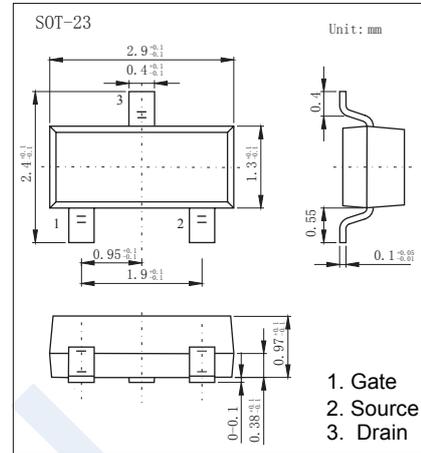
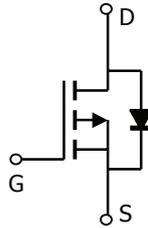


## P-Channel MOSFET

### SI2305DS (KI2305DS)

#### ■ Features

- $V_{DS} (V) = -8V$
- $R_{DS(ON)} < 0.052 \Omega (V_{GS} = -4.5V)$
- $R_{DS(ON)} < 0.071 \Omega (V_{GS} = -2.5V)$
- $R_{DS(ON)} < 0.108 \Omega (V_{GS} = -1.8V)$



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit	
Drain-source voltage	$V_{DS}$	-8	V	
Gate-source voltage	$V_{GS}$	$\pm 8$	V	
Continuous drain current	$I_D$	$T_A=25^\circ C$	-3.5	A
		$T_A=70^\circ C$	-2.8	A
Pulsed drain current	$I_{DM}$	-12	A	
Power dissipation	$P_D$	$T_A=25^\circ C$	1.25	W
		$T_A=70^\circ C$	0.8	W
Thermal Resistance.Junction-to-Ambient	$R_{\theta JA}$	130	$^\circ C/W$	
Operating junction and storage temperature range	$T_j, T_{stg}$	-55 to +150	$^\circ C$	

## SI2305DS (KI2305DS)

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	V <sub>DSS</sub>	V <sub>GS</sub> = 0 V, I <sub>D</sub> = -250μA	-8			V
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 μA	-0.45		-0.8	V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = -6.4 V, V <sub>GS</sub> = 0 V			-1	μA
		V <sub>DS</sub> = -6.4 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> = ±8 V			±100	nA
Drain-source on-state resistance	r <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -3.5 A		0.044	0.052	Ω
		V <sub>GS</sub> = -2.5 V, I <sub>D</sub> = -3.0 A		0.060	0.071	
		V <sub>GS</sub> = -1.8 V, I <sub>D</sub> = -2.0 A		0.087	0.108	
On-state drain current	I <sub>D(on)</sub>	V <sub>DS</sub> ≤ -5 V, V <sub>GS</sub> = -4.5 V	-6			A
		V <sub>DS</sub> ≤ -5 V, V <sub>GS</sub> = -2.5 V	-3			
Forward transconductance	g <sub>fs</sub>	V <sub>DS</sub> = -5 V, I <sub>D</sub> = -3.5 A		8.5		S
Input capacitance *	C <sub>iss</sub>	V <sub>DS</sub> = -4V, V <sub>GS</sub> = 0, f = 1 MHz		1245		pF
Output capacitance *	C <sub>oss</sub>			375		
Reverse transfer capacitance *	C <sub>rss</sub>			210		
Total gate charge *	Q <sub>g</sub>	V <sub>DS</sub> = -4V, V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -3.5 A		10	15	nC
Gate-source charge *	Q <sub>gs</sub>			2		
Gate-drain charge *	Q <sub>gd</sub>			2		
Turn-on Delay time	t <sub>d(on)</sub>	V <sub>DD</sub> = -4V, R <sub>L</sub> = 4Ω, I <sub>D</sub> = -1A, V <sub>GEN</sub> = -4.5V, R <sub>G</sub> = 6Ω		13	20	ns
Turn-on Rise time	t <sub>r</sub>			25	40	
Turn-off Dealy time	t <sub>d(off)</sub>			55	80	
Turn-off Fall time	t <sub>f</sub>			19	35	
Continuous source current (diode conduction) *	I <sub>S</sub>			-1.6		A
Diode forward voltage	V <sub>SD</sub>	I <sub>S</sub> = -1.6 A, V <sub>GS</sub> = 0 V			-1.2	V

