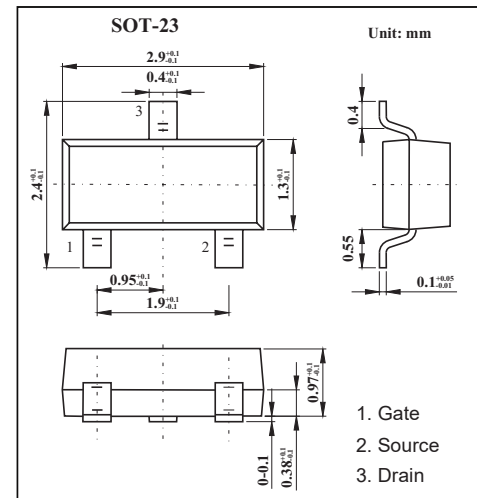


SOT-23 Plastic-Encapsulate MOSFETS
FEATURES

- VDS (V) = 30V
- ID = 4 A
- RDS(ON) < 5.5mΩ (VGS = 10V)
- RDS(ON) < 7.0mΩ (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	I _D	TA=25°C	A
		TA=70°C	
Pulsed Drain Current	I _{DM}	15	
Power Dissipation	P _D	TA=25°C	W
		TA=70°C	
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 $T_a=25\text{ }^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D=250\text{ }\mu\text{A}$, $V_{GS}=0\text{V}$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=24\text{V}$, $V_{GS}=0\text{V}$			1	μA
		$V_{DS}=24\text{V}$, $V_{GS}=0\text{V}$, $T_J=55\text{ }^{\circ}\text{C}$			5	
Gate-Body leakage current	I_{GSS}	$V_{DS}=0\text{V}$, $V_{GS}=\pm 12\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$, $I_D=250\text{ }\mu\text{A}$	0.6	1	1.4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$, $I_D=4\text{A}$		45	55	m Ω
		$V_{GS}=10\text{V}$, $I_D=4\text{A}$, $T_J=125\text{ }^{\circ}\text{C}$		66	80	
		$V_{GS}=4.5\text{V}$, $I_D=3\text{A}$		55	70	m Ω
		$V_{GS}=2.5\text{V}$, $I_D=2\text{A}$		83	110	m Ω
On state drain current	$I_{D(on)}$	$V_{GS}=4.5\text{V}$, $V_{DS}=5\text{V}$	10			A
Forward Transconductance	g_{FS}	$V_{DS}=5\text{V}$, $I_D=4\text{A}$		8		S
Input Capacitance	C_{iss}	$V_{GS}=0\text{V}$, $V_{DS}=15\text{V}$, $f=1\text{MHz}$		390		pF
Output Capacitance	C_{oss}			54.5		pF
Reverse Transfer Capacitance	C_{rss}			41		pF
Gate resistance	R_g	$V_{GS}=0\text{V}$, $V_{DS}=0\text{V}$, $f=1\text{MHz}$		3		Ω
Total Gate Charge	Q_g	$V_{GS}=4.5\text{V}$, $V_{DS}=15\text{V}$, $I_D=-4\text{A}$		4.34		nC
Gate Source Charge	Q_{gs}			0.6		nC
Gate Drain Charge	Q_{gd}			1.38		nC
Turn-On DelayTime	$t_{D(on)}$	$V_{GS}=10\text{V}$, $V_{DS}=15\text{V}$, $R_L=3.75\text{ }\Omega$, $R_{GEN}=6\text{ }\Omega$		3.3		ns
Turn-On Rise Time	t_r			1		ns
Turn-Off DelayTime	$t_{D(off)}$			21.7		ns
Turn-Off Fall Time	t_f			2.1		ns
Body Diode Reverse Recovery Time	t_{rr}	$I_F=4\text{A}$, $di/dt=100\text{A}/\mu\text{s}$		12		ns
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F=4\text{A}$, $di/dt=100\text{A}/\mu\text{s}$		6.3		nC
Maximum Body-Diode Continuous Current	I_S				2.5	A
Diode Forward Voltage	V_{SD}	$I_S=1\text{A}$, $V_{GS}=0\text{V}$		0.8	1	V