MOSFET(N-Channel)

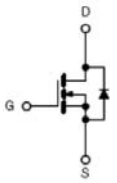
FEATURES

High Power and current handing capability

Lead free product is acquired

Surface Mout Package

MARKING: XORB



SOT-23-3L

1. GATE
2. SOURCE
3. DRAIN

MAXIMUM RATINGS (TA=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source voltage	30	V
V_{GS}	Gate-Source voltage	±12	V
I_D	Drain current	5.8	A
P_D	Power Dissipation	1.4	W
Tj	Junction Temperature	-55-150	℃
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	30			V
Gate-Threshold Voltage	$V_{th(GS)}$	V_{DS}= V_{GS}, I_D=250 uA	0.7	0.9	1.4	V
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±12V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V, V_{GS}=0V			1	uA
Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=2.5V, I_D=4A			59	mΩ
		V_{GS}=4.5V, I_D=2.9A			45	mΩ
		V_{GS}=10V, I_D=2.9A			41	mΩ
Forward Trans conductance	gfs	V_{DS}=5V, I_D=2.9A	10			s
Dynamic Characteristics						
Input Capacitance	Ciss	V_{DS}=15V, V_{GS}=0V, f=1MHz		623		pF
Output Capacitance	Coss			99		
Reverse Transfer Capacitance	Crss			77		
Switching Capacitance						
Turn-on Delay Time	td(on)	V_{DD}=15V, I_D=2.9A, V_{GS}=10V R_{GEN}=3Ω		3.3		nS
Turn-on Rise Time	t_r			4.8		nS
Turn-off Delay Time	td(off)			26		nS
Turn-off Fall Time	t_f			4		nS
Total Gate Charge	Q_g	V_{DS}=15V, I_D=5.8A, V_{GS}=4.5V,		9.5		nC
Gate-Source Charge	Q_{gs}			1.5		nC
Gate-Drain Charge	Q_{gd}			3		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_D=2.9A		0.75	1.2	V
Diode Forward Current	Is				2.9	A

Typical Characteristics

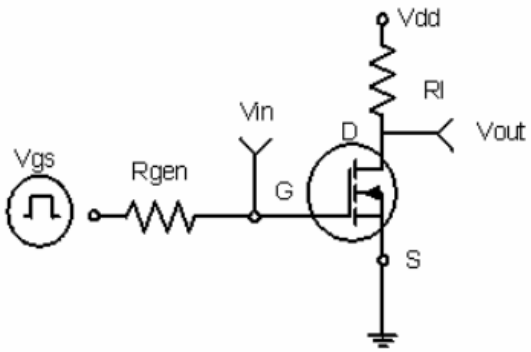


Figure 1:Switching Test Circuit

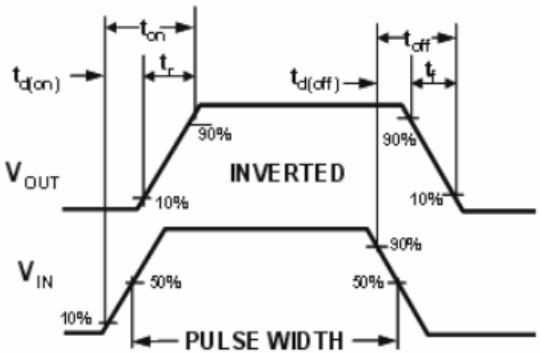


Figure 2:Switching Waveforms