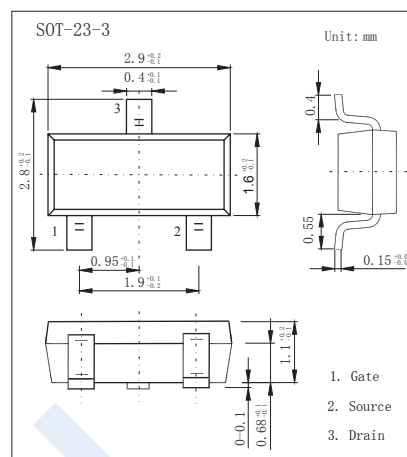
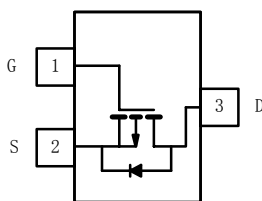


P-Channel Enhancement MOSFET

SI2301DS (KI2301DS)

■ Features

- $V_{DS}(V) = -20V$
- $R_{DS(ON)} < 100m\Omega$ ($V_{GS} = -4.5V$)
- $R_{DS(ON)} < 150m\Omega$ ($V_{GS} = -2.5V$)

■ 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°C)*1 Ta=25°C Ta=70°C	I _D	-2.4	-2.2	A
		-1.9	-1.8	
Pulsed Drain Current *2	I _{DM}	-10		
Power Dissipation *1 Ta=25°C Ta=70°C	P _D	0.9	0.7	W
		0.57	0.45	
Thermal Resistance.Junction- to-Ambient *1 *3	R _{thJA}	120	145	°C/W
		140	175	
Junction Temperature	T _J	150		°C
Storage Temperature Range	T _{stg}	-55 to 150		

*1 Surface Mounted on FR4 Board, $t \leq 5$ sec.

*2 Pulse width limited by maximum junction temperature.

*3 Surface Mounted on FR4 Board.

P-Channel Enhancement MOSFET

SI2301DS (KI2301DS)

■ 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} =±8V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-0.45		-0.95	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-2.8A		80	100	mΩ
		V _{GS} =-2.5V, I _D =-2.0A		110	150	
On state drain current *1	I _{D(ON)}	V _{GS} =-4.5V, V _{DS} ≤ -5V	-6			A
		V _{GS} =-2.5V, V _{DS} ≤ -5V	-3			
Forward Transconductance *1	g _{FS}	V _{DS} =-5V, I _D =-2.8A		6.5		S
Input Capacitance *2	C _{iss}	V _{GS} =0V, V _{DS} =-6V, f=1MHz		375		pF
Output Capacitance *2	C _{oss}			95		
Reverse Transfer Capacitance *2	C _{rss}			65		
Total Gate Charge *2	Q _g	V _{GS} =-4.5V, V _{DS} =-6V, I _D =-2.8A		4.5	10	nC
Gate Source Charge *2	Q _{gs}			0.7		
Gate Drain Charge *2	Q _{gd}			1.1		
Turn-On DelayTime *3	t _{d(on)}	V _{GS} =-4.5V, V _{DS} =-6V, R _L =6 Ω, R _{GEN} =6 Ω I _D =-1.0A		20	30	ns
Turn-On Rise Time *3	t _r			40	60	
Turn-Off DelayTime *3	t _{d(off)}			30	45	
Turn-Off Fall Time *3	t _f			20	30	
Maximum Body-Diode Continuous Current	I _S	5 sec			-0.72	A
		Steady State			-0.6	
Diode Forward Voltage	V _{SD}	I _S =-0.75A, V _{GS} =0V		-0.8	-1.2	V

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

*2 For DESIGN AID ONLY, not subject to production testing.

*3 Switching time is essentially independent of operating temperature.

