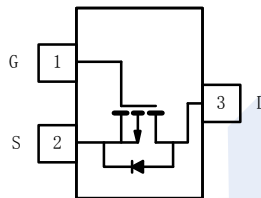
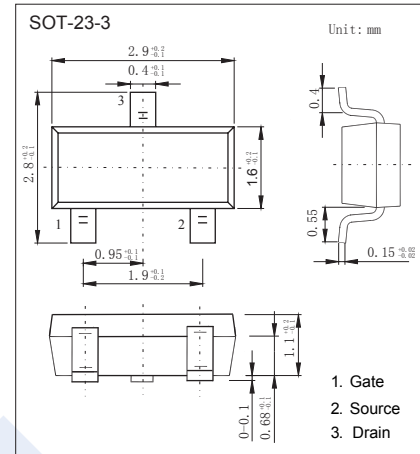


P-Channel MOSFET

SI2399DS (KI2399DS)

■ Features

- $V_{DS}(V) = -20V$
- $I_D = -6A$
- $R_{DS(ON)} < 34m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 45m\Omega$ ($V_{GS} = -4.5V$)
- $R_{DS(ON)} < 67m\Omega$ ($V_{GS} = -2.5V$)



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	± 12	
Continuous Drain Current ($T_J = 150^\circ C$)	$T_c = 25^\circ C$	I_D	-6	A
	$T_c = 70^\circ C$		-5.8	
	$T_a = 25^\circ C$		-5.1	
	$T_a = 70^\circ C$		-4.1	
Pulsed Drain Current		I_{DM}	-20	
Power Dissipation	$T_c = 25^\circ C$	P_D	2.5	W
	$T_c = 70^\circ C$		1.6	
	$T_a = 25^\circ C$		1.25	
	$T_a = 70^\circ C$		0.8	
Thermal Resistance.Junction- to-Ambient	$t \leq 5$ s	R_{thJA}	100	$^\circ C/W$
Thermal Resistance.Junction- to-Foot		R_{thJF}	50	
Junction Temperature		T_J	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 to 150	

P-Channel MOSFET

SI2399DS (KI2399DS)

■ 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} =-20V, V _{GS} =0V			-1	μA
		V _{DS} =-20V, V _{GS} =0V, T _J =55°C			-10	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250 μA	-0.6		-1.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-5.1A			34	mΩ
		V _{GS} =-4.5V, I _D =-4.5A			45	
		V _{GS} =-2.5V, I _D =-3.7A			67	
On State Drain Current	I _{D(ON)}	V _{GS} =-4.5V, V _{DS} ≤-5V	-20			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-5.1A		15		S
Input Capacitance	C _{iss}	V _{DS} =-10V, V _{GS} =0V, f=1MHz		835		pF
Output Capacitance	C _{oss}			180		
Reverse Transfer Capacitance	C _{rss}			155		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	0.9	4.4	8.8	Ω
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-10V, I _D =-5.1A		10	20	nC
				6.4	9.6	
Gate Source Charge	Q _{gs}	V _{GS} =-2.5V, V _{DS} =-10V, I _D =-5.1A		1.7		nC
Gate Drain Charge	Q _{gd}			3.4		
Turn-On DelayTime	t _{d(on)}	V _{DD} =-10V, R _L =2.4Ω I _D =-4.1A, V _{GEN} =-4.5V, R _g =1Ω		22	33	ns
Turn-On Rise Time	t _r			20	30	
Turn-Off DelayTime	t _{d(off)}			28	42	
Turn-Off Fall Time	t _f			9	18	
Body Diode Reverse Recovery Time	t _{rr}	I _F =-4.1A, di/dt=100A/μs, T _J =25°C		23	35	nC
Body Diode Reverse Recovery Charge	Q _{rr}			12	20	
Reverse Recovery Fall Time	t _a			15		
Reverse Recovery Rise Time	t _b			8		
Maximum Body-Diode Continuous Current	I _S	T _C =25°C			-2.1	A
Pulse Diode Forward Current (t = 100 μs)	I _{SM}				-20	
Diode Forward Voltage	V _{SD}	I _S =-4.1A, V _{GS} =0V			-1.2	V

