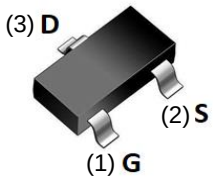
WG3421

SOT-23

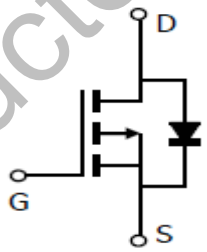
RoHS COMPLIANT



Features:

- ☐ Low Intrinsic Capacitances.
- ☐ Excellent Switching Characteristics.
- ☐ Extended Safe Operating Area.
- ☐ Unrivalled Gate Charge :Qg= 16nC (Typ.).
- ☐ BVDSS=-60V,ID=- 2.5 A
- ☐ RDS(on) : 150 mΩ (Max) @VG=-10V
- ☐ 100% Avalanche Tested

1:Gate (G)
2:Source (S)
3:Drain (D)



WildGoose Semiconductor

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

Parameter		Symbol	Typical	Unit
Drain-Source Voltage		VDSS	-60	V
Gate-Source Voltage		VGSS	±20	V
Continuous Drain Current(TJ=150℃)	TA=25℃ TA=70℃	ID	-2.5 -2.2	A
Pulsed Drain Current		IDM	-12	A
Continuous Source Current (Diode Conduction)		IS	-1.25	A
Power Dissipation	TA=25℃ TA=70℃	PD	1.25 0.8	W
Operation Junction Temperature		TJ	150	℃
Storgae Temperature Range		TSTG	-55/150	℃
Thermal Resistance-Junction to Ambient		RθJA	100	℃/W

ELECTRICAL CHARACTERISTICS (Ta = 25℃ Unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=-10uA	-60			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=VGS,I_D=-250uA	-1.0	-1.7	-2.5	V
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-48V,V_{GS}=0V			-1	uA
		V_{DS}=-48V,V_{GS}=0V T_J=55℃			-10	
Drain-source On-Resistance	$R_{DS(on)}$	V_{GS}=-10V,I_D=-1.5A V_{GS}=-4.5V,I_D=-2.5A		0.130 0.150	0.150 0.175	Ω
Forward Transconductance	g_{fs}	V_{DS}=-10V,I_D=-1.7V		2.4		S
Diode Forward Voltage	V_{SD}	I_S=-1.25A,V_{GS}=0V		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	V_{DS}=-30V V_{GS}=-10V I_D≡-2A		16		nC
Gate-Source Charge	Q_{gs}			8		
Gate-Drain Charge	Q_{gd}			3.0		
Input Capacitance	C_{iss}	V_{DS}=-30V V_{GS}=0V F=1MHz			1200	pF
Output Capacitance	C_{oss}			115		
Reverse Transfer Capacitance	C_{rss}			7		
Turn-On Time	$t_{d(on)}$ tr	V_{DD}=-10V R_L=15Ω I_D=-1.0A V_{GEN}=-3V R_G=2.5Ω		9		nS
				109		
Turn-Off Time	$t_{d(off)}$ tf			25		
				11		

WildGoose Semiconductor

Typical Electrical And Thermal Characteristics (Curves)