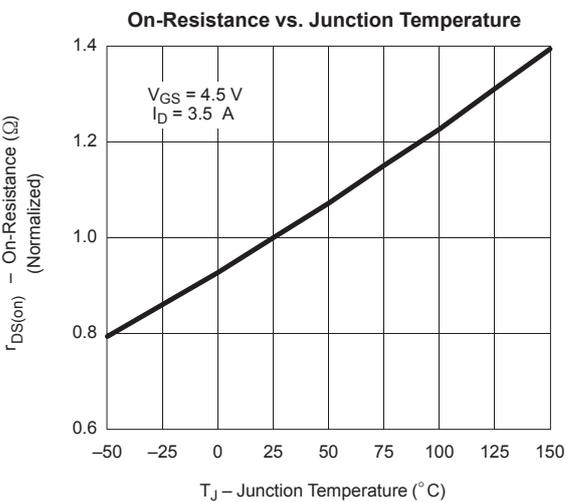
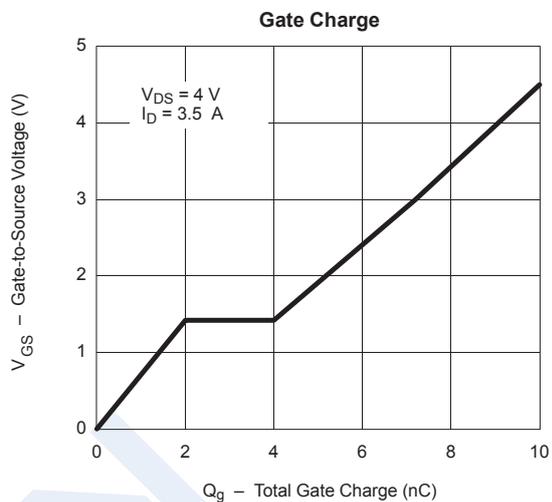
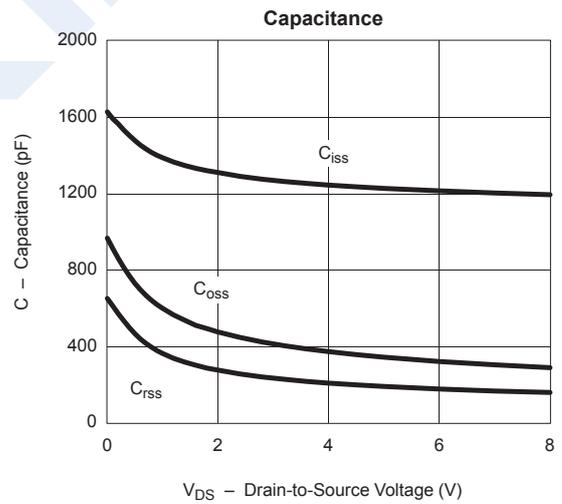
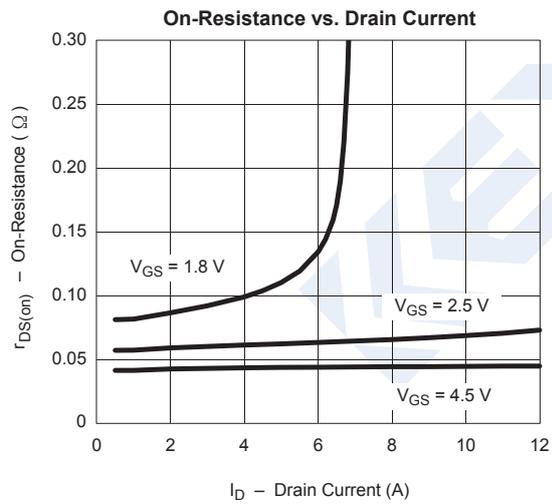
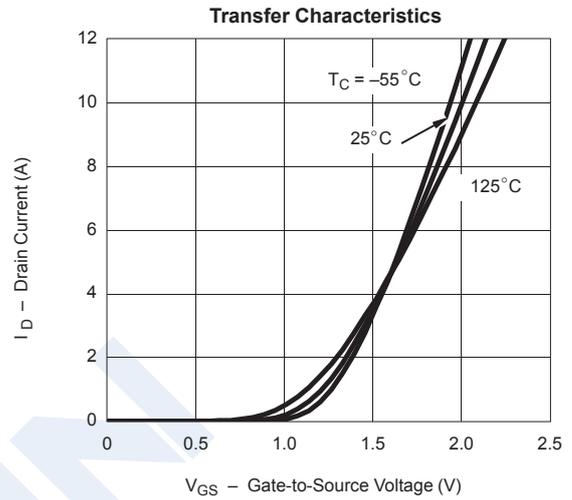
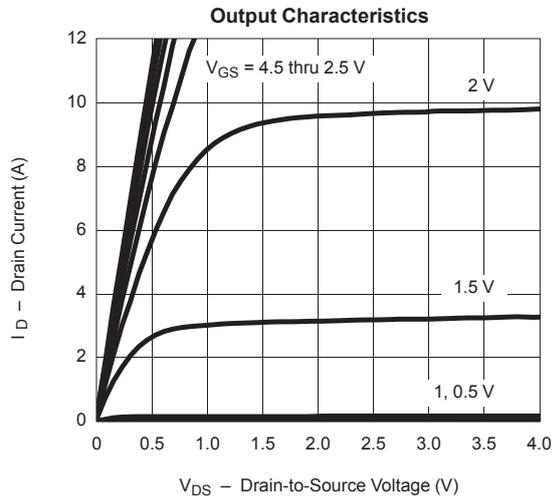
\* Pulse test: PW ≤ 300 μs duty cycle ≤ 2%.

## ■ Marking

Marking	A5*
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SI2305DS (KI2305DS)

Typical Characteristics



# SI2305DS (KI2305DS)

## Typical Characteristics

