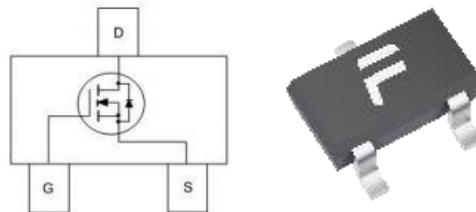


**SOT-523 20V N Channel Enhancement 沟道增强型
MOS Field Effect Transistor 场效应管**



■ **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}	± 8	V
Drain Current (continuous)漏极电流-连续	I_D (at $T_A = 25^\circ\text{C}$)	2.1	A
Drain Current (pulsed)漏极电流-脉冲	I_{DM}	8	A
Total Device Dissipation 总耗散功率	P_D (at $T_A = 25^\circ\text{C}$)	350	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Junction/Storage Temperature 结温/储存温度	T_J, T_{stg}	-55~150	$^\circ\text{C}$

■ **Device Marking 产品字标**

FS2302T=2302

■ 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)}	0.6	0.8	1.2	V
Zero Gate Voltage Drain Current 零栅压漏极电流(V _{GS} =0V, V _{DS} =20V)	I _{DSS}	—	—	1	uA
Gate Body Leakage 栅极漏电流(V _{GS} =±10V, V _{DS} =0V)	I _{GSS}	—	—	±100	nA
Static Drain-Source On-State Resistance 静态漏源导通电阻(I _D =2.8A, V _{GS} =4.5V) (I _D =2A, V _{GS} =2.5V)	R _{DS(ON)}	—	45 70	60 115	mΩ
Diode Forward Voltage Drop 内附二极管正向压降(I _{SD} =0.94A, V _{GS} =0V)	V _{SD}	—	0.76	1.2	V
Input Capacitance 输入电容 (V _{GS} =0V, V _{DS} =10V, f=1MHz)	C _{ISS}	—	120	—	pF
Common Source Output Capacitance 共源输出电容(V _{GS} =0V, V _{DS} =10V, f=1MHz)	C _{OSS}	—	30	—	pF
Reverse Transfer Capacitance 反馈电容(V _{GS} =0V, V _{DS} =10V, f=1MHz)	C _{RSS}	—	25	—	pF
Total Gate Charge 栅极电荷密度 (V _{DS} =10V, I _D =2.5A, V _{GS} =4.5V)	Q _g	—	4.5	—	nC
Gate Source Charge 栅源电荷密度 (V _{DS} =10V, I _D =2.5A, V _{GS} =4.5V)	Q _{gs}	—	0.8	—	nC
Gate Drain Charge 栅漏电荷密度 (V _{DS} =10V, I _D =2.5A, V _{GS} =4.5V)	Q _{gd}	—	0.5	—	nC
Turn-ON Delay Time 开启延迟时间 (V _{DS} =10V I _D =2.5A, R _{GEN} =3Ω, V _{GS} =4.5V)	t _{d(on)}	—	3	—	ns
Turn-ON Rise Time 开启上升时间 (V _{DS} =10V I _D =2.5A, R _{GEN} =3Ω, V _{GS} =4.5V)	t _r	—	29	—	ns
Turn-OFF Delay Time 关断延迟时间 (V _{DS} =10V I _D =2.5A, R _{GEN} =3Ω, V _{GS} =4.5V)	t _{d(off)}	—	6	—	ns
Turn-OFF Fall Time 关断下降时间 (V _{DS} =10V I _D =2.5A, R _{GEN} =3Ω, V _{GS} =4.5V)	t _f	—	22	—	ns

