MOSFET(P-Channel)

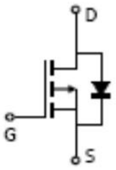
FEATURES

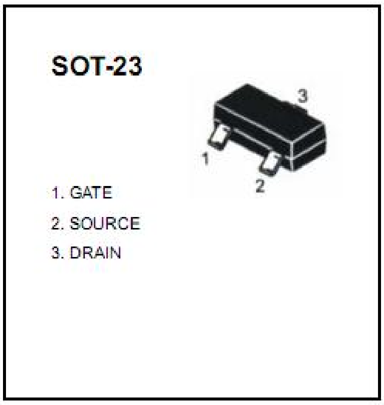
PWM applications

Load switch

Power management

MARK：A1sHB.





MAXIMUM RATINGS (TA=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source voltage	-20	V
V_{GS}	Gate-Source voltage	±12	V
I_D	Drain current	-3	A
P_D	Power Dissipation	1	W
Tj	Junction Temperature	150	℃
Tstg	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=-250uA	-20			V
Gate-Threshold Voltage	$V_{th(GS)}$	V_{DS}= V_{GS}, I_D=-250 uA	-0.4	-0.65	-1	V
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±12V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-19V, V_{GS}=0V			-1	uA
Drain-Source On-Resistance	$r_{DS(ON)}$	V_{GS}=-4.5V, I_D=-3.0A		50	60	mΩ
		V_{GS}=-2.5V, I_D=-2.0A		65	75	mΩ
Forward Trans conductance	gfs	V_{DS}=-5V, I_D=-1.0A	6			s
Dynamic Characteristics						
Input Capacitance	Ciss	V_{DS}=-10V, V_{GS}=0V, f=1MHz		405		pF
Output Capacitance	Coss			112		
Reverse Transfer Capacitance	Crss			89		
Switching Capacitance						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=-10V, R_L=2.9Ω , V_{GS}=-4.5V R_{GEN}=10Ω		11		nS
Turn-on Rise Time	t_r			35		nS
Turn-off Delay Time	$t_{d(off)}$			30		nS
Turn-off Fall Time	t_f			10		nS
Total Gate Charge	Q_g	V_{DS}=-10V, I_D=-2.5A, V_{GS}=-4.5V,		9.0		nC
Gate-Source Charge	Q_{gs}			1.0		nC
Gate-Drain Charge	Q_{gd}			2.5		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_D=-3A			-1.2	V
Diode Forward Current	I_s				-3.0	A

