



SOT-23 Plastic-Encapsulate MOSFETS

CJ2307 P-Channel 30-V(D-S) MOSFET

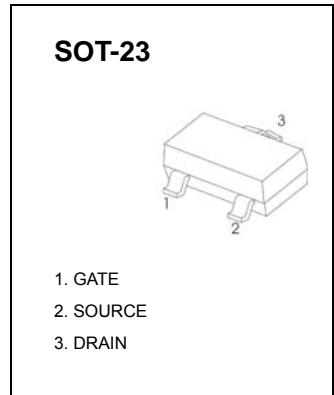
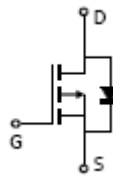
FEATURE

TrenchFET Power MOSFET

APPLICATIONS

Load Switch for Portable Devices

MARKING: S7



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current ^{a,b}	I_D	-2.7	A
Continuous Source-Drain Current ^{a,b}	I_S	-0.91	
Power Dissipation ^{a,b}	P_D	1.1	W
Thermal Resistance from Junction to Ambient ($t \leq 5\text{s}$)	$R_{\theta JA}$	114	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 ~+150	

Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-1		-3	
Gate-Source Leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -30V, V _{GS} = 0V			-1	μA
		V _{DS} = -30V, V _{GS} = 0V, T _J = 55°C			-10	
Drain-Source On-State Resistance ^c	R _{DSON}	V _{GS} = -4.5V, I _D = -2.5A		0.110	0.138	Ω
		V _{GS} = -10V, I _D = -3.5A		0.073	0.088	
Forward Transconductance ^c	g _{fs}	V _{DS} = -10V, I _D = -3.5A		7		S
Dynamic^d						
Input Capacitance	C _{iss}	V _{DS} = -15V, V _{GS} = 0V, f = 1MHz		340		pF
Output Capacitance	C _{oss}			67		
Reverse Transfer Capacitance	C _{rss}			51		
Total Gate Charge	Q _g	V _{DS} = -15V, V _{GS} = -4.5V, I _D = -2.5A		4.1	6.2	nC
Gate-Source Charge	Q _{gs}			1.3		
Gate-Drain Charge	Q _{gd}			1.8		
Gate Resistance	R _g	f = 1MHz		10		Ω
Turn-On Delay Time	t _{d(on)}	V _{DD} = -15V, R _L = 15Ω, I _D = -1A, V _{GEN} = -4.5V, R _g = 1Ω		40	60	ns
Rise Time	t _r			40	60	
Turn-Off Delay Time	t _{d(off)}			20	40	
Fall Time	t _f			17	30	
Drain-source Body diode characteristics						
Body Diode Voltage	V _{SD}	I _S = -0.75A, V _{GS} = 0		-0.8	-1.2	V

Notes:

- t = 5s.
- Surface mounted on 1" × 1" FR4 board.
- Pulse Test : Pulse Width < 300μs, Duty Cycle ≤ 2%.
- Guaranteed by design, not subject to production testing.

Typical Characteristics

CJ2307

