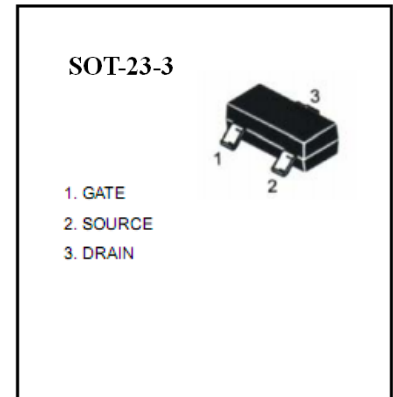
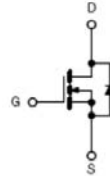


SOT-23-3 Plastic-Encapsulate Transistors

SI2302 MOSFET(N-Channel)

FEATURES

TrenchFET Power MOSFET



MARKING:

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{DS}	Drain-Source voltage	20	V
V _{GS}	Gate-Source voltage	±10	V
I _D	Drain current	2.9	A
P _D	Power Dissipation	1	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250uA	20			V
Gate-Threshold Voltage	V _{th(GS)}	V _{DS} = V _{GS} , I _D =250 uA	0.5	0.75	1.2	V
Gate-body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} =± 10V			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V			1	uA
Drain-Source On-Resistance	r _{DS(ON)}	V _{GS} =2. 5V, I _D =2.5A		37	59	m Ω
		V _{GS} =4. 5V, I _D =2.9A		30	45	m Ω
Forward Trans conductance	g _{fs}	V _{DS} =5V, I _D =2.9A		9.5		s
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz		300		pF
Output Capacitance	C _{oss}			120		
Reverse Transfer Capacitance	C _{rss}			80		
Switching Capacitance						
Turn-on Delay Time	t _{d(on)}	V _{DD} =10V, I _D =2. 9A, V _{GS} =4. 5V R _{GEN} =6 Ω		10	15	nS
Turn-on Rise Time	t _r			50	85	nS
Turn-off Delay Time	t _{d(off)}			17	45	nS
Turn-off Fall Time	t _f			10	20	nS
Total Gate Charge	Q _g	V _{DS} =10V, I _D =2. 9A, V _{GS} =4. 5V,		4.0	10	nC
Gate-Source Charge	Q _{gs}			0.65		nC
Gate-Drain Charge	Q _{gd}			1.2		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =2. 9A		0.75	1.2	V
Diode Forward Current	I _S				2.9	A

Typical Characteristics

SI2302

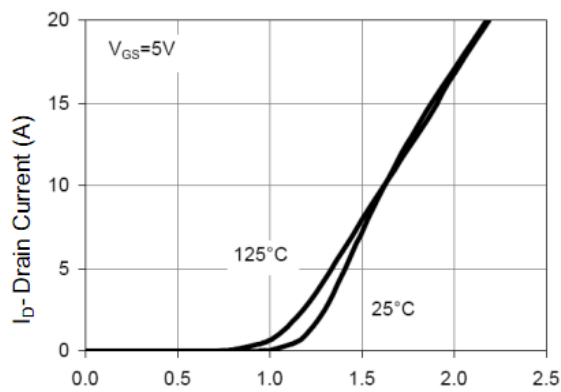


Figure 7 Transfer Characteristics

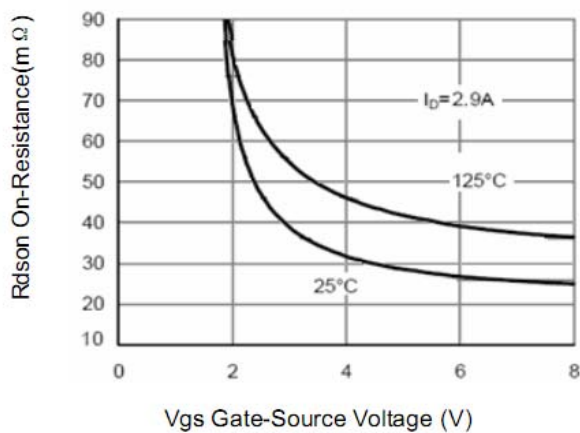


Figure 9 Rdson vs Vgs

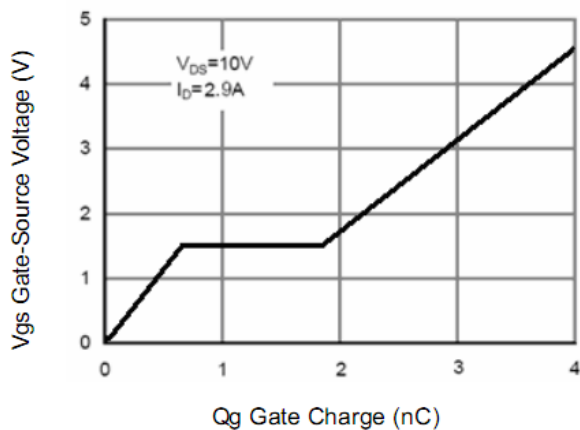


Figure 11 Gate Charge

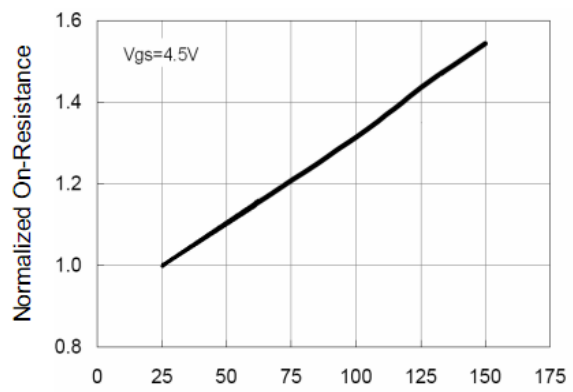


Figure 8 Drain-Source On-Resistance

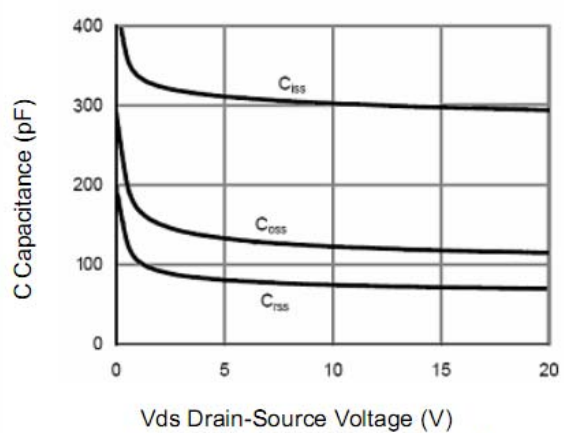


Figure 10 Capacitance vs Vds

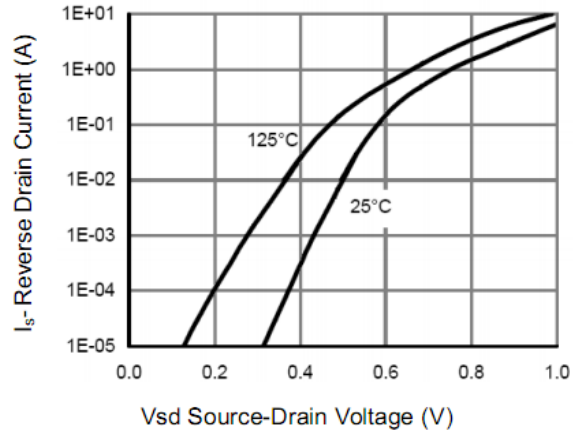


Figure 12 Source- Drain Diode Forward