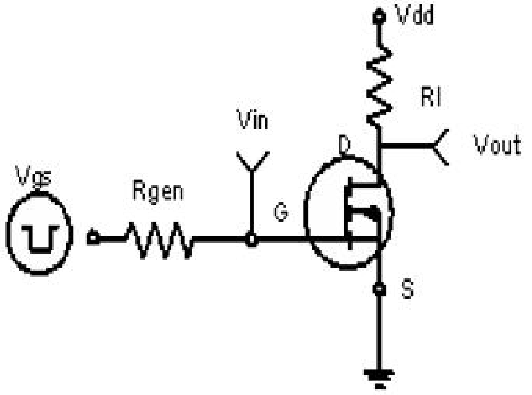


Figure 1:Switching Test Circuit

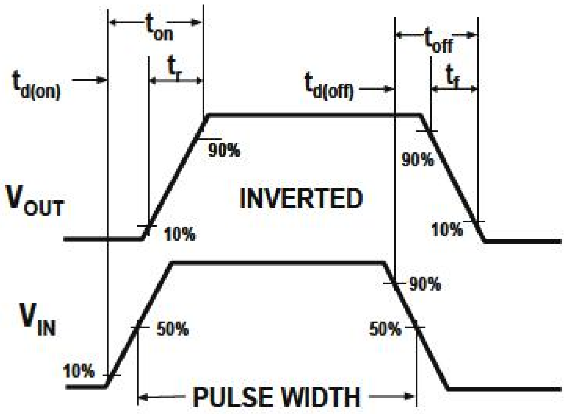


Figure 2:Switching Waveforms

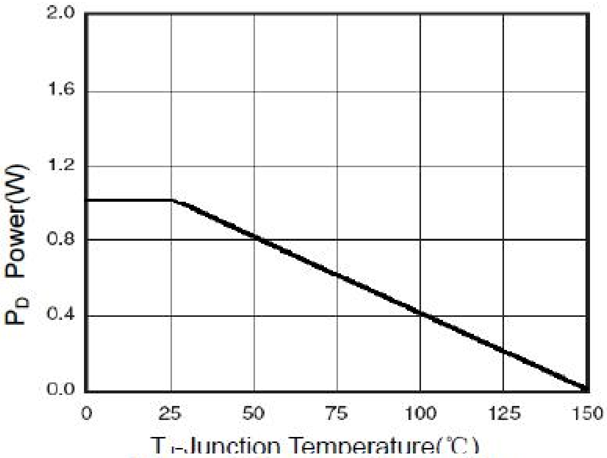


Figure 3 Power Dissipation

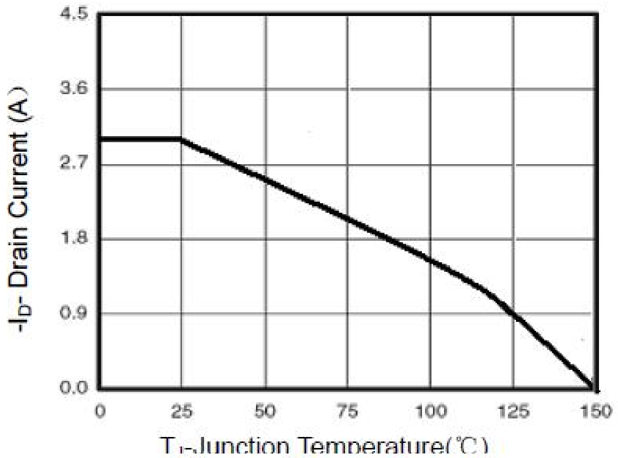


Figure 4 Drain Current

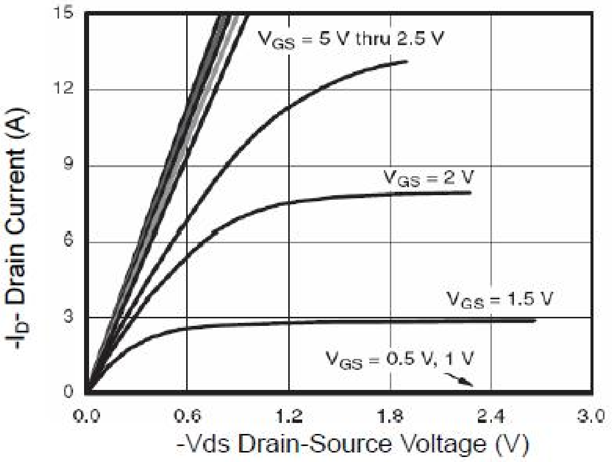


Figure 5 Output Characteristics

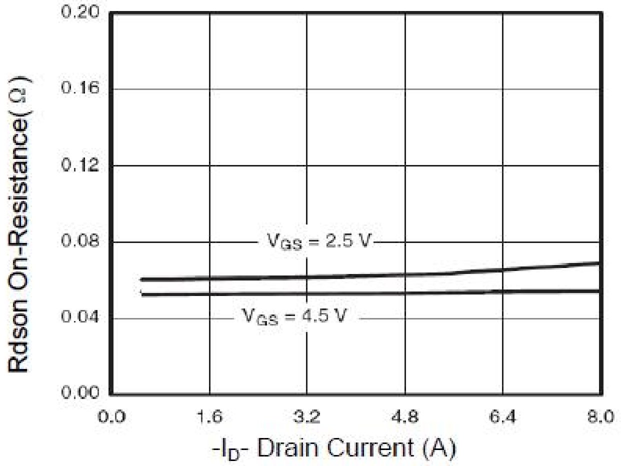


