

Product Summary

- V_{DS} -30V
- I_D -0.17A
- $R_{DS(ON)}$ (at $V_{GS}=10V$) <4700m Ω
- 100% EAS Tested
- 100% ∇V_{DS} Tested

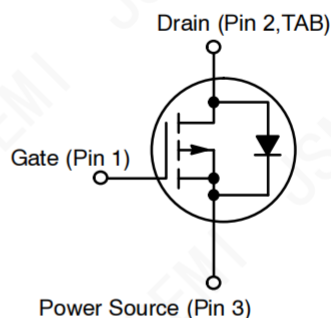


General Description

- Trench Power MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

- Power switching application
- Uninterruptible power supply
- DC-DC convertor
- Motor drivers



Absolute Maximum Ratings最大额定值

Characteristic特性参数	Symbol符号	Rat额定值	Unit单位
Drain-Source Voltage漏极-源极电压	BVDSS	-30	V
Gate-Source Voltage栅极-源极电压	VGS	+20	V
Drain Current(continuous)漏极电流-连续	I_D (at $T_A=25^\circ\text{C}$)	-170	mA
Drain Current(pulsed)漏极电流-脉冲	I_{DM}	-1.2	A
Total Device Dissipation总耗散功率	P_D (at $T_A=25^\circ\text{C}$)	225	mW
ESD Protected Up to 人体模式静电保护范围	ESD(HBM)	2.0	kV
Thermal Resistance Junction-Ambient热阻	$R_{\theta JA}$	625	$^\circ\text{C/W}$
Junction/Storage Temperature结温/储存温度	T_J, T_{stg}	-55~150	$^\circ\text{C}$

Electrical Characteristics 电特性

(TA=25°C unless otherwise noted 如无特殊说明, 温度为 25°C)

Characteristic 特性参数	Symbol 符号	Min 最小值	Typ 典型值	Max 最大值	Unit 单位
Drain-Source Breakdown Voltage 漏极-源极击穿电压(ID=-250uA,VGS=0V)	BVDSS	-30	—	—	V
Gate Threshold Voltage 栅极开启电压(ID=-250uA,VGS=VDS)	VGS(th)	-1.1	-1.6	-2.2	V
Zero Gate Voltage Drain Current 零栅压漏极电流(VGS=0V,VDS=-30V)	IDSS	—	—	1	μA
Gate Body Leakage 栅极漏电流(VGS=+20V,VDS=0V)	IGSS	—	—	±10	μA
Static Drain-Source On-State Resistance 静态漏源导通电阻 (ID=-150mA,VGS=-10V) (ID=-150mA,VGS=-4.5V)	RDS(ON)	—	3.6 4.4	4.7 5.7	Ω
Diode Forward Voltage Drop 内附二极管正向压降 (ISD=-170mA,VGS=0V)	VSD	—	—	-1.2	V
Input Capacitance 输入电容 (VGS=0V,VDS=-30V,f=1MHz)	Ciss	—	43	—	pF
Common Source Output Capacitance 共源输出电容(VGS=0V,VDS=-30V,f=1MHz)	Coss	—	3	—	pF
Reverse Transfer Capacitance 反馈电容(VGS=0V,VDS=-30V,f=1MHz)	Crss	—	1.8	—	pF
Total Gate Charge 栅极电荷密度 (VDS=-30V,ID=-150mA,VGS=10V)	Qg	—	1.7	—	nC
Gate Source Charge 栅源电荷密度 (VDS=-30V,ID=-150mA,VGS=10V)	Qgs	—	0.57	—	nC
Gate Drain Charge 栅漏电荷密度 (VDS=-30V,ID=-150mA,VGS=10V)	Qgd	—	0.25	—	nC
Turn-ON Delay Time 开启延迟时间 (VDS=-30VID=-150mA,RGEN=3Ω,VGS=-10V)	td(on)	—	9	—	ns
Turn-ON Rise Time 开启上升时间 (VDS=-30VID=-150mA,RGEN=3Ω,VGS=-10V)	tr	—	19	—	ns
Turn-OFF Delay Time 关断延迟时间 (VDS=-30VID=-150mA,RGEN=3Ω,VGS=-10V)	td(off)	—	15	—	ns
Turn-OFF Fall Time 关断下降时间 (VDS=-30VID=-150mA,RGEN=3Ω,VGS=-10V)	tf	—	77	—	ns

