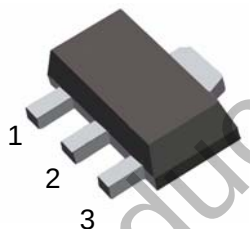
WG17P30

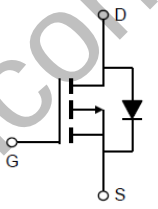
Features:

- ☐ High power and current handing capability
- ☐ Lead free product is acquired
- ☐ Surface mount package
- ☐ Unrivalled Gate Charge :Qg=43nC (Typ.).
- ☐ VDSS=- 30 V,I_D=- 17 A
- ☐ R_{DS}(on) : 22mΩ (Max) @V_G=10V

RoHS COMPLIANT

SOT-89





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

WildGoose Semiconductor

Absolute Maximum Ratings (T_C=25℃,unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage (V_{GS}=0V)	V_{DS}	-30	V
Gate-Source Voltage (V_{GS}=0V,static)	V_{GS}	±20	V
Continuous Drain Current (T_C=25℃)	I_D	-17	A
Continuous Drain Current (T_C=100℃)		-9	A
Pulesd Drain Current	I_{DM}	-30	A
Avalanche Energy, Single Pulsed	E_{AS}	102	mJ
Maximum Power Dissipation (T_C=25℃)	P_D	3	W
Maximum Power Dissipation (T_C=100℃)		1.6	W
Operating,Storge Temperature Range	T_J,T_{STG}	-55~150	℃

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance,Junction-to-Case	$R_{\theta JC}$	-	20	-	℃/ W
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	-	59	-	℃/ W

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=-250μA	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0V	-	-	-1	μA
Gate -Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS},I_D=-250μA	-1.0	-1.7	-2.5	V
Drain-Source On-stage Resistance	$R_{DS(ON)}$	V_{GS}=-10V,I_D=-9.9A	-	20	22	mΩ
		V_{GS}=-4.5V,I_D=-1A	-	33	37	

Dynamic Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	V_{DS}=-15V	-	1450	-	pF
Output capacitance	C_{oss}	V_{GS}=0V	-	170	-	
Reverse transfer capacitance	C_{rss}	f=1MHz	-	165	-	
Gate Resistance	R_g	f=1MHz	-	6	-	Ω
Body Diode Forward Voltage	Q_g	V_{DS}=-15V	-	43	-	nC
Reverse Recovery Time	Q_{gs}	V_{GS}=-10V	-	3	-	
Reverse Recovery Charge	Q_{gd}	I_D=-15A	-	9.5	-	
Turn-on delay Time	$t_{d(on)}$	V_{GS}=-10V	-	16	-	ns
Rise time	t_r	V_{DS}=-15V	-	19	-	
Turn-off delay Time	$t_{d(off)}$	R_L=1Ω	-	70	-	
Fall time	t_f	R_G=3Ω	-	41	-	

Reverse Diode Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Body Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_{SD}=-1A	-	-0.75	-1	V
Reverse Recovery Time	t_{rr}	V_{GS}=0V,I_{SD}=-5 A	-	39	-	ns
Reverse Recovery Charge	Q_{rr}	d_i/d_t=100A/μs	-	26	-	nC

