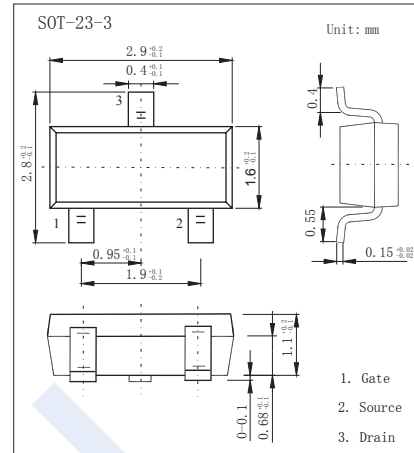
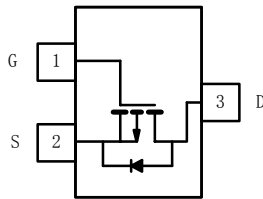


P-Channel Enhancement MOSFET

SI2321DS (KI2321DS)

■ Features

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



■ 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}	± 8			
Continuous Drain Current ($T_J = 150^\circ C$) *1	I_D	$T_a = 25^\circ C$	-3.3	-2.9	A
		$T_a = 70^\circ C$	-2.6	-2.3	
Pulsed Drain Current	I_{DM}	-12			
Power Dissipation	P_D	$T_a = 25^\circ C$	0.89	0.71	W
		$T_a = 70^\circ C$	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			

*1 Surface Mounted on 1" x 1" FR4 Board.

P-Channel Enhancement MOSFET

SI2321DS (KI2321DS)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250 μA, V _{GS} =0V	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-16V, V _{GS} =0V			-1	μA
		V _{DS} =-16V, V _{GS} =0V, T _J =55°C			-10	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-0.4		-0.9	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-3.3A		44	57	mΩ
		V _{GS} =-2.5V, I _D =-2.8A		61	76	
		V _{GS} =-1.8V, I _D =-2.3A		84	110	
On state drain current	I _{D(ON)}	V _{GS} =-4.5V, V _{DS} =-5V	-6			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-3.3A		3		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-6V, f=1MHz *1		715		pF
Output Capacitance	C _{oss}			170		
Reverse Transfer Capacitance	C _{rss}			120		
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-6V, I _D =-3.3A *1		8	13	nC
Gate Source Charge	Q _{gs}			1.2		
Gate Drain Charge	Q _{gd}			2.2		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-4.5V, V _{DS} =-6V, R _L =6Ω, R _{GEN} =6Ω I _D =-1.0A *1		15	25	ns
Turn-On Rise Time	t _r			35	55	
Turn-Off DelayTime	t _{d(off)}			60	90	
Turn-Off Fall Time	t _f			40	60	
Maximum Body-Diode Continuous Current	I _S				-1.6	A
Diode Forward Voltage	V _{SD}	I _S =-1.6A, V _{GS} =0V			-1.2	V

