-50V P-Channel POWER MOSFET

WildGoose

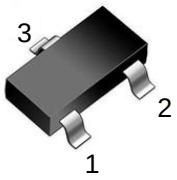
BSS84

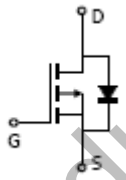
Features:

- ☐ Simple Drive Requirement
- ☐ BVDSS=-50V ,I_D=-0.25 A
- ☐ R_{DS}(on) :8.0 Ω (Max) @V_G=-10V
- ☐ 100% Avalanche Tested

SOT-23

RoHS COMPLIANT





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

Maximum Ratings (T_A=25℃ Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-50	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-0.25	A
Pulsed Drain Current (note 1) @tp <10 μs	I_{DM}	-0.85	A
Power Dissipation	P_D	600	mW
Thermal Resistance from Junction to Ambient (note 2)	$R_{\theta JA}$	208	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~+150	℃
Maximum Lead Temperature for Soldering Purposes , Duration for 5 Seconds	T_L	260	℃

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Electrical Characteristics (T_A=25°C Unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-50			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-50V,V_{GS} = 0V			-15	μA
		V_{DS} =-25V,V_{GS} = 0V			-0.1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±5	μA
Gate threshold voltage (note 3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.9		-2	V
Drain-source on-resistance (note 3)	$R_{DS(on)}$	V_{GS} =-5V, I_D =-0.1A			10	Ω
		V_{GS} =-10V, I_D =-0.1A			8	Ω
Forward transconductance (note 1)	g_{FS}	V_{DS}=-25V; I_D=-100mA	50			mS
DYNAMIC CHARACTERISTICS (note 4)						
Input capacitance	C_{iss}	V_{DS} = -5 V,V_{GS} =0V,f =1MHz		30		pF
Output capacitance	C_{oss}			10		pF
Reverse transfer capacitance	C_{rss}			5		pF
SWITCHING CHARACTERISTICS (note 4)						
Turn-on delay time	$t_{d(on)}$	V_{DD}=-15V, R_L=50Ω, I_D =-2.5A		2.5		ns
Turn-on rise time	t_r			1		ns
Turn-off delay time	$t_{d(off)}$			16		ns
Turn-off fall time	t_f			8		ns
SOURCE−DRAIN DIODE CHARACTERISTICS						
Continuous Current	I_S				-0.13	A
Pulsed Current	I_{SM}				-0.52	A
Diode forward voltage (note 3)	V_{SD}	I_S=-0.13A, V_{GS} = 0V			-2.2	V

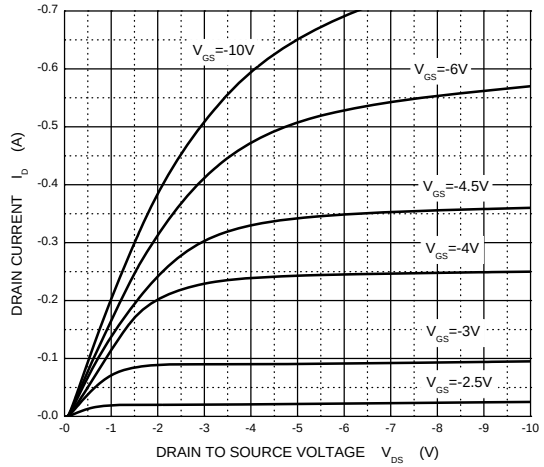
Notes :

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t≤10s.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle≤2%.
4. Guaranteed by design, not subject to producting.

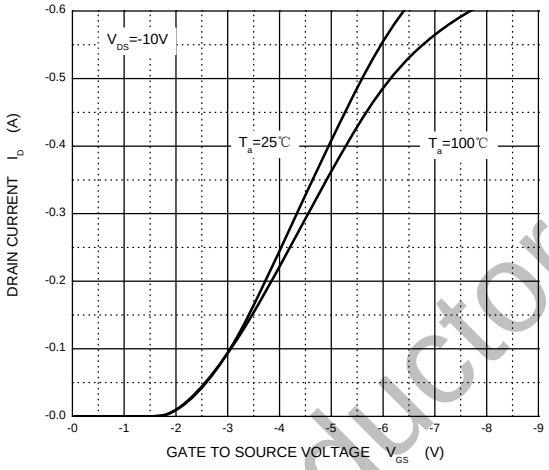
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Typical Characteristics (Continued)