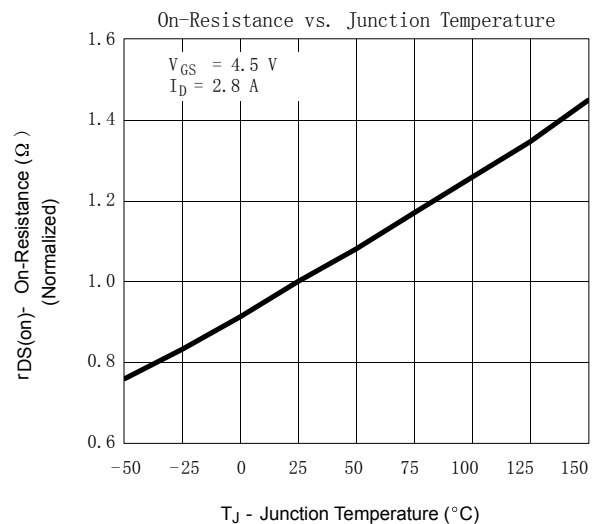
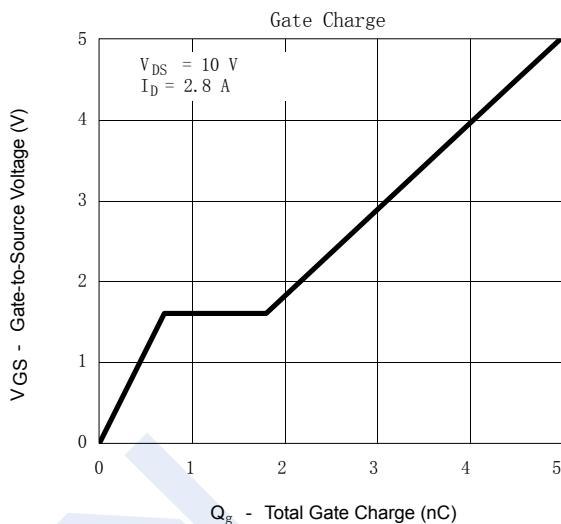
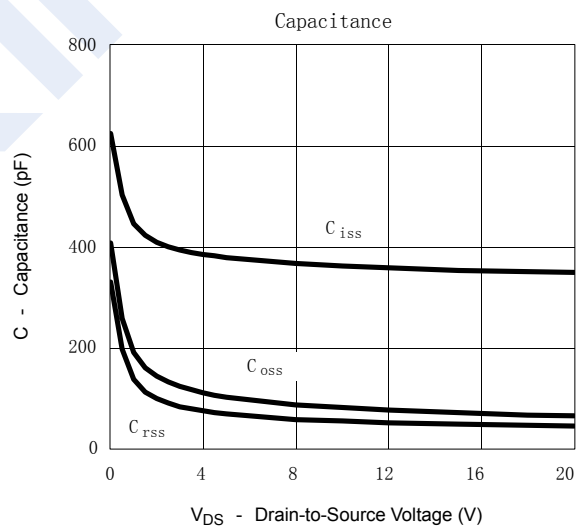
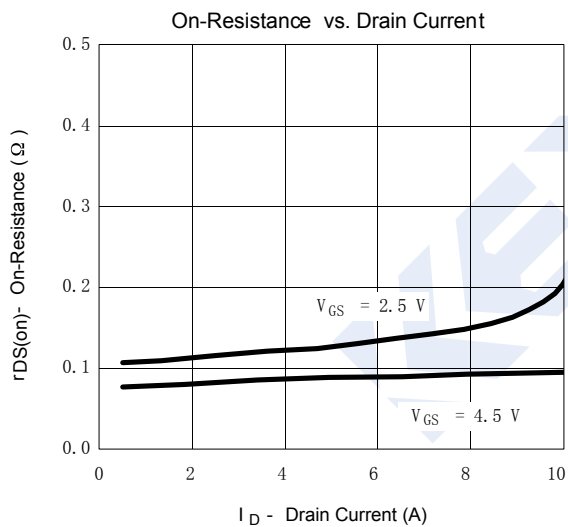
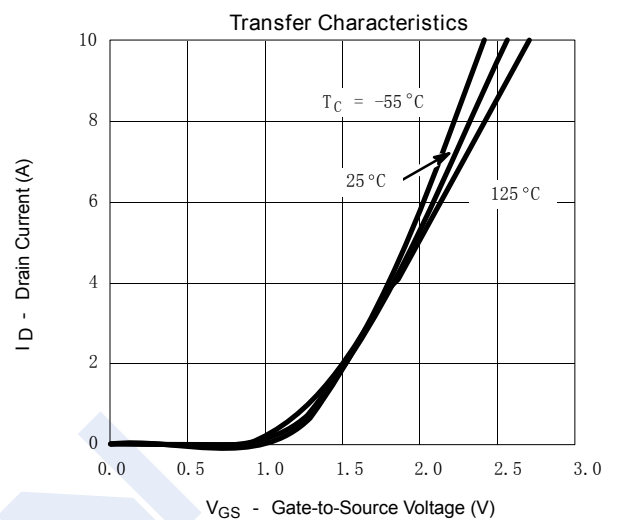
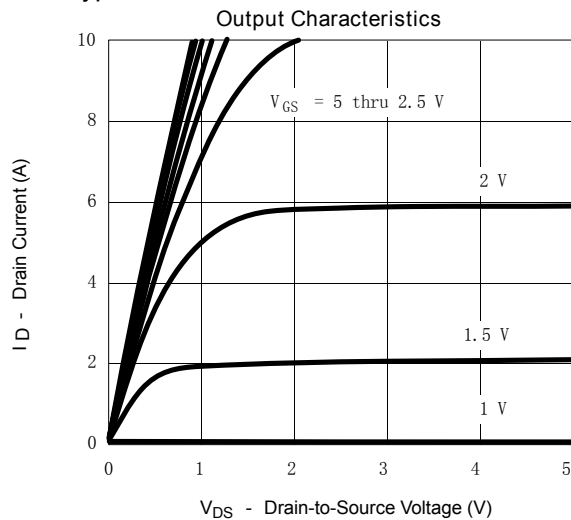
■ Marking

Marking	A1*
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P-Channel Enhancement MOSFET

SI2301DS (KI2301DS)

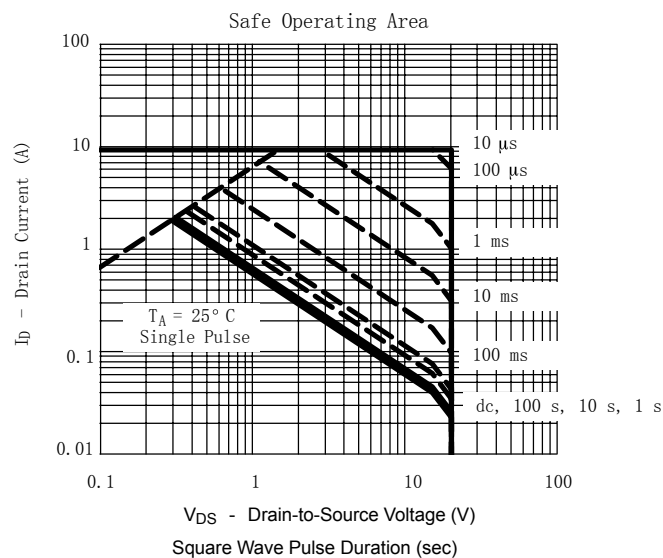
