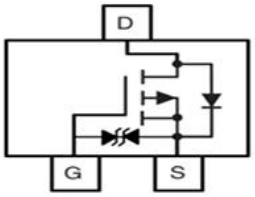
SOT-523 -20V P Channel Enhancement ESD Protection 沟道增强型带静电保护 MOS Field Effect Transistor 场效应管



■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	BV_{DSS}	-20	V
Gate- Source Voltage 栅极-源极电压	V_{GS}	±10	V
Drain Current (continuous)漏极电流-连续	I_D（at T_A = 25°C）	-0.66	A
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°C)	150	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\Theta JA}$	835	℃/W
ESD Protected Up to 人体模式静电保护范围	ESD(HBM)	2.0	kV
Lead Temperature for Soldering Purposes 管脚焊接温度(1/8" from case for 10 s)	T_L	260	℃
Junction/Storage Temperature 结温/储存温度	T_J,T_{stg}	-55~150	℃

■Device Marking 产品字标

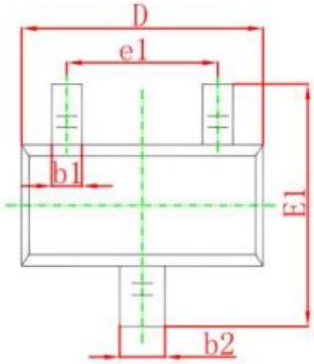
FS3139KT5=39K

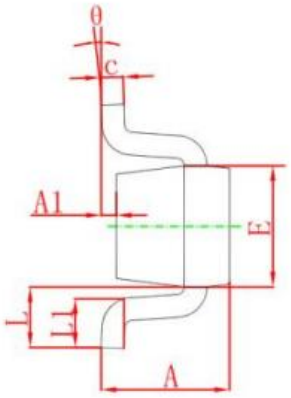
■Electrical Characteristics 电特性

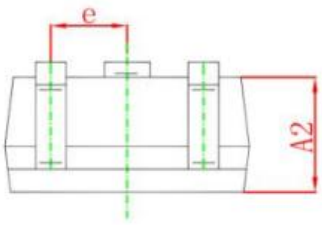
(T_A=25℃ unless otherwise noted 如无特殊说明，温度为 25℃)

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(I_D = -250uA,V_{GS}=0V)	BV_{DSS}	-20	—	—	V
Gate Threshold Voltage 栅极开启电压(I_D = -250uA,V_{GS}= V_{DS})	$V_{GS(th)}$	-0.5	-0.7	-0.9	V
Zero Gate Voltage Drain Current 零栅压漏极电流(V_{GS}=0V, V_{DS}= -20V)	I_{DSS}	—	—	-1	μA
Gate Body Leakage 栅极漏电流(V_{GS}=±10V, V_{DS}=0V)	I_{GSS}	—	—	±10	μA
Static Drain-Source On-State Resistance 静态漏源导通电阻(I_D= -0.5A,V_{GS}= -4.5V) (I_D= -0.2A,V_{GS}= -2.5V)	$R_{DS(ON)}$	—	346 450	400 600	mΩ
Diode Forward Voltage Drop 内附二极管压降(I_{SD}=-0.5A,V_{GS}=0V)	V_{SD}	—	-0.87	-1	V
Input Capacitance 输入电容 (V_{GS}=0V, V_{DS}= -10V,f=1MHz)	C_{ISS}	—	60	—	pF
Common Source Output Capacitance 共源输出电容(V_{GS}=0V, V_{DS}= -10V,f=1MHz)	C_{OSS}	—	14	—	pF
Reverse Transfer Capacitance 反馈电容(V_{GS}=0V, V_{DS}= -10V,f=1MHz)	C_{RSS}	—	8.5	—	pF
Gate Resistance 栅极电阻 (V_{DS}= 0V, V_{GS}=0V,f=1MHz)	R_g	—	170	—	Ω
Forward tranconductance 正向传输导纳 (V_{DS}= -5V, I_D= -500mA)	g_{fs}	—	1.5	—	S
Gate-Source Breakdown Voltage 栅极-源极击穿电压(I_{GS} = ±100uA)	BV_{GSS}	±11	—	±16	V
Turn-ON Delay Time 开启延迟时间 (V_{DS}=-10V I_D=-150mA, R_{GEN}=3Ω,V_{GS}=-4.5V)	$t_{d(on)}$	—	7.5	—	ns
Turn-ON Rise Time 开启上升时间 (V_{DS}=-10V I_D=-150mA, R_{GEN}=3Ω,V_{GS}=-4.5V)	t_r	—	23.3	—	ns
Turn-OFF Delay Time 关断延迟时间 (V_{DS}=-10V I_D=-150mA, R_{GEN}=3Ω,V_{GS}=-4.5V)	$t_{d(off)}$	—	39	—	ns
Turn-OFF Fall Time 关断下降时间 (V_{DS}=-10V I_D=-150mA, R_{GEN}=3Ω,V_{GS}=-4.5V)	t_f	—	21.2	—	ns

■Dimension 外形封装尺寸







SYMBOL	MILLIMETERS		
	MIN	TYP	MAX
A	0.68	0.80	0.92
A1	0.00	0.05	0.15
A2	0.68	0.75	0.82
b1	0.20	0.25	0.30
b2	0.30	0.35	0.40
c	0.10	0.15	0.20
D	1.48	0.16	1.72
E	0.68	0.80	0.92
E1	1.42	1.50	1.77
e	0.50TYP		
e1	0.90	1.00	1.10
L	0.40REF		
L1	0.15	0.25	0.35
o	0°	4°	8°