Figure 6 Drain-Source On-Resistance

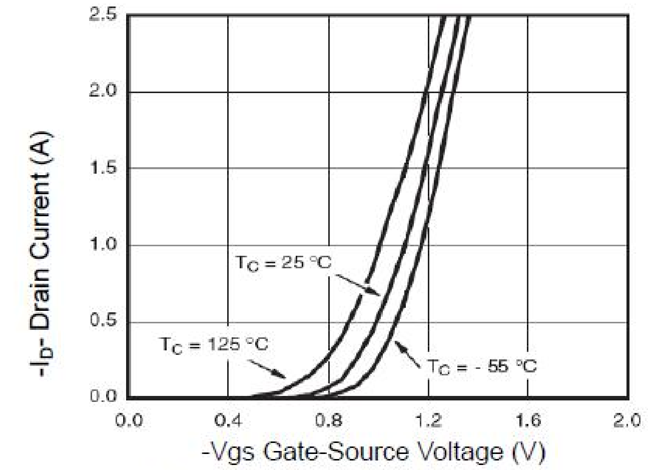


Figure 7 Transfer Characteristics

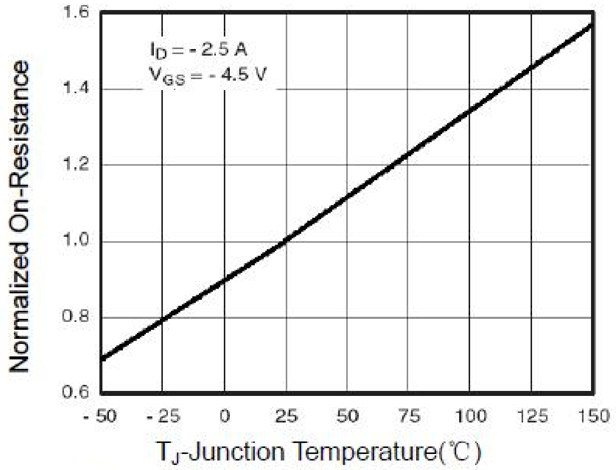


Figure 8 Drain-Source On-Resistance

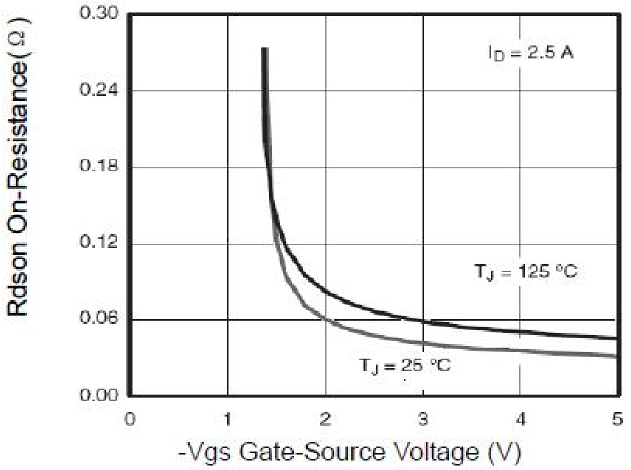


Figure 9 Rdson vs Vgs

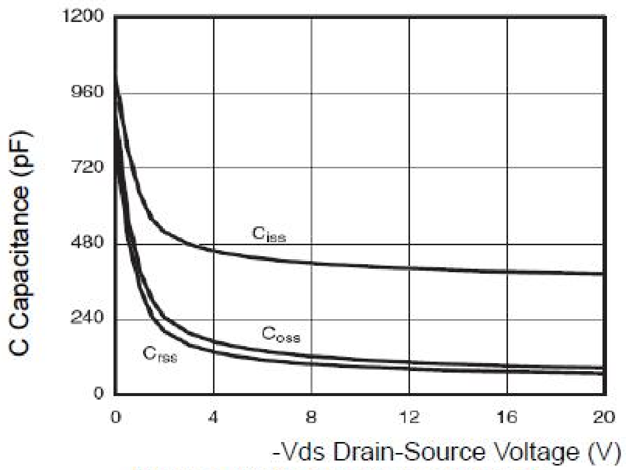


Figure 10 Capacitance vs Vds

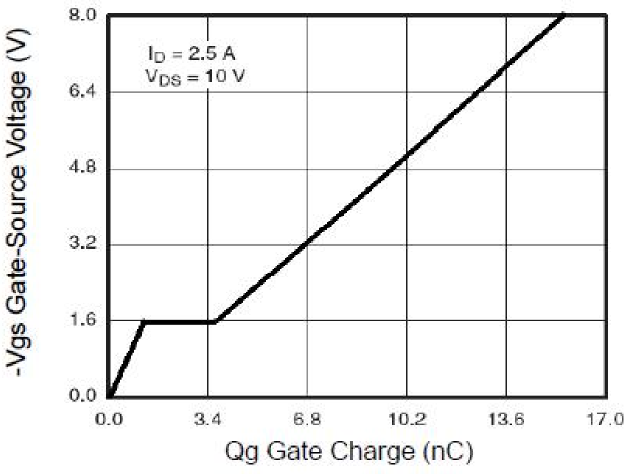


Figure 11 Gate Charge

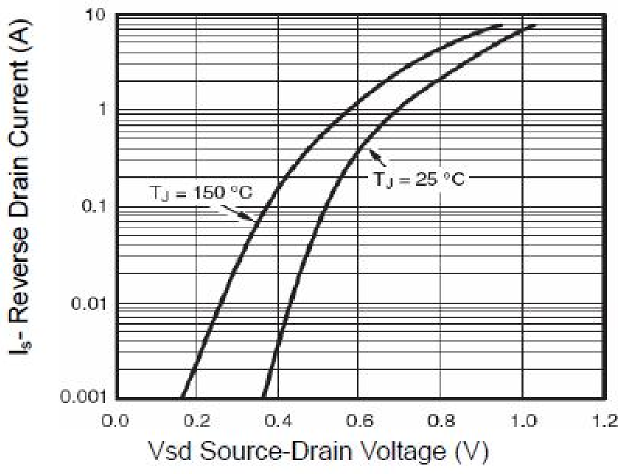
