鲁晶®

3413

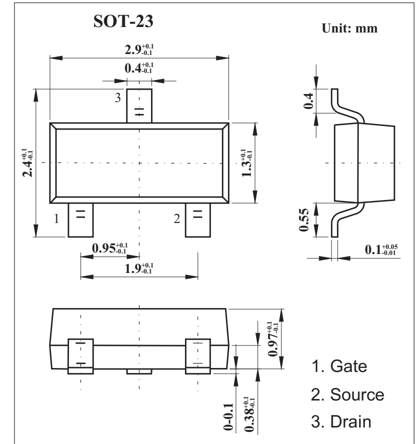
SOT-23 Plastic-Encapsulate MOSFETS

Features

- V_{DS} (V) = -20V
- I_D = -3 A
- $R_{DS(ON)}$ < 97mΩ (V_{GS} = -4.5V)
- $R_{DS(ON)}$ < 130mΩ (V_{GS} = -2.5V)
- $R_{DS(ON)}$ < 190mΩ (V_{GS} = -1.8V)
- P-Channel Enhancement Mode Field Effect Transistor

MECHANICAL DATA

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



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±8	V
Continuous Drain Current *1	T_A=25℃	I_D	-3	A
	T_A=70℃		-2.4	
Pulsed Drain Current *2		I_{DM}	-15	
Power Dissipation *1	T_A=25℃	P_D	1.4	W
	T_A=70℃		0.9	
Thermal Resistance.Junction-to-Ambient *1		$R_{\theta JA}$	125	℃/W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	℃

*1The value of $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25℃

*2 Repetitive rating, pulse width limited by junction temperature.

MOSFET ELECTRICAL CHARACTERISTICS Ta=25 ℃ unless otherwise specified

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-16V, V_{GS}=0V			-1	μA
		V_{DS}=-16V, V_{GS}=0V ,T_J=55℃			-5	
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}=±8V			±100	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-0.3	-0.55	-1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-4.5V, I_D=-3A		81	97	mΩ
		V_{GS}=-4.5V, I_D=-3A T_J=125℃		111	135	
		V_{GS}=-2.5V, I_D=-2.6A		108	130	
		V_{GS}=-1.8V, I_D=-1A		146	190	
On state drain current	$I_{D(ON)}$	V_{GS}=-4.5V, V_{DS}=-5V	-15			A
Forward Transconductance	g_{FS}	V_{DS}=-5V, I_D=-3A	4	7		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-10V, f=1MHz		540		pF
Output Capacitance	C_{oss}			72		pF
Reverse Transfer Capacitance	C_{rss}			49		pF
Gate resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz		12		Ω
Total Gate Charge	Q_g	V_{GS}=-4.5V, V_{DS}=- =-10V, I_D=-3A		6.1		nC
Gate Source Charge	Q_{gs}			0.6		nC
Gate Drain Charge	Q_{gd}			1.6		nC
Turn-On DelayTime	$t_{D(on)}$	V_{GS}=-4.5V, V_{DS}=-10V, R_L3.3Ω ,R_{GEN}=3Ω		10		ns
Turn-On Rise Time	t_r			12		ns
Turn-0ff DelayTime	$t_{D(off)}$			44		ns
Turn-Off Fall Time	t_f			22		ns
Body Diode Reverse Recovery Time	t_{rr}	I_F=-3A, d_I/d_t=100A/μs		21		ns
Body Diode Reverse Recovery Charge	Q_{rr}	I_F=-3A, d_I/d_t=100A/μs		7.5		nC
Maximum Body-Diode Continuous Current	I_S				-2	A
Diode Forward Voltage	V_{SD}	I_S=-1A,V_{GS}=0V		-0.78	-1	V