

SOT-23-3L Plastic-Encapsulate MOSFETS

CJK2305 P-Channel 12-V(D-S) MOSFET

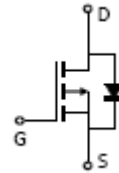
FEATURE

TrenchFET Power MOSFET

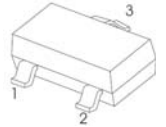
APPLICATIONS

- Load Switch for Portable Devices
- DC/DC Converter

MARKING: S5



SOT-23-3L



1. GATE
2. SOURCE
3. DRAIN

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

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current	I_D	-3.5 ^a	A
Pulsed Drain Current (10 μ s pulse width)	I_{DM}	-10	
Power Dissipation	P_D	0.3 ^a	W
Thermal Resistance from Junction to Ambient ($t \leq 10$ s)	R_{thJA}	417 ^b	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-50 ~ +150	

Notes :

a. $t=10$ s.

b. Maximum under Steady State conditions is 175°C/W .

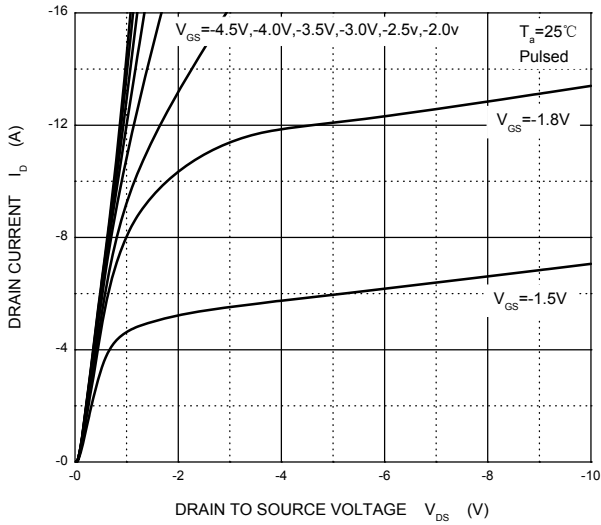
Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-12			V
Gate-source threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.42		-1.0	
Gate-source leakage	I _{GSS}	V _{DS} = 0V, V _{GS} = ±12V			±100	nA
Zero gate voltage drain current	I _{DSS}	V _{DS} = -12V, V _{GS} = 0V			-1	μA
Drain-source on-state resistance(note 1)	R _{DS(on)}	V _{GS} = -4.5V, I _D = -3.5A			0.052	Ω
		V _{GS} = -2.5V, I _D = -3A			0.070	
		V _{GS} = -1.8V, I _D = -2.0A			0.095	
Forward transconductance(note 1)	g _{fs}	V _{DS} = -5V, I _D = -2.8A	8			S
Dynamic(note 2)						
Input capacitance	C _{iss}	V _{DS} = -8V, V _{GS} = 0V, f = 1MHz		1050		pF
Output capacitance	C _{oss}			190		
Reverse transfer capacitance	C _{rss}			150		
Turn-on delay Time	t _{d(on)}	V _{DD} = -10V, R _L = 10Ω, I _D = -1A, V _{GEN} = -4.5V, R _G = 6Ω			10	ns
Rise time	t _r				23	
Turn-off delay time	t _{d(off)}				120	
Fall time	t _f				71	
Drain-source body diode characteristics						
Body diode forward voltage(note 1)	V _{SD}	I _S = -1.25A, V _{GS} = 0V			-1.3	V

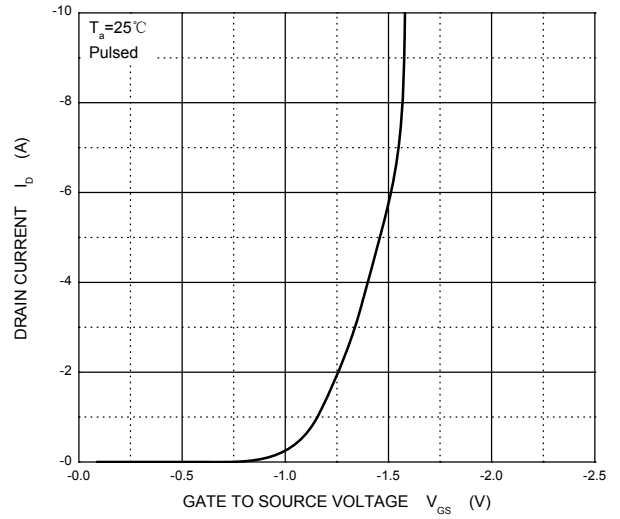
Notes:

1. Pulse Test ; Pulse Width ≤300μs, Duty Cycle ≤2%.
2. These parameters have no way to verify.

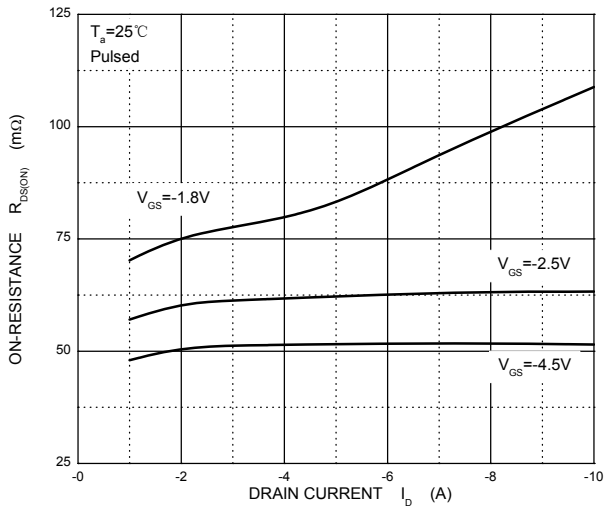
Output Characteristics



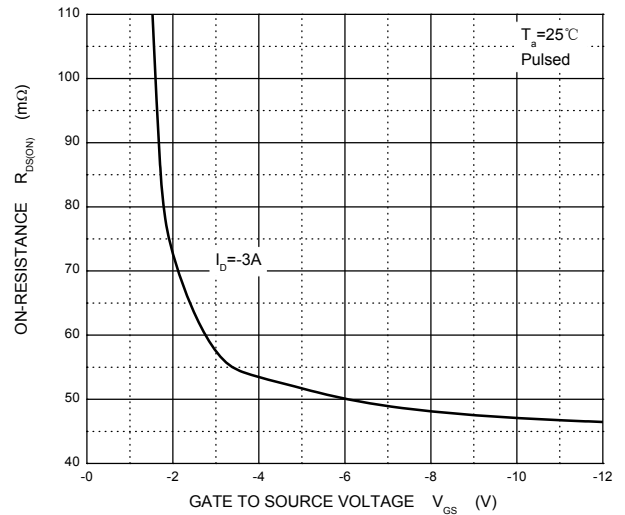
Transfer Characteristics



$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