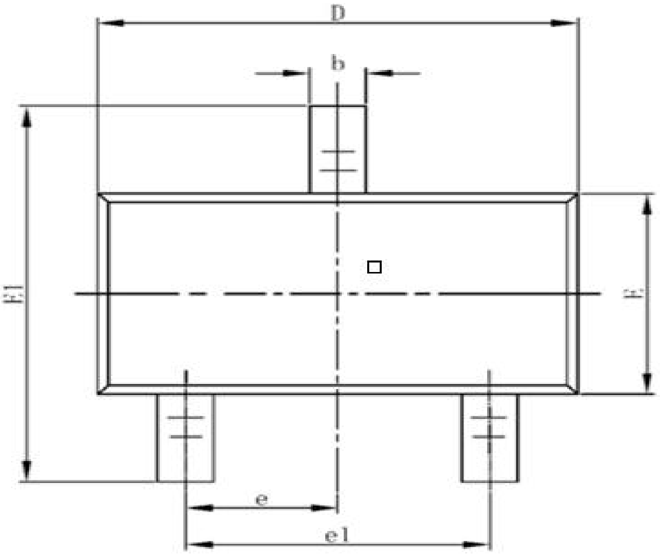
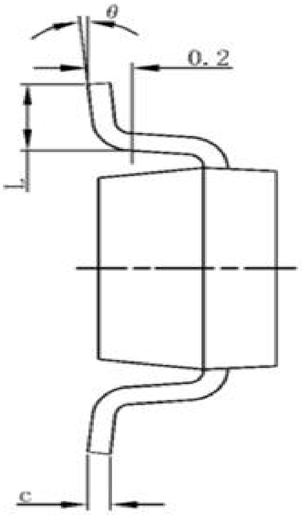
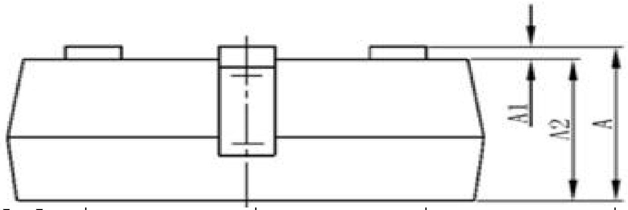


Figure 12 Source- Drain Diode Forward

SOT-23 PACKAGE OUTLINE DIMENSIONS







Symbol	MIN	TYP	MAX
A	0.90		1.15
A1	0.01		0.15
A2	0.90		1.05
b	0.30		0.50
c	0.08		0.15
D	2.80		3.00
E	1.20		1.40
E1	2.25		2.55
e		0.95	
e 1	1.80		2.00
L	0.30	0.4	0.50
L1	0.50	0.55	0.60
θ	0°		8°