Typical Characteristic Curve 典型特性曲线

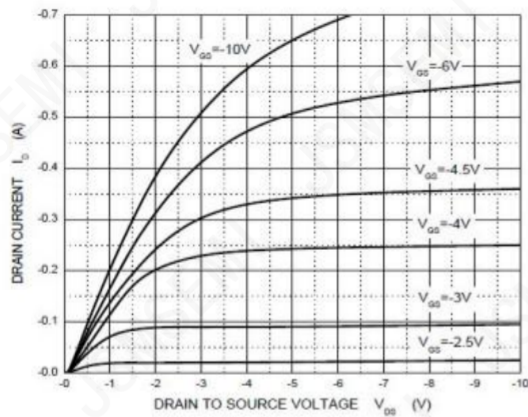


Figure 1: Output Characteristics

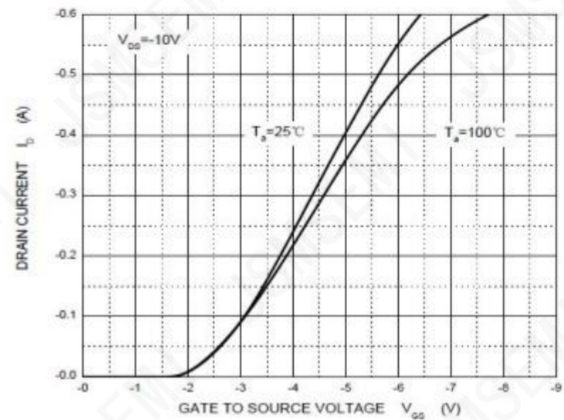


Figure 2: Transfer Characteristics

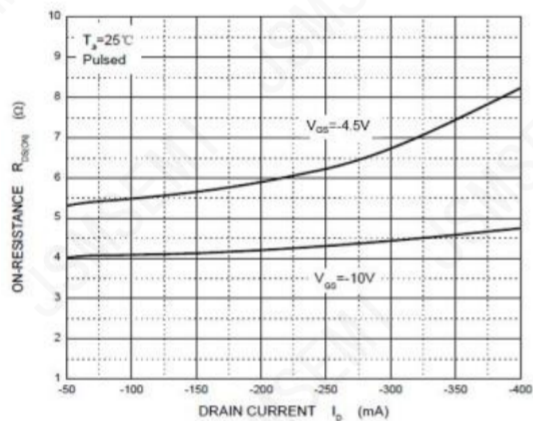


Figure 3: On-Resistance vs. Drain Current

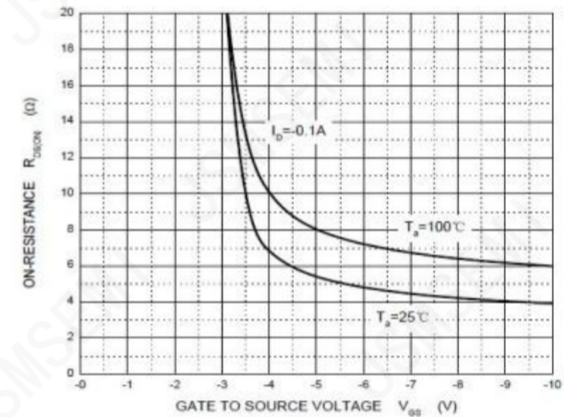


Figure 4: On-Resistance vs. V_{GS}

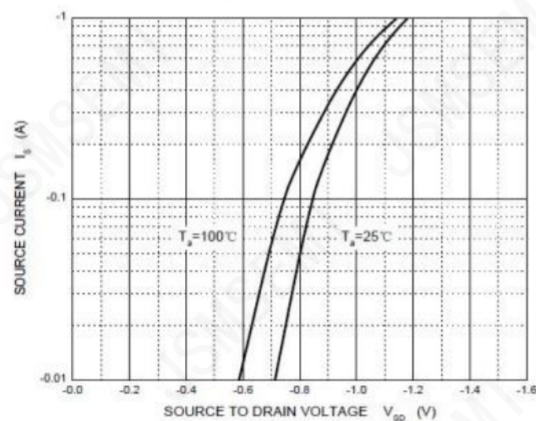


Figure 5: Diode Characteristics