Figure 1. Output Characteristics

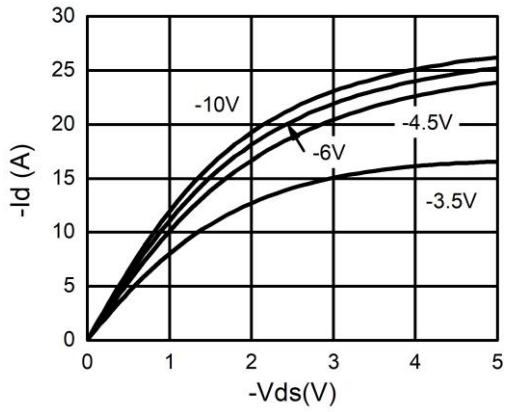


Figure 2. Transfer Characteristics

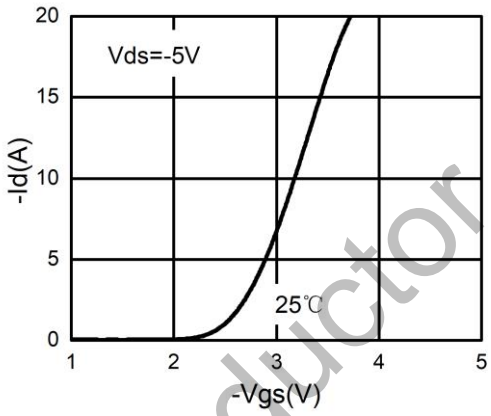


Figure 3. Power Dissipation

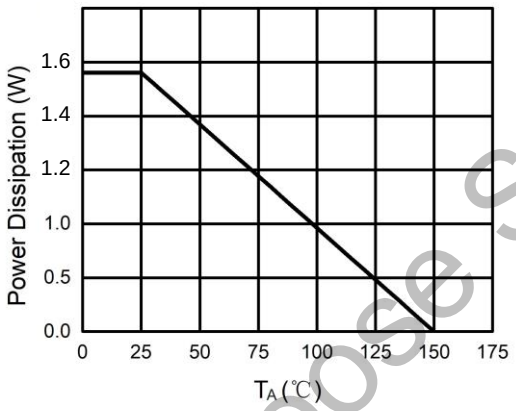


Figure 4. Drain Current

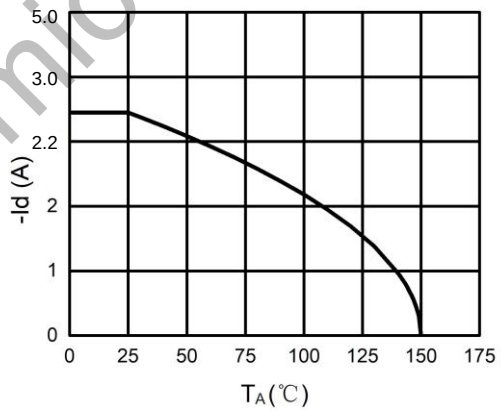


Figure 5. BV_{DSS} vs Junction Temperature

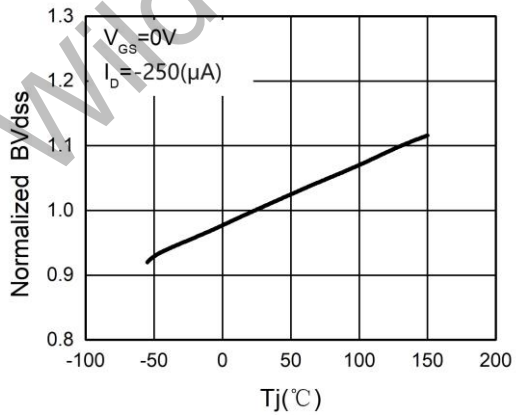
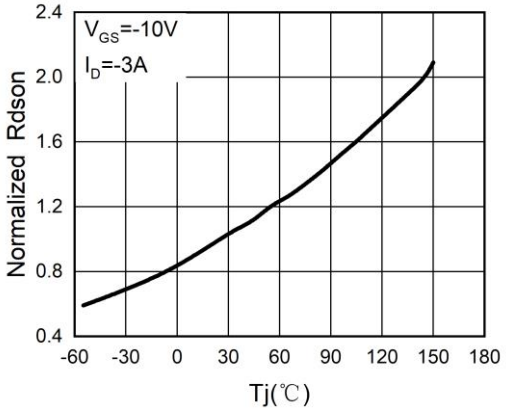


Figure 6. $R_{DS(ON)}$ vs Junction Temperature



WildGoose Semiconductor

Typical Electrical And Thermal Characteristics (Curves)

