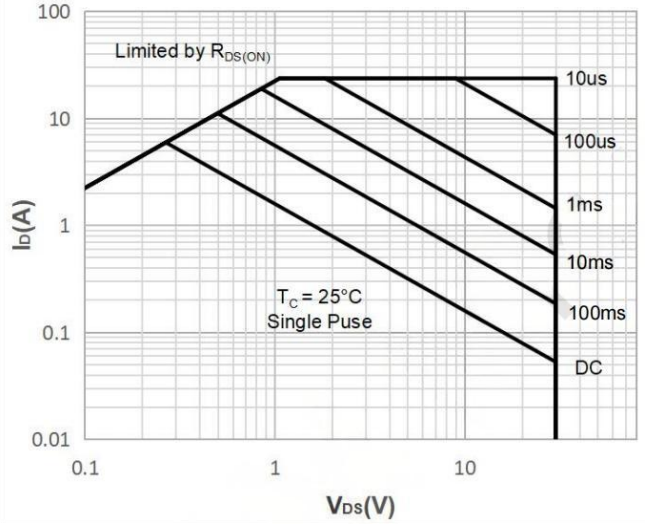


Figure 10: Maximum Continuous Drian Current vs. Case Temperature

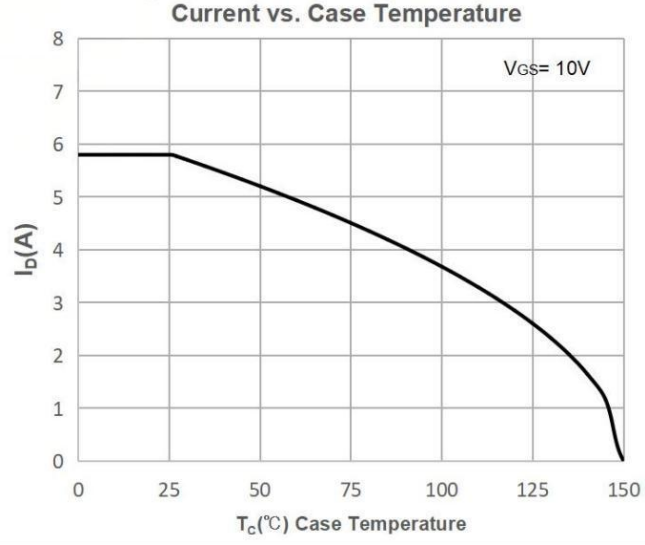


Figure 11: Normalized Maximum Transient Thermal Impedance

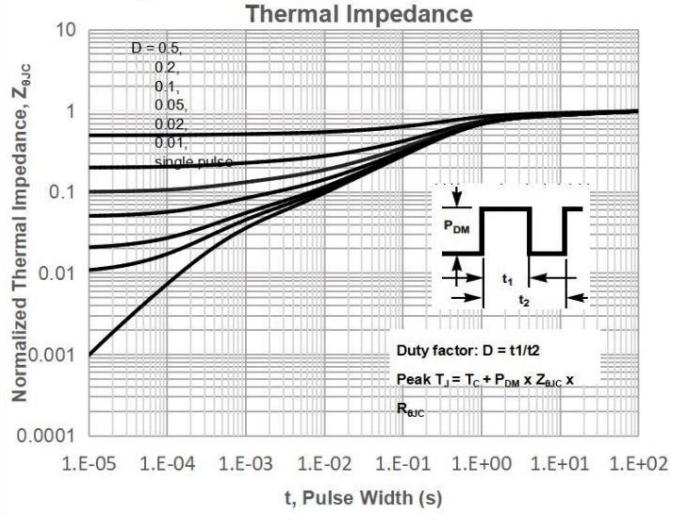
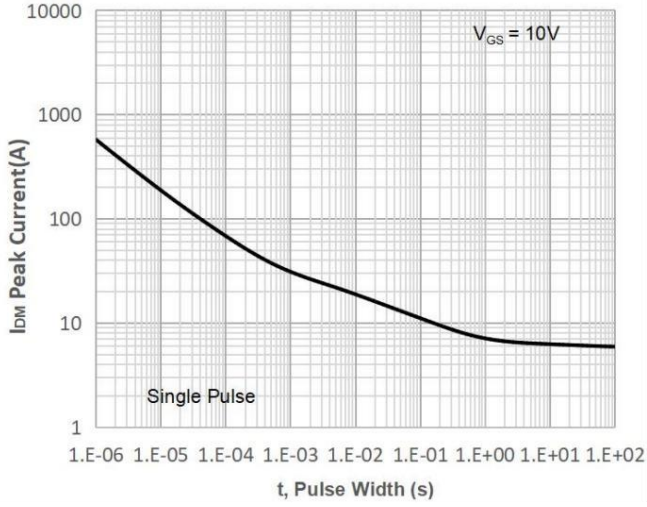


Figure 12: Peak Current Capacity

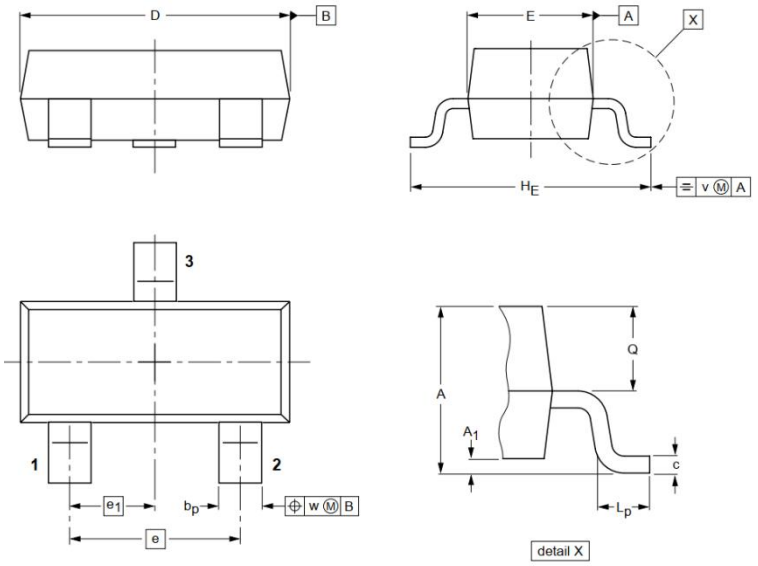


Ordering information

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

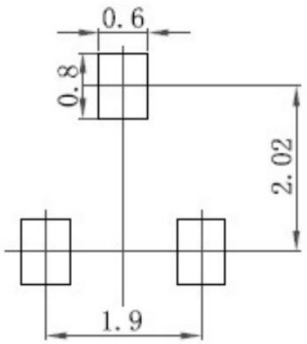
Package Dimensions

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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