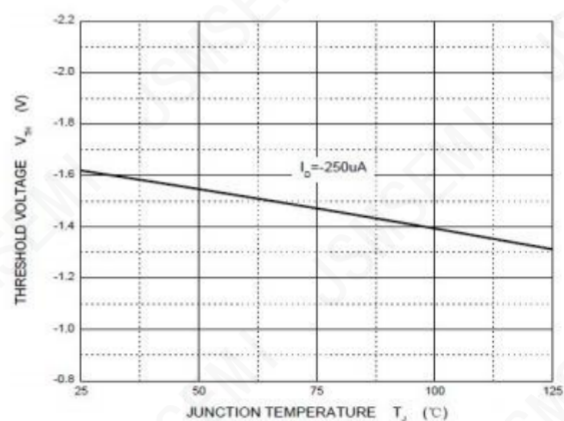
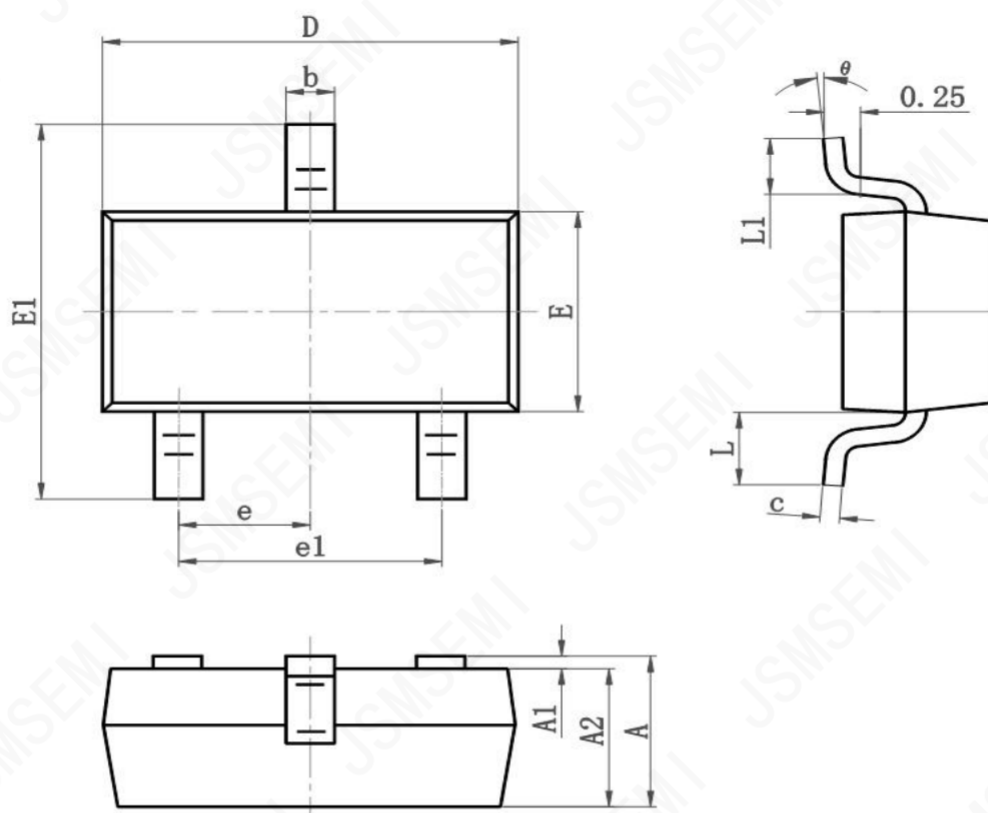


Figure 6: Threshold Voltage vs. T_J

Dimension外形封装尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
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	0.050	0.055
E1	2.250	2.550	0.089	0.100
e	0.900	1.00	0.035	0.039
e1	1.800	2.000	0.071	0.079
L	0.500	0.600	0.020	0.024
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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