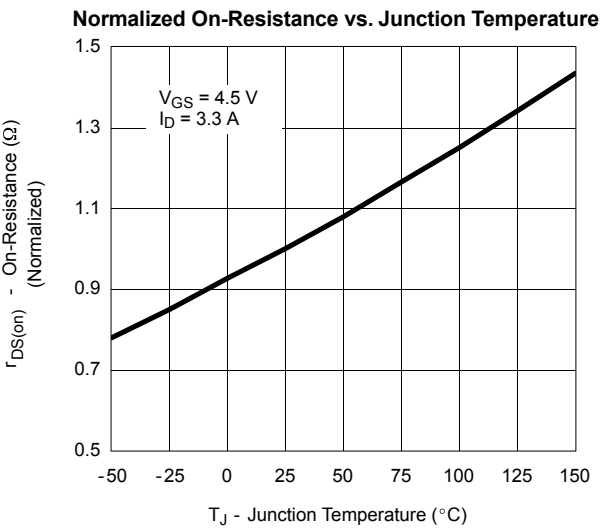
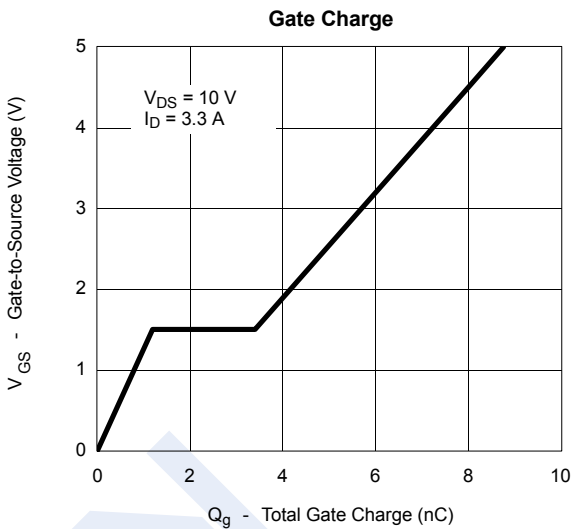
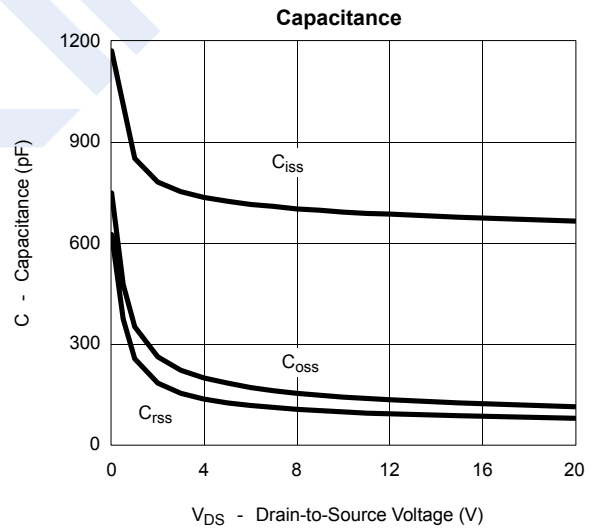
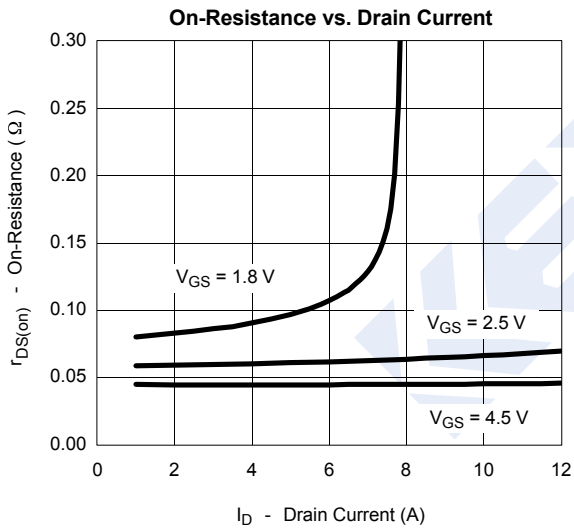
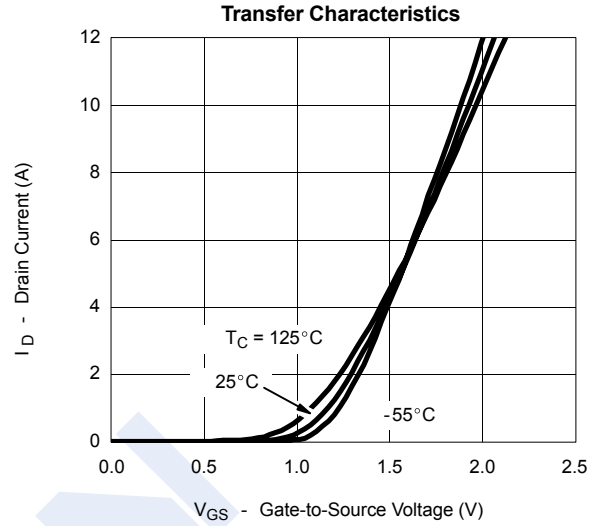
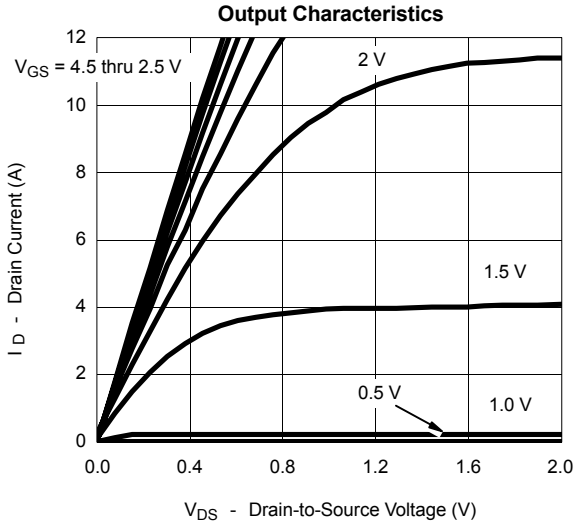
*1Pulse test: PW ≤ 300us duty cycle ≤ 2%.

