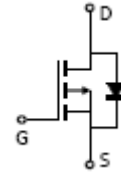


P-Channel MOSFET

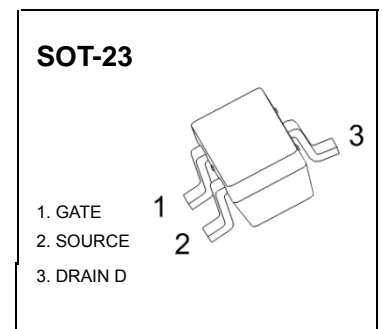


Equivalent Circuit

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-30V	60mΩ@-10 V	-4.1A
	87mΩ@-4.5V	

General Description

The SL2307 uses advanced trench technology to provide excellent $R_{DS(on)}$ with low gate charge. This device is suitable for use as a load switch or in PWM applications.



Maximum ratings ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Units
Drain-Source voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-4.1	A
Drain Current-Pulsed	I_{DM}	-20	A
Power Dissipation	P_D	300	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	417	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}C$

MOSFET ELECTRICAL CHARACTERISTICS
 $T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
Static characteristics							
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V	
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA	
Gate -source leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA	
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.1A$			60	m Ω	
		$V_{GS} = -4.5V, I_D = -3A$			87	m Ω	
Forward tranconductance (note 1)	g_{FS}	$V_{DS} = -5V, I_D = -4A$	5.5			S	
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1		-3	V	
Diode forward voltage (note 1)	V_{SD}	$I_S = -1A, V_{GS} = 0V$			-1	V	
Dynamic characteristics (note 2)							
Input capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		700		pF	
Output capacitance	C_{oss}				120		pF
Reverse transfer capacitance	C_{rss}				75		pF
Switching characteristics (note 2)							
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -15V,$ $R_L = 3.6\Omega, R_{GEN} = 3\Omega$		8.6		ns	
Turn-on rise time	t_r				5.0		ns
Turn-off delay time	$t_{d(off)}$				28.2		ns
Turn-off fall time	t_f				13.5		ns

Notes:

1. Pulse test: Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$.
2. These parameter have no way to verify.

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