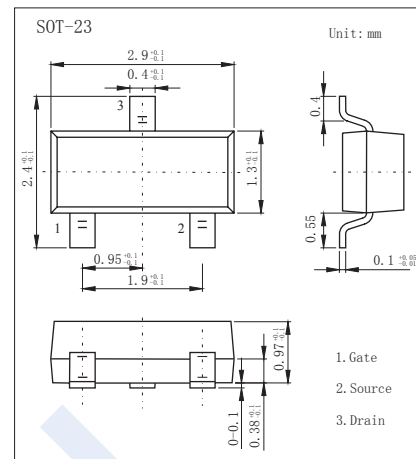
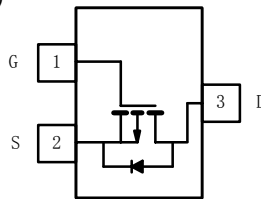


## P-Channel Enhancement MOSFET

### SI2321DS (KI2321DS)

#### ■ Features

- $V_{DS} = -20V$
- $I_D = -3.3A$  ( $V_{GS} = -4.5V$ )
- $R_{DS(ON)} < 57m\Omega$  ( $V_{GS} = -4.5V$ )
- $R_{DS(ON)} < 76m\Omega$  ( $V_{GS} = -2.5V$ )
- $R_{DS(ON)} < 110m\Omega$  ( $V_{GS} = -1.8V$ )



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

Parameter	Symbol	5 sec	Steady State	Unit
Drain-Source Voltage	$V_{DS}$	-20		V
Gate-Source Voltage	$V_{GS}$	$\pm 8$		
Continuous Drain Current $T_a = 25^\circ C$ $T_a = 70^\circ C$	$I_D$	-3.3	-2.9	A
		-2.6	-2.3	
Pulsed Drain Current	$I_{DM}$	-12		
Power Dissipation $T_a = 25^\circ C$ $T_a = 70^\circ C$	$P_D$	0.89	0.71	W
		0.57	0.45	
Thermal Resistance.Junction- to-Ambient $t \leq 5$ sec Steady State	$R_{thJA}$	140		$^\circ C/W$
		175		
Thermal Resistance.Junction- to-Foot	$R_{thJF}$	75		
Junction Temperature	$T_J$	150		$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to 150		

## P-Channel Enhancement MOSFET

### SI2321DS (KI2321DS)

#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V <sub>DSS</sub>	I <sub>D</sub> =-250 μA, V <sub>GS</sub> =0V	-20			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-16V, V <sub>GS</sub> =0V			-1	μA
		V <sub>DS</sub> =-16V, V <sub>GS</sub> =0V, T <sub>J</sub> =55°C			-10	
Gate-Body leakage current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±8V			±100	nA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> I <sub>D</sub> =-250 μA	-0.4		-0.9	V
Static Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-3.3A		44	57	mΩ
		V <sub>GS</sub> =-2.5V, I <sub>D</sub> =-2.8A		61	76	
		V <sub>GS</sub> =-1.8V, I <sub>D</sub> =-4A		84	110	
On state drain current	I <sub>D(ON)</sub>	V <sub>GS</sub> =-4.5V, V <sub>DS</sub> =-5V	-6			A
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> =-5V, I <sub>D</sub> =-3.3A		3		S
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =-6V, f=1MHz *1		715		pF
Output Capacitance	C <sub>oss</sub>			170		
Reverse Transfer Capacitance	C <sub>rss</sub>			120		
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =-4.5V, V <sub>DS</sub> =-6V, I <sub>D</sub> =-3.3A *1		8	13	nC
Gate Source Charge	Q <sub>gs</sub>			1.2		
Gate Drain Charge	Q <sub>gd</sub>			2.2		
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>GS</sub> =-4.5V, V <sub>DS</sub> =-6V, R <sub>L</sub> =6 Ω, R <sub>GEN</sub> =6 Ω  I <sub>D</sub> =-1.0A *1		15	25	ns
Turn-On Rise Time	t <sub>r</sub>			35	55	
Turn-Off DelayTime	t <sub>d(off)</sub>			60	90	
Turn-Off Fall Time	t <sub>f</sub>			40	60	
Maximum Body-Diode Continuous Current	I <sub>S</sub>				-1.6	A
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1.6A, V <sub>GS</sub> =0V			-1.2	V

\*1Pulse test: PW ≤ 300us duty cycle ≤ 2%.

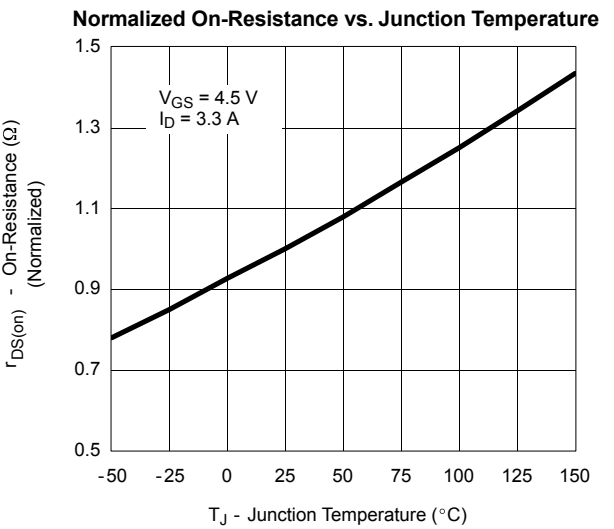
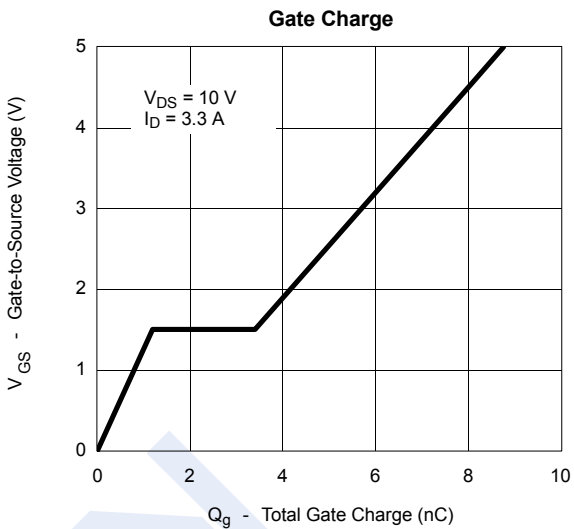
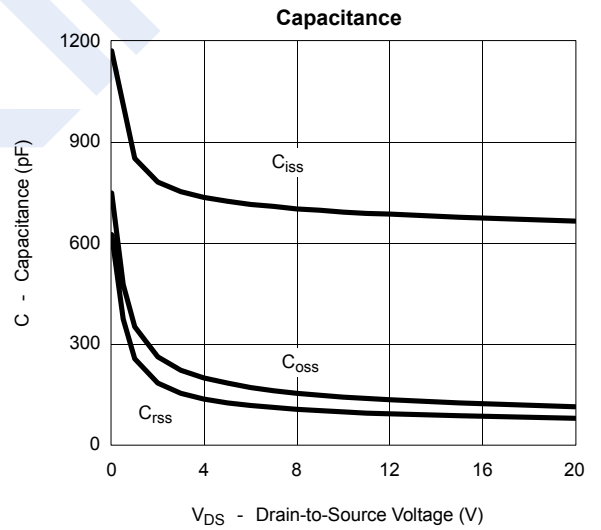
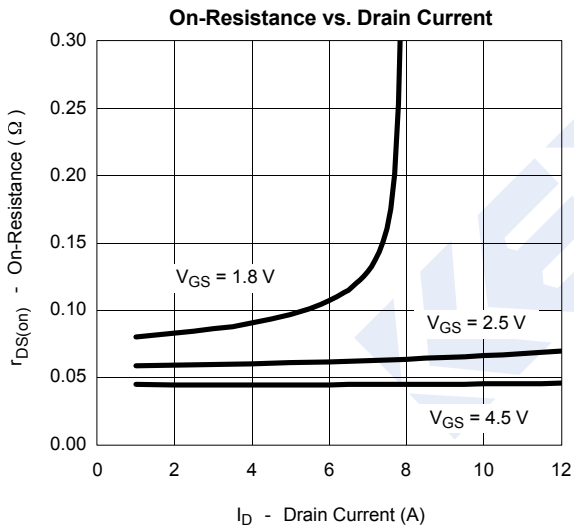
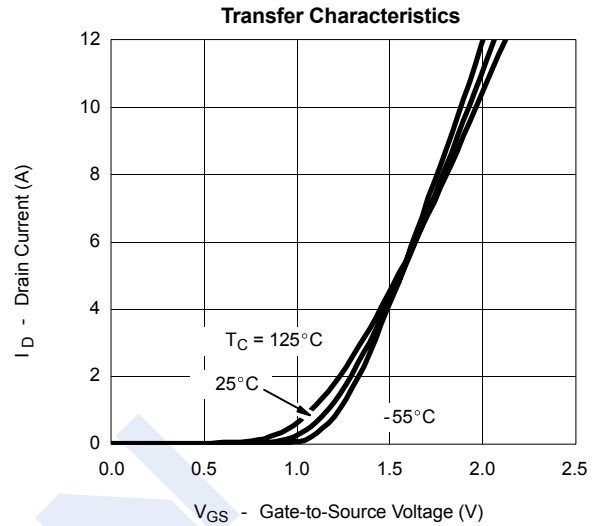
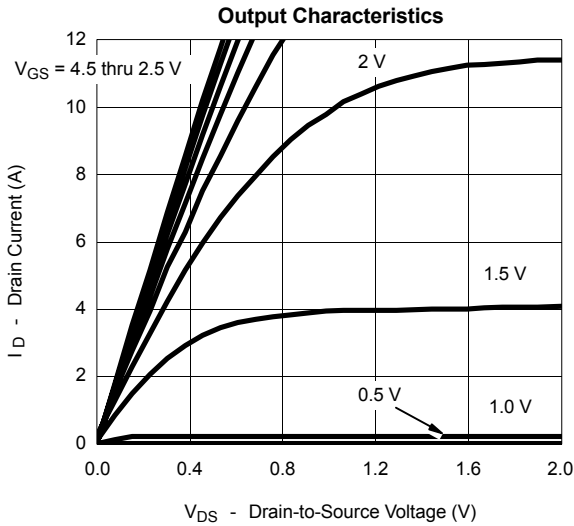
#### ■ Marking

Marking	D1*
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P-Channel Enhancement MOSFET

SI2321DS (KI2321DS)

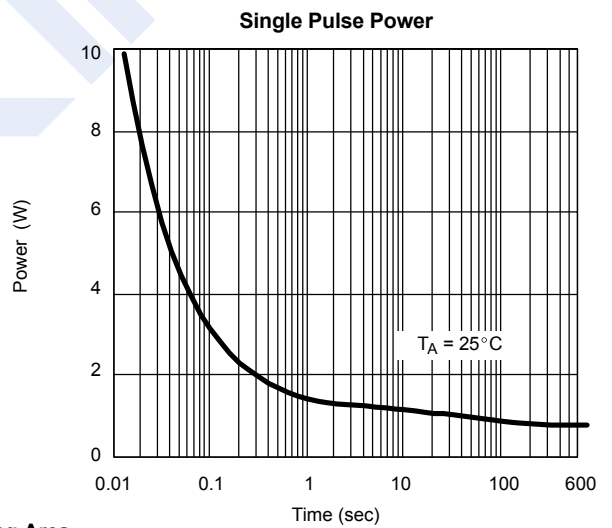
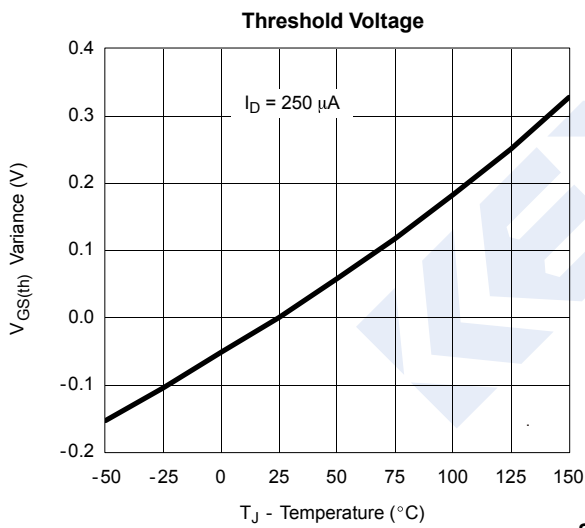
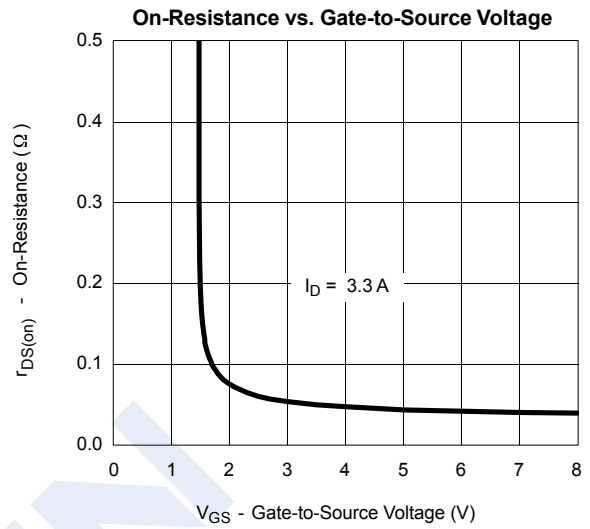
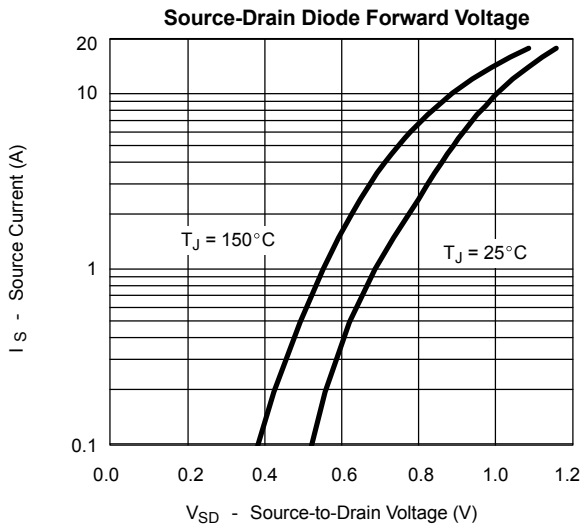
Typical Characteristics



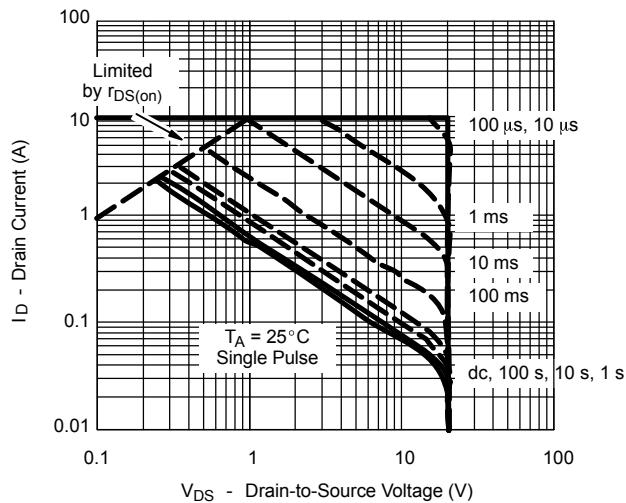
# P-Channel Enhancement MOSFET

## SI2321DS (KI2321DS)

### Typical Characteristics



### Safe Operating Area



## P-Channel Enhancement MOSFET SI2321DS (KI2321DS)

■ Typical Characteristics

