

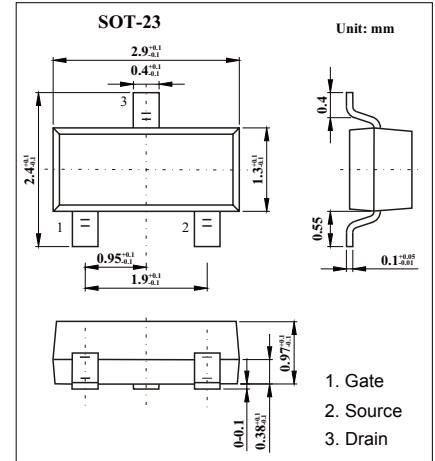
SOT-23 Plastic-Encapsulate MOSFETS

**Features**

- VDS=-30V, rDS(on)=0.080Ω,VGS=-10V,ID=-3A
- VDS=-30V, rDS(on)=0.140Ω,VGS=-4.5V,ID=-2.5A
- P-Channel 30-V (D-S) 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	V <sub>DS</sub>	-30	V
Gate-Source Voltage	V <sub>GS</sub>	±20	V
Continuous Drain Current T <sub>A</sub> =25°C T <sub>A</sub> =70°C	I <sub>D</sub>	-3 -2.5	A
Pulsed Drain Current *	I <sub>DM</sub>	-12	A
Power Dissipation T <sub>A</sub> =25°C T <sub>A</sub> =70°C	P <sub>D</sub>	1.25 0.8	W
Maximum Junction-to-Ambient *	R <sub>thJA</sub>	130	°C/W
Jumction Temperature,Storage Temperature	T <sub>j</sub> ,T <sub>stg</sub>	-55 to 150	°C

\*. Pulse width limited by maximum junction temperature

**MOSFET ELECTRICAL CHARACTERISTICS** T<sub>a</sub>=25 °C unless otherwise specified

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V <sub>DSS</sub>	V <sub>GS</sub> = 0 V, I <sub>D</sub> = -10 iA	-30			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -24 V, V <sub>GS</sub> = 0 V			-1	μA
		V <sub>DS</sub> = -24 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 55 °C			-10	
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±20 V			±100	nA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 iA	-1.0			V
Drain-Source On-State Resistance *	r <sub>DS(on)</sub>	V <sub>GS</sub> = -10 V, I <sub>D</sub> = -3 A		0.064	0.080	Ω
		V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -2.5 A		0.103	0.140	
On-State Drain Current	I <sub>D(on)</sub>	V <sub>DS</sub> ≤ -5 V, V <sub>GS</sub> = -10 V	-6			A
Forward Transconductance *	g <sub>fs</sub>	V <sub>DS</sub> = -10 V, I <sub>D</sub> = -3 A		4.5		S
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -15 V, V <sub>GS</sub> = 0, f = 1 MHz		565		pF
Output Capacitance	C <sub>oss</sub>			126		
Reverse Transfer Capacitance	C <sub>rss</sub>			75		
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = -10 V, I <sub>D</sub> = -3A		10	15	nC
Gate-Source Charge	Q <sub>gs</sub>			1.9		
Gate-Drain Charge	Q <sub>gd</sub>			2		
Turn-On Time	t <sub>d(on)</sub>	V <sub>DD</sub> =-15V,R <sub>L</sub> =15Ω,I <sub>D</sub> =-1A,V <sub>GEN</sub> =-10V,R <sub>G</sub> =6Ω		10	20	ns
	t <sub>r</sub>			9	20	
Turn-Off Time	t <sub>d(off)</sub>			27	50	
	t <sub>f</sub>			7	16	
Continuous Source Current (diode conduction)	I <sub>S</sub>			-1.25		A
Diode Forward Voltage *	V <sub>SD</sub>	I <sub>S</sub> = -1.25 A, V <sub>GS</sub> = 0 V			-1.2	V

\* Pulse test: PW≤300iS duty cycle≤2%.

Marking	A7SHB
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