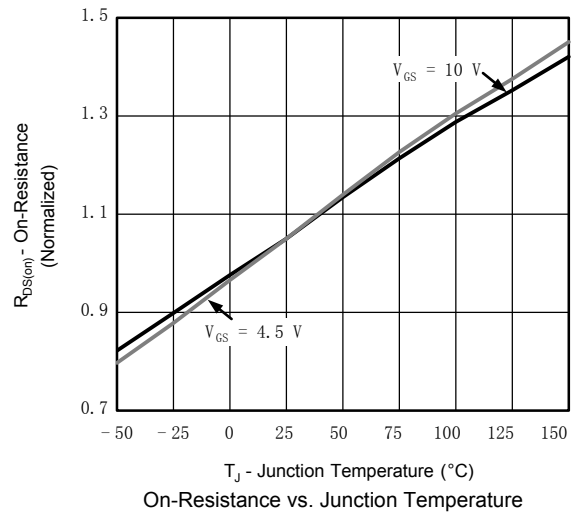
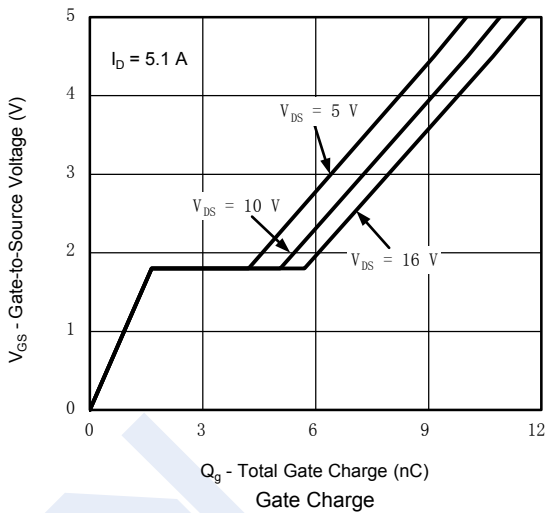
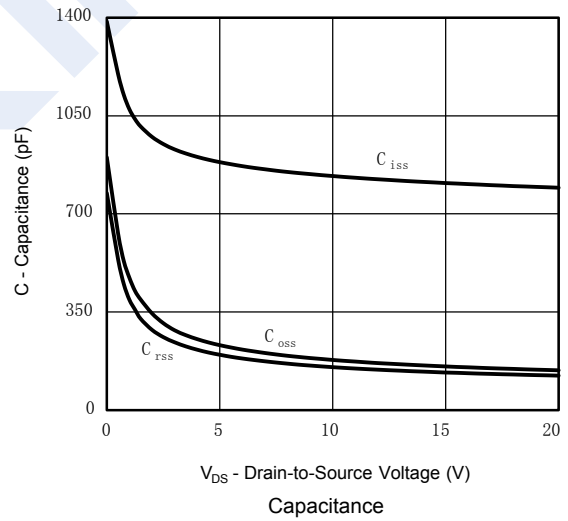
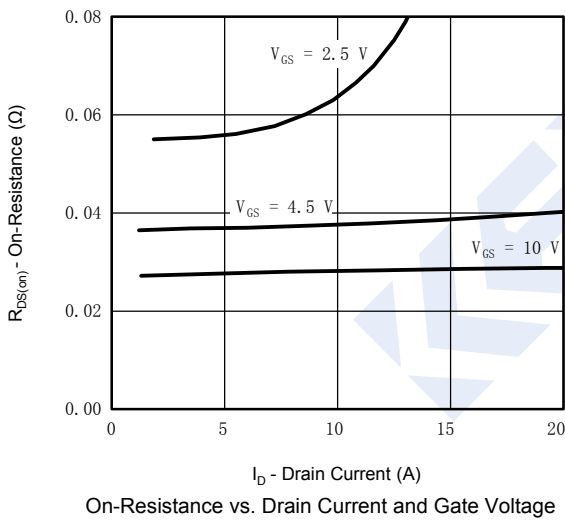
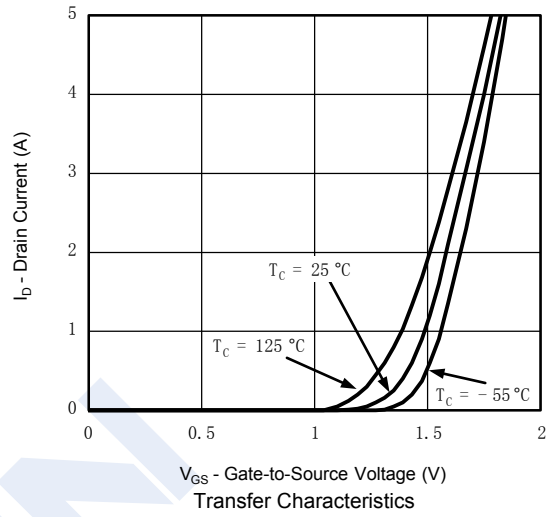
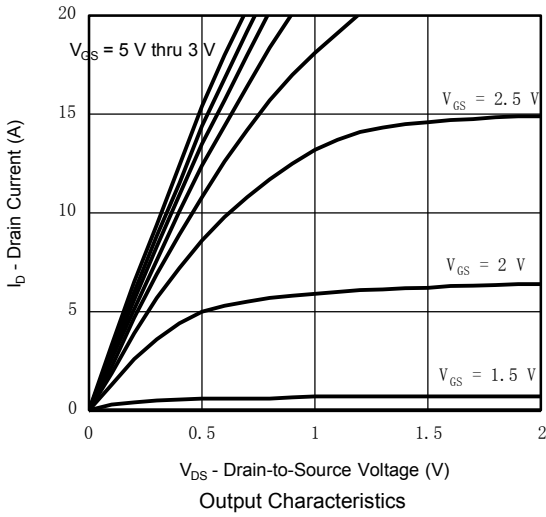
Note. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2 %.

