SOT-23 Plastic-Encapsulate MOSFETS

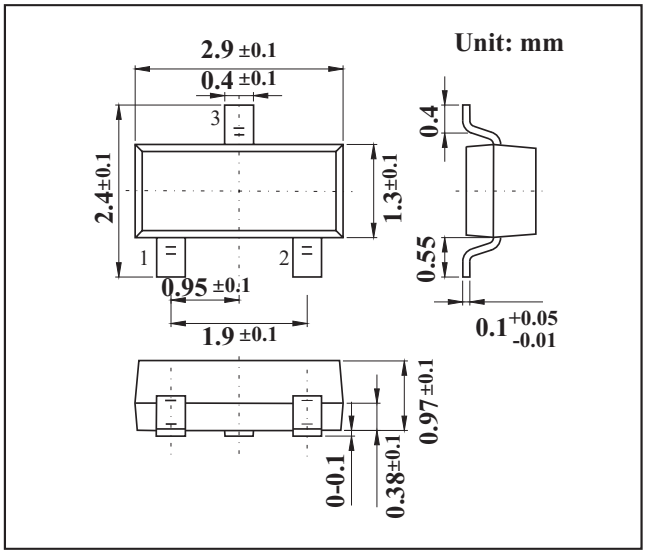
Features

- VDS (V) = 30V
- ID = 5.8 A (VGS = 10V)
- RDS(ON) < 28mΩ (VGS = 10V)
- RDS(ON) < 33mΩ (VGS = 4.5V)
- RDS(ON) < 52mΩ (VGS = 2.5V)
- RDS(ON) < 70mΩ (VGS = 1.8V)
- N-Channel MOSFET

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		VDS	30	V
Gate-Source Voltage		VGS	±12	
Continuous Drain Current	TA=25℃	ID	5.8	A
	TA=70℃		4.9	
Pulsed Drain Current		IDM	30	
Power Dissipation	TA=25℃	PD	1.4	W
	TA=70℃		1	
Thermal Resistance.Junction- to-Ambient	t ≤ 10s	RthJA	90	℃/W
	Steady-State		125	
Thermal Resistance.Junction- to-Lead		RthJL	60	
Junction Temperature		TJ	150	℃
Storage Temperature Range		Tstg	-55 to 150	

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=250μA, V_{GS}=0V	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=24V, V_{GS}=0V			1	uA
		V_{DS}=24V, V_{GS}=0V, T_J=55℃			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=250μA	0.5		1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=5.8A			28	mΩ
		V_{GS}=10V, I_D=5.8A T_J=125℃			39	
		V_{GS}=4.5V, I_D=5A			33	
		V_{GS}=2.5V, I_D=4A			42	
		V_{GS}=1.8V, I_D=3A			72	
On State Drain Current	$I_{D(ON)}$	V_{GS}=4.5V, V_{DS}=5V	30			A
Forward Transconductance	g_{FS}	V_{DS}=5V, I_D=5A	12	17		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=15V, f=1MHz		767		pF
Output Capacitance	C_{oss}			111		
Reverse Transfer Capacitance	C_{rss}			82		
Gate Resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz		1.3		Ω
Total Gate Charge	Q_g	V_{GS}=4.5V, V_{DS}=15V, I_D=5.8A		10		nC
Gate Source Charge	Q_{gs}			1.2		
Gate Drain Charge	Q_{gd}			3.1		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=15V, R_L=2.7Ω ,R_G=6Ω		5		ns
Turn-On Rise Time	t_r			5.5		
Turn-Off DelayTime	$t_{d(off)}$			39		
Turn-Off Fall Time	t_f			4.7		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 5A, dI/dt= 100A/μs		15		
Body Diode Reverse Recovery Charge	Q_{rr}			7.1		nC
Maximum Body-Diode Continuous Current	I_S				2.5	A
Diode Forward Voltage	V_{SD}	I_S=1A,V_{GS}=0V			1	V