■ Typical Characteristic Curve 典型特性曲线

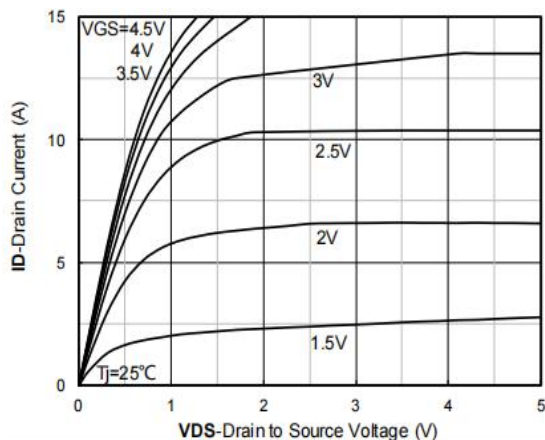


Figure 1: Output Characteristics

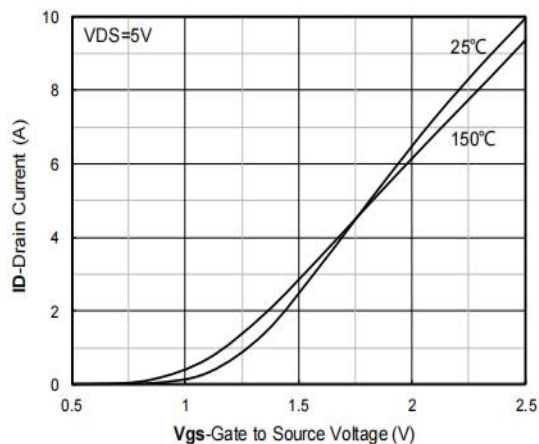


Figure 2: Transfer Characteristics

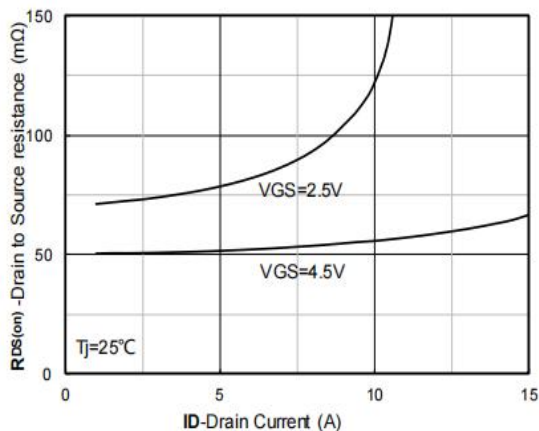


Figure 3: On-Resistance vs. Drain Current

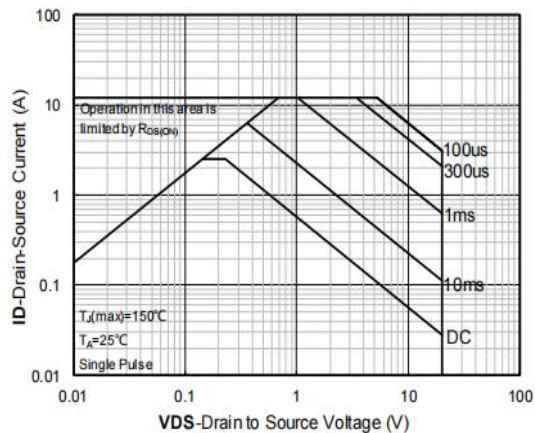


