

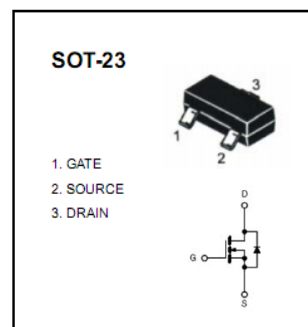
SOT-23 Plastic-Encapsulate Transistors

MOSFET(N-Channel)

BV_{DSS}	$R_{DS(ON)}$	I_D
30V	31mΩ	4.5A

FEATURES

TrenchFET Power MOSFET



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

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source voltage	30	V
V_{GS}	Gate-Source voltage	±20	V
I_D	Drain current	4.5	A
P_D	Power Dissipation	1.13	W
T_j	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (Tamb=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	30		V	
Gate-Threshold Voltage	V _{th(GS)}	V _{DS} = V _{GS} , I _D =250 uA	1	1.4	3	V
Gate-body Leakage	I _{GSS}	V _{DS} =0V, V _{GS} = ± 20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	uA
Drain-Source On-Resistance	r _{DS(ON)}	V _{GS} =10 V, I _D =4.9A		31	42	m Ω
		V _{GS} =4. 5V, I _D =4.1A		46	65	m Ω
Forward Trans conductance	g _{fs}	V _{DS} =5V, I _D =2.0A		9.5		s
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=200K Hz		234.85		pF
Output Capacitance	C _{oss}			33.70		
Reverse Transfer Capacitance	C _{rss}			26.82		
Switching Capacitance						
Turn-on Delay Time	t _{d(on)}	V _{DD} =15V, I _D =1. 0A, V _{GEN} = 10 V R _{GEN} =6 Ω		4.26		nS
Turn-on Rise Time	t _r			2.83		nS
Turn-off Delay Time	t _{d(off)}			18.72		nS
Turn-off Fall Time	t _f			2.59		nS
Total Gate Charge	Q _g	V _{DS} =15V, I _D =4. 5A, V _{GS} =10V ,		4.02		nC
Gate-Source Charge	Q _{gs}			1.18		nC
Gate-Drain Charge	Q _{gd}			0.86		nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =2. 0A			1.2	V
Diode Forward Current	I _S				1.7	A

Typical Characteristics

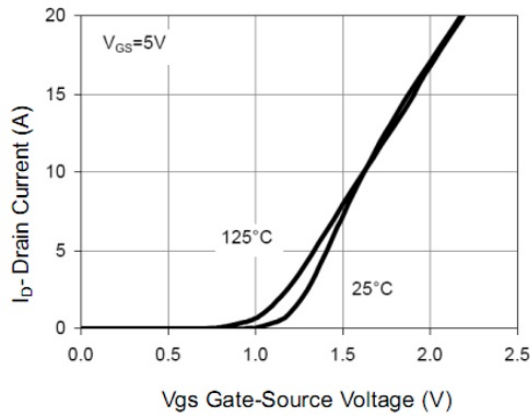


Figure 1 Transfer Characteristics

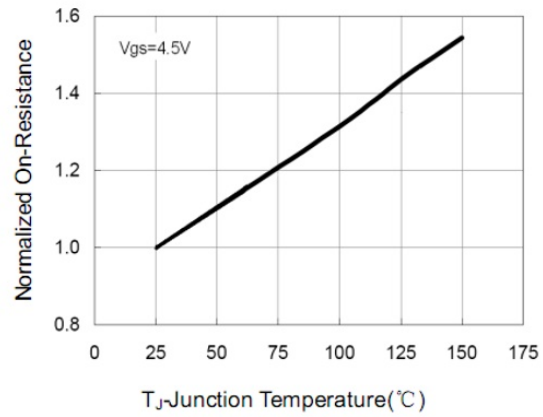


Figure 2 Drain-Source On-Resistance

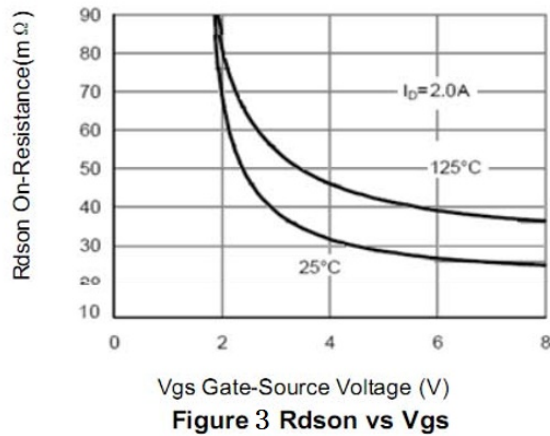


Figure 3 Rdson vs Vgs

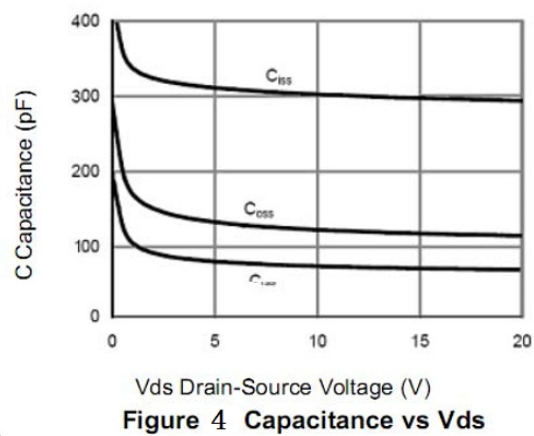


Figure 4 Capacitance vs Vds

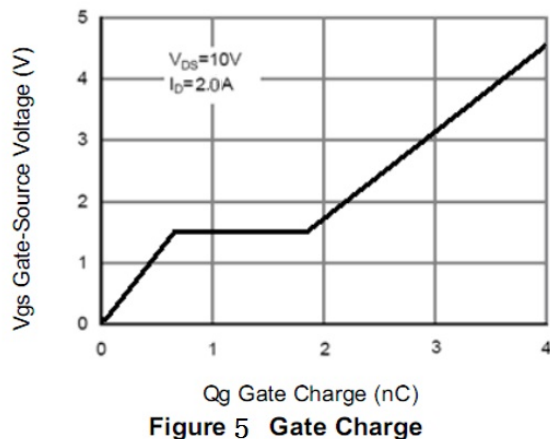


Figure 5 Gate Charge

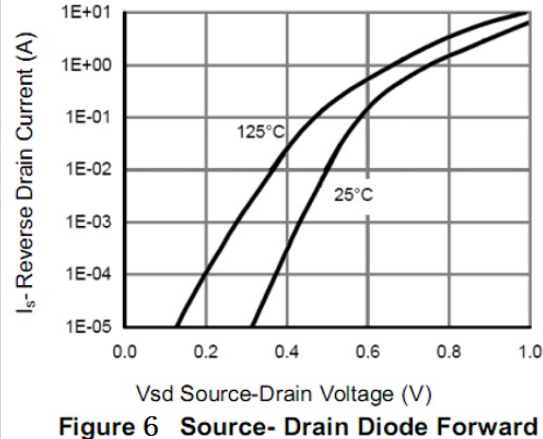


Figure 6 Source- Drain Diode Forward

Package Outline Dimensions (UNIT: mm)

SOT-23

