

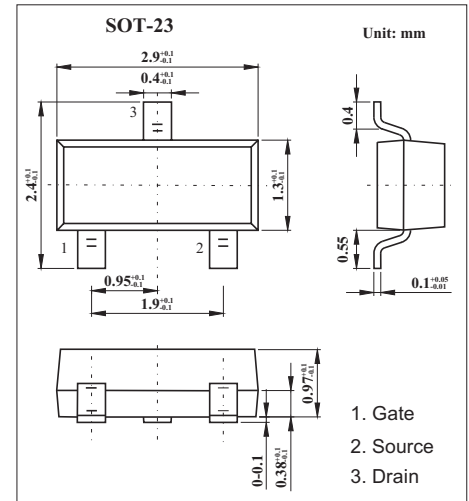
SOT-23 Plastic-Encapsulate MOSFETS

Features

- VDS (V) = 30V
- ID = 4 A
- RDS(ON) < 55mΩ (VGS = 10V)
- RDS(ON) < 70mΩ (VGS = 4.5V)
- RDS(ON) < 110mΩ (VGS = 2.5V)
- N-Channel Enhancement Mode Field Effect Transistor

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DS}	30	V
Gate-Source Voltage	V _{GS}	±12	V
Continuous Drain Current TA=25°C	I _D	4	A
TA=70°C		3.4	
Pulsed Drain Current	I _{DM}	15	
Power Dissipation TA=25°C	P _D	1.4	W
TA=70°C		1	
Thermal Resistance Junction-to-Ambient	R _{θJA}	125	°C/W
Thermal Resistance Junction-to-Case	R _{θJC}	80	°C/W
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to 150	°C

MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μA, V _{GS} =0V	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =24V, V _{GS} =0V			1	μA
		V _{DS} =24V, V _{GS} =0V, T _J =55°C			5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =250 μA	0.6	1	1.4	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =4A		45	55	mΩ
		V _{GS} =10V, I _D =4A T _J =125°C		66	80	
		V _{GS} =4.5V, I _D =3A		55	70	
		V _{GS} =2.5V, I _D =2A		83	110	
On state drain current	I _{D(ON)}	V _{GS} =4.5V, V _{DS} =5V	10			A
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =4A		8		S
Input Capacitance	C _{iss}			390		pF
Output Capacitance	C _{oss}	V _{GS} =0V, V _{DS} =15V, f=1MHz		54.5		pF
Reverse Transfer Capacitance	C _{rss}			41		pF
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		3		Ω
Total Gate Charge	Q _g			4.34		nC
Gate Source Charge	Q _{gs}	V _{GS} =4.5V, V _{DS} =15V, I _D =-4A		0.6		nC
Gate Drain Charge	Q _{gd}			1.38		nC
Turn-On Delay Time	t _{d(on)}			3.3		ns
Turn-On Rise Time	t _r			1		ns
Turn-Off Delay Time	t _{d(off)}	V _{GS} =10V, V _{DS} =15V, R _L =3.75 Ω, R _{GEN} =6 Ω		21.7		ns
Turn-Off Fall Time	t _f			2.1		ns
Body Diode Reverse Recovery Time	t _{rr}	I _F =4A, di/dt=100A/μs		12		ns
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =4A, di/dt=100A/μs		6.3		nC
Maximum Body-Diode Continuous Current	I _S				2.5	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V		0.8	1	V