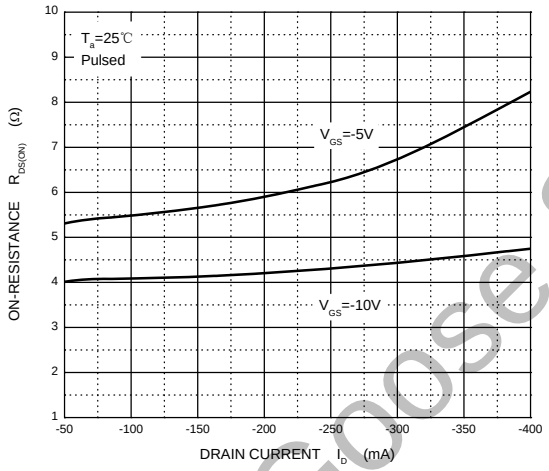
Output Characteristics



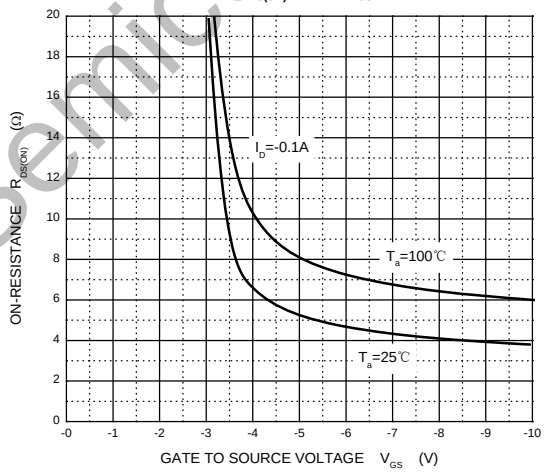
Transfer Characteristics



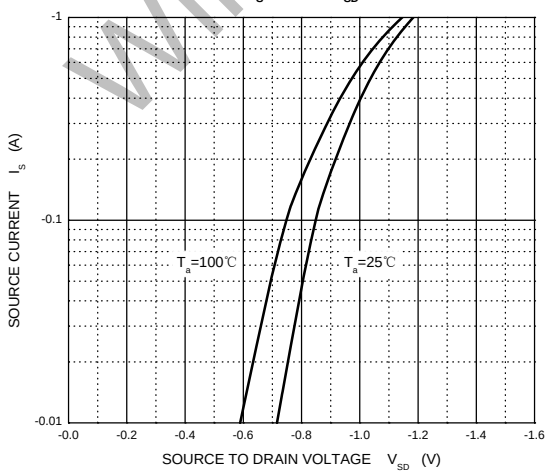
$R_{DS(ON)}$ —— I_D



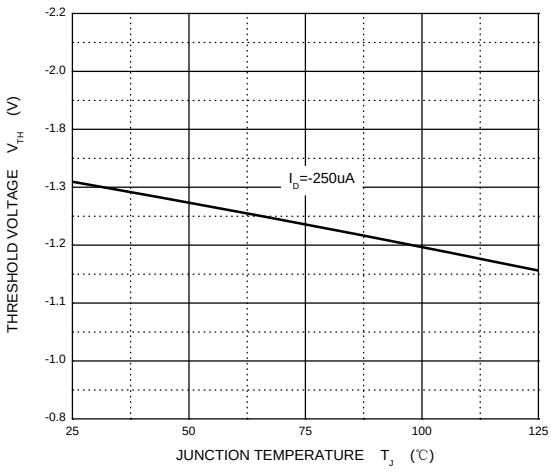
$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Threshold Voltage

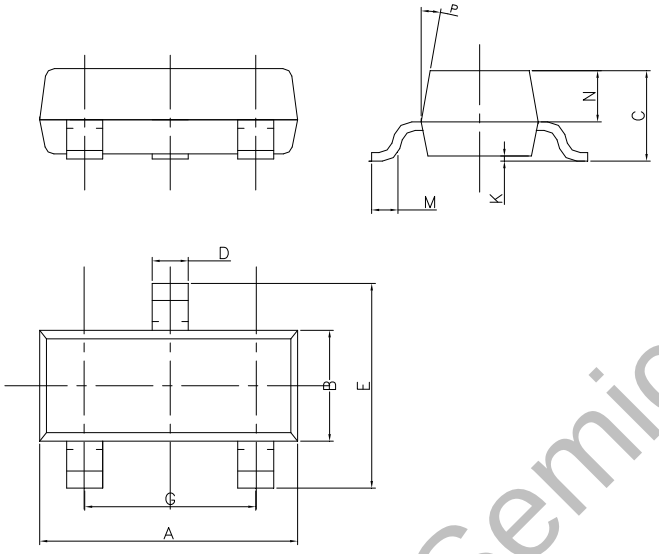


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Package Dimension

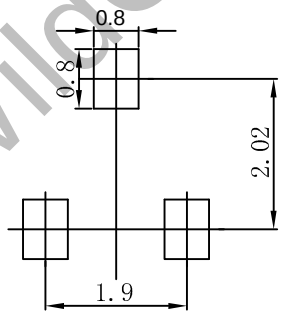
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Unit: mm



DIM	MILLIMETERS
A	2.85~3.04
B	1.30±0.10
C	1.00±0.10
D	0.45±0.05
E	2.25~2.55
G	1.90±0.1
K	0.00−0.10
M	0.20 MIN
N	0.60±0.10
P	7±2°

SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

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