WinGoose Semiconductor

Typical Electrical and Thermal Characteristics

Figure 1. On-Regin Characteristics

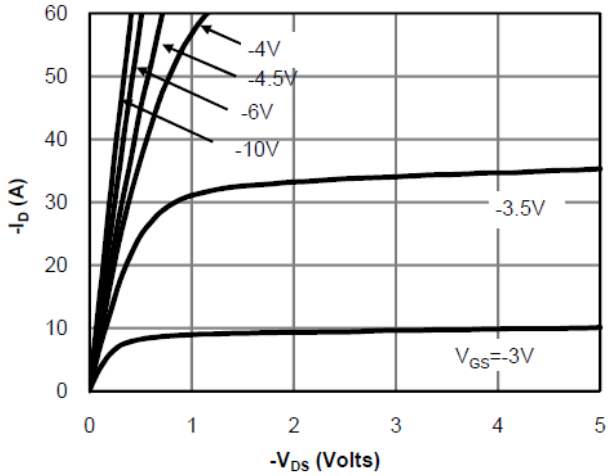


Figure 2. Transfer Characteristics

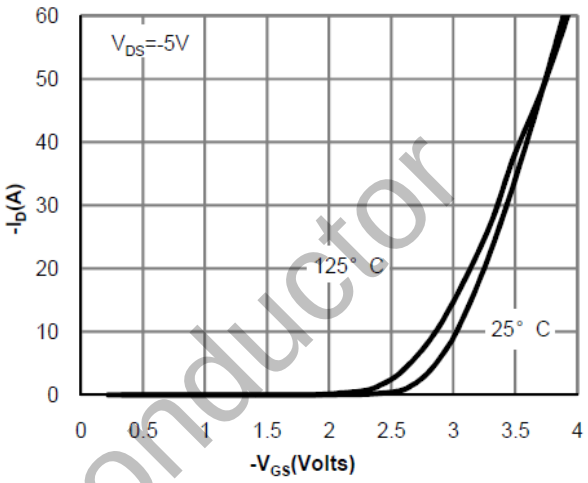


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

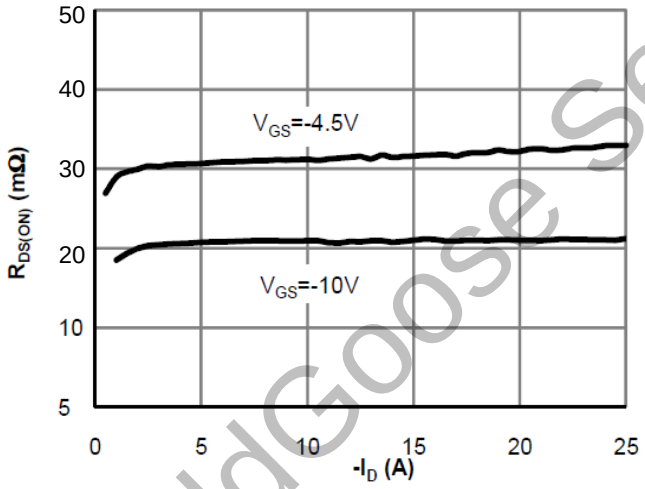


Figure 4. On-Resistance vs. Junction Temperature

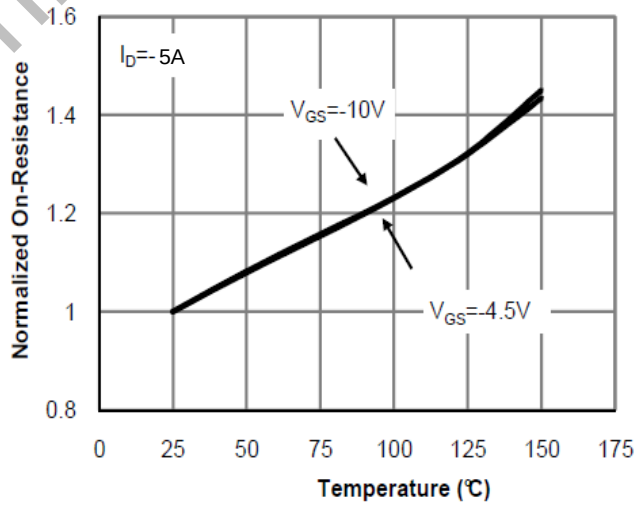


Figure 5. On-Resistance vs. Gate-Source Voltage

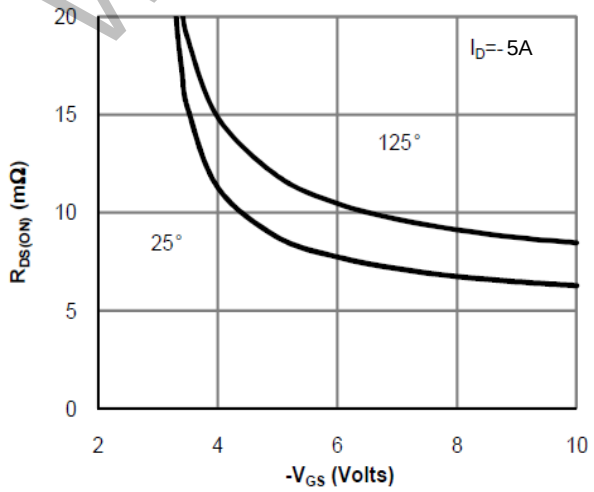
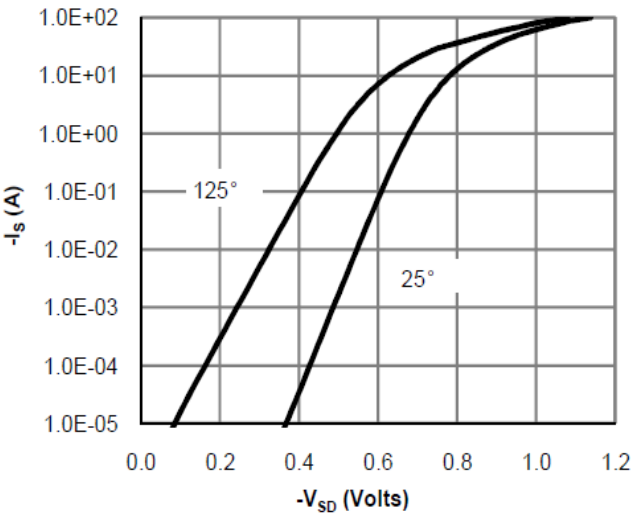


Figure 6. Body-Diode Characteristics



WildGoose Semiconductor

Figure 7. Gate-Charge Characteristics

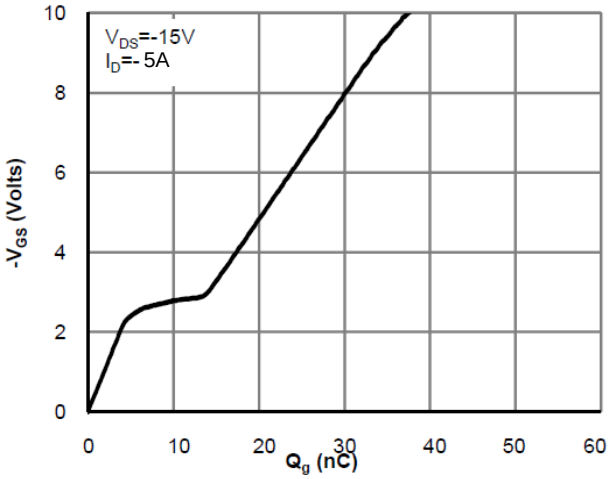


Figure 8. Capacitance Characteristics

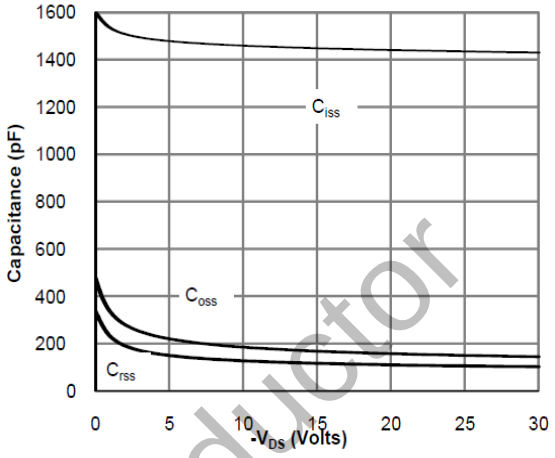


Figure 9. Maximum Forward Biased Safe Operating Area

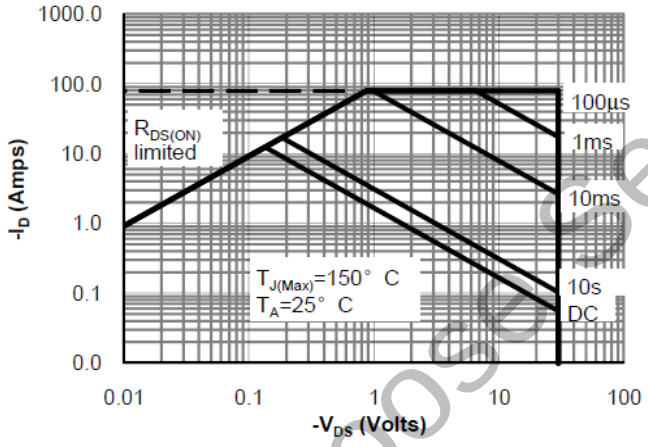


Figure 10. Single Pulse Power Rating Junction-to-Ambient

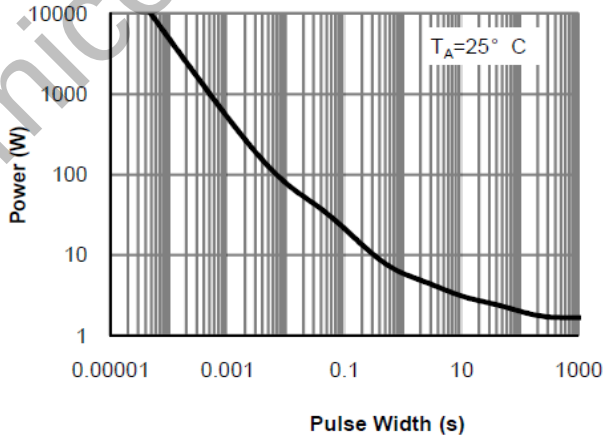
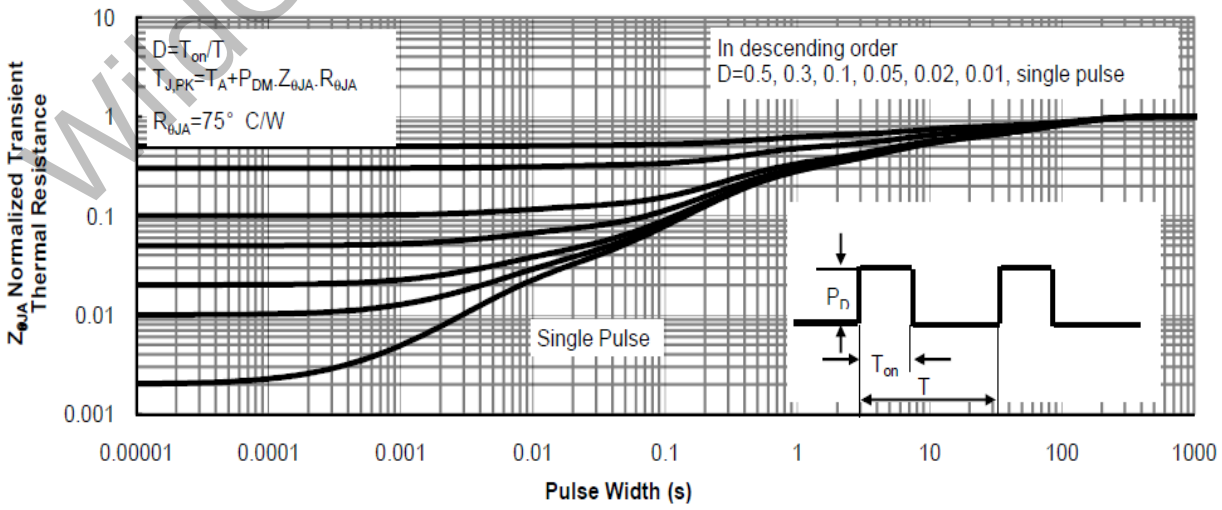