Figure 7. Gate Charge Waveforms

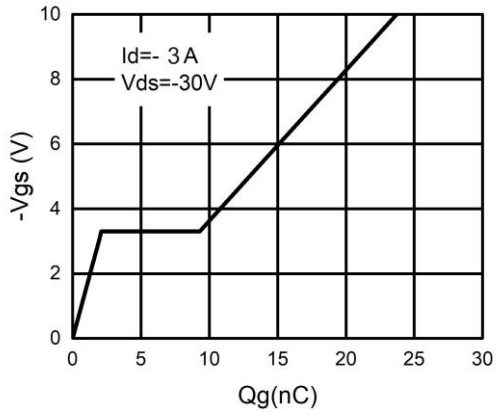


Figure 8. Capacitance

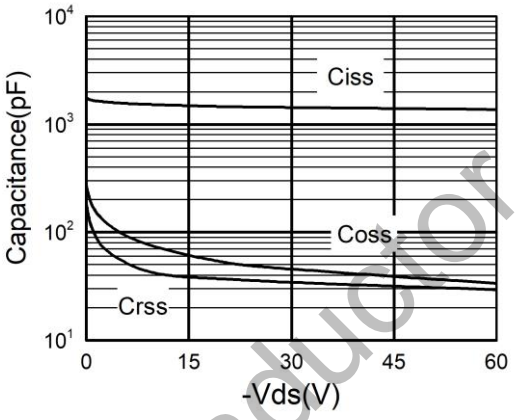


Figure 9. Body-Diode Characteristics

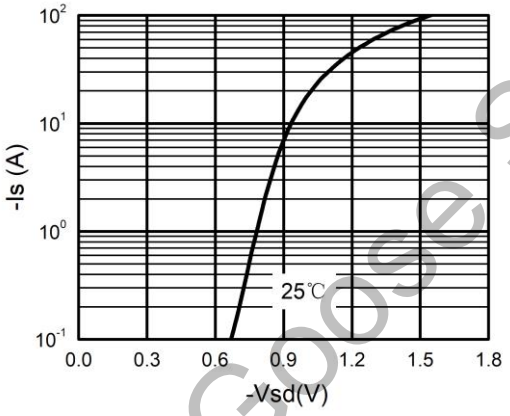
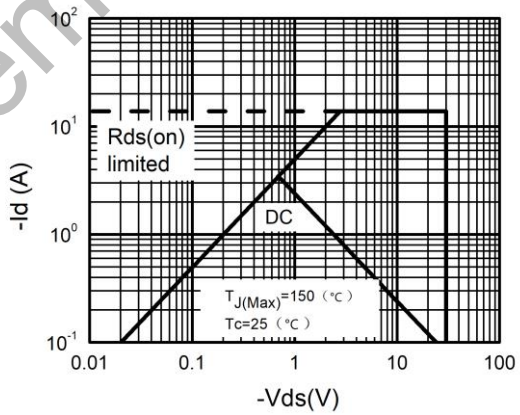


Figure 10. Maximum Safe Operating Area

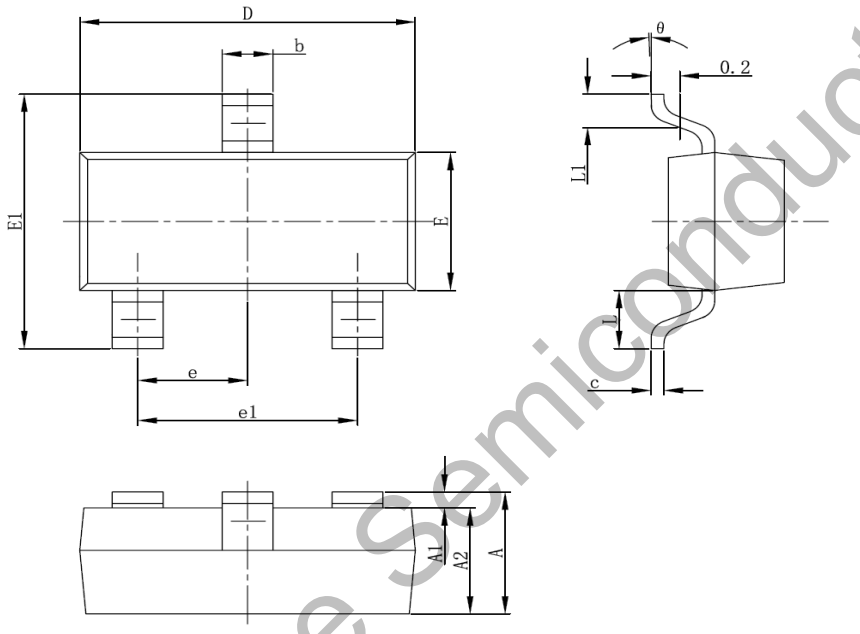


WildGoose Semiconductor

Package Dimension

SOT-23

Unit: mm



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

WildGoose Semiconductor