■ Marking

Marking	O1*
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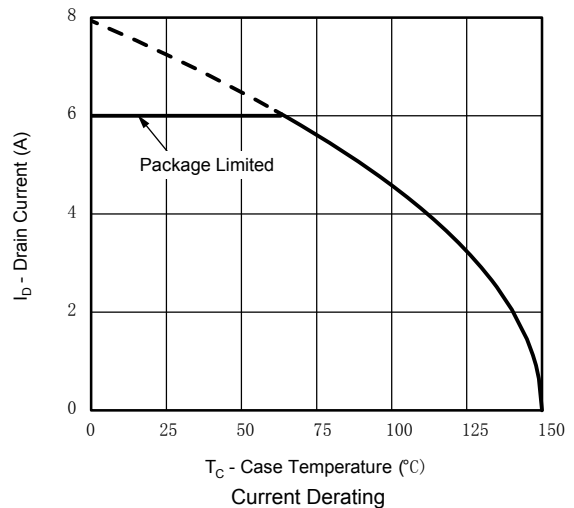
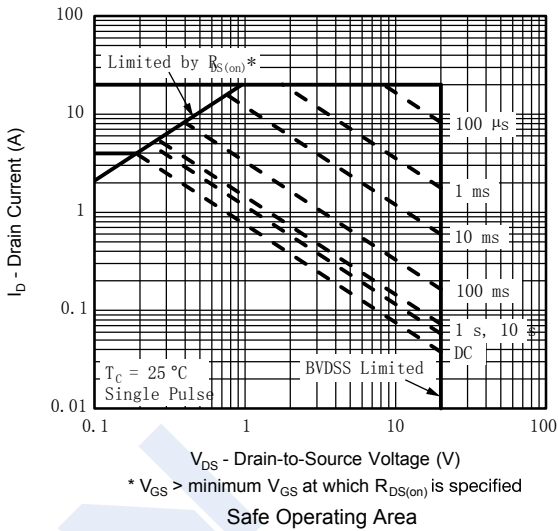
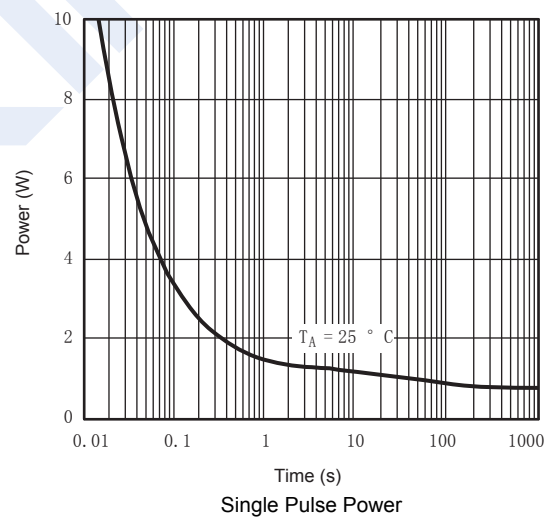
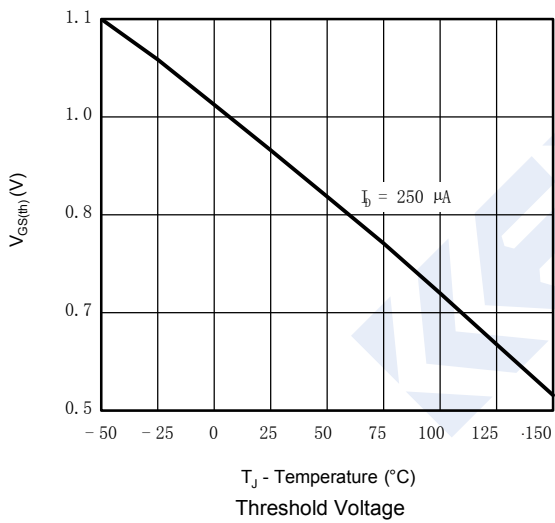
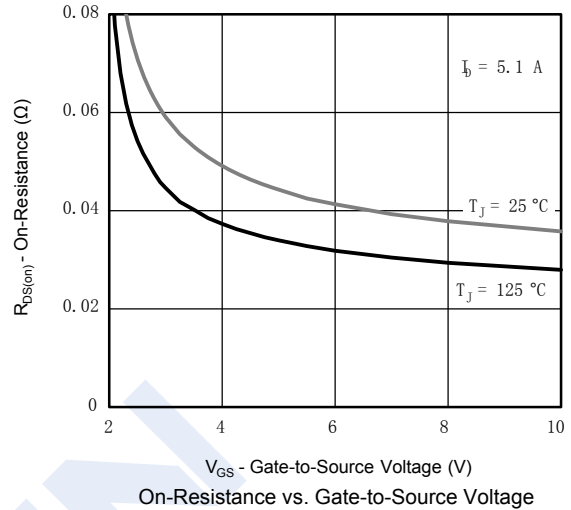
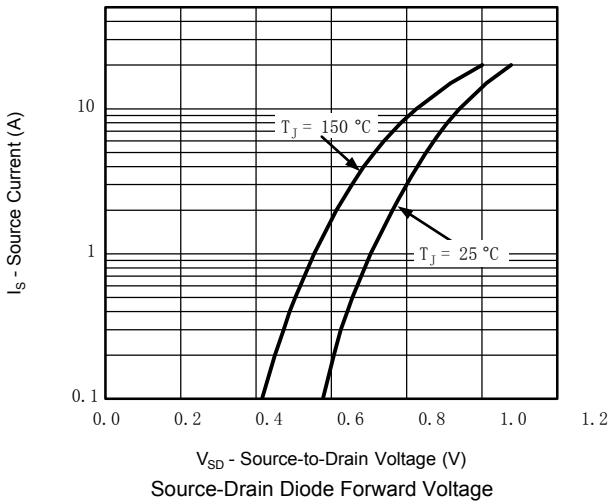
P-Channel MOSFET SI2399DS (KI2399DS)

Typical Characteristics



P-Channel MOSFET SI2399DS (KI2399DS)

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P-Channel MOSFET SI2399DS (KI2399DS)

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