Figure 4: Safe Operating Area

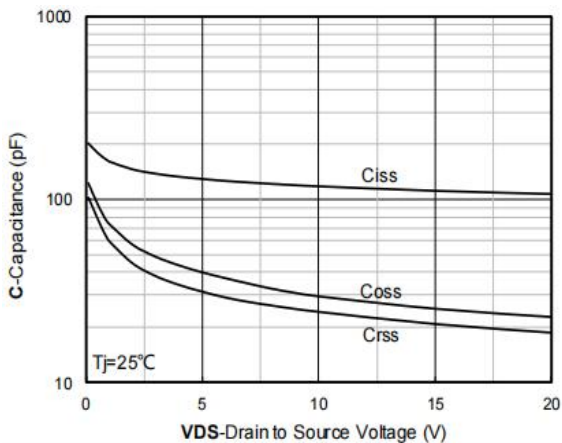


Figure 5: Capacitance Characteristics

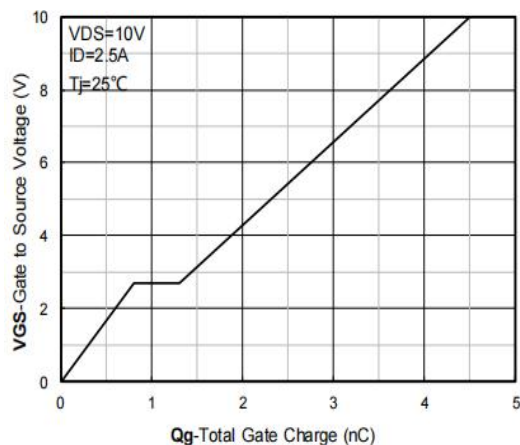
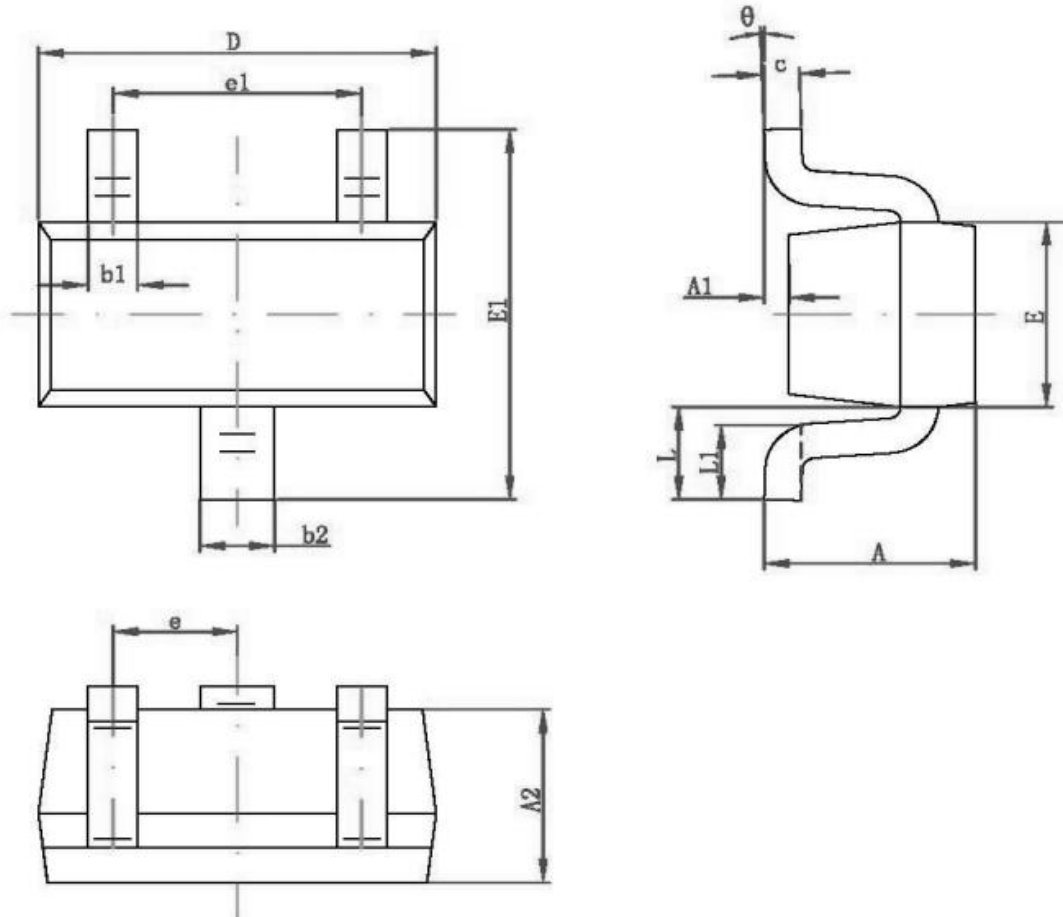


Figure 6: Gate-Charge Characteristics

■ Dimension 外形封装尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°