Figure 11. Normalized Maximum Transient Thermal Impedance

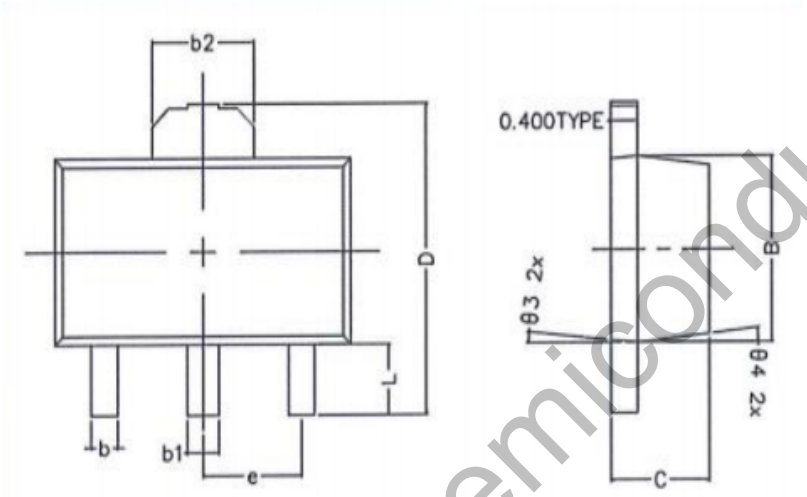


WillGoodSemiconductor

Package Dimension

SOT- 89

Unit: mm



COMMON DIMENSIONS (UNITS OF MEASURE IS mm)			
	MIN	NORMAL	MAX
A	4.450	4.550	4.600
B	2.50	2.550	2.600
C	1.450	1.500	1.550
D	4.100	4.200	4.300
L	0.850	0.950	1.050
b	0.350	0.400	0.450
b1	0.430	0.480	0.530
b2	1.500	1.550	1.600
e	1.500TYPE		
θ_1	6° TYPE		
θ_2	5° TYPE		
θ_3	5° TYPE		
θ_4	6° TYPE		

WildGoose Semiconductor