■ Marking

Marking	D1*
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P-Channel Enhancement MOSFET SI2321DS (KI2321DS)

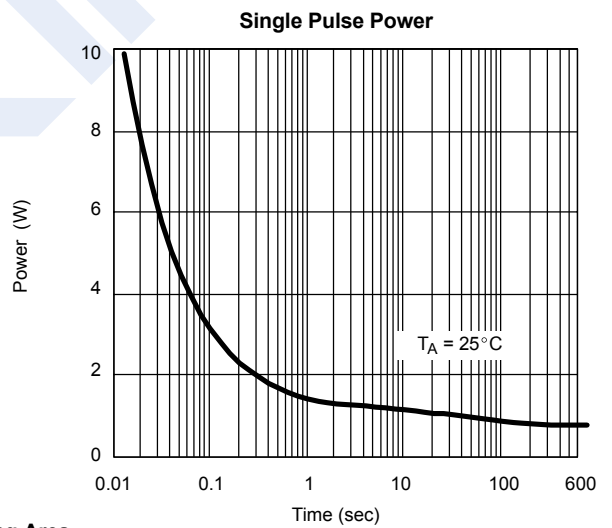
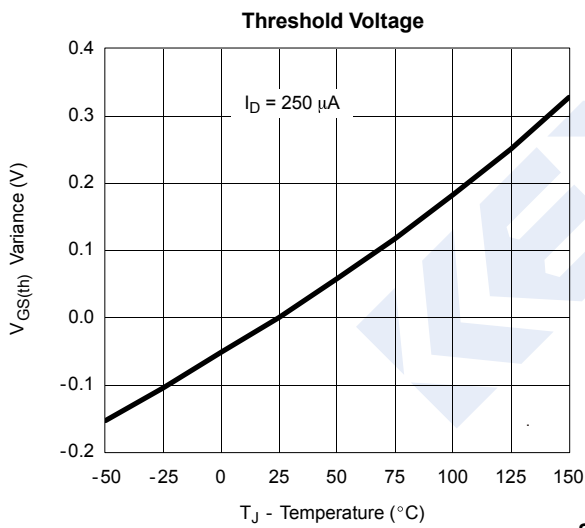
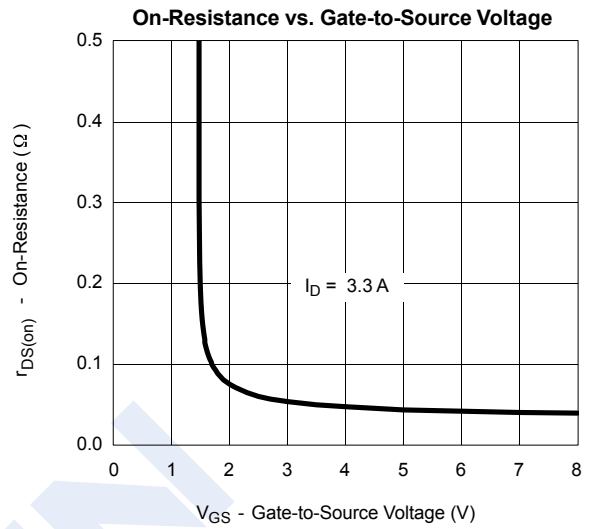
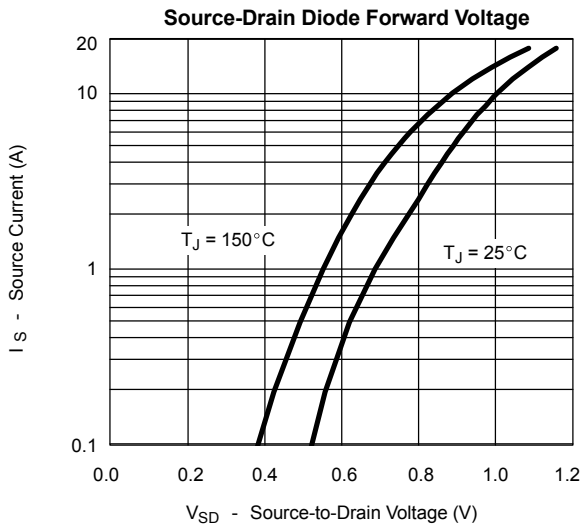
■ Typical Characteristics



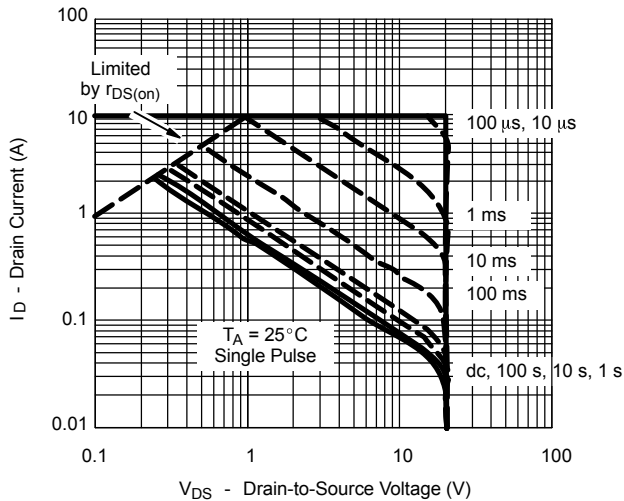
P-Channel Enhancement MOSFET

SI2321DS (KI2321DS)

Typical Characteristics



Safe Operating Area



P-Channel Enhancement MOSFET SI2321DS (KI2321DS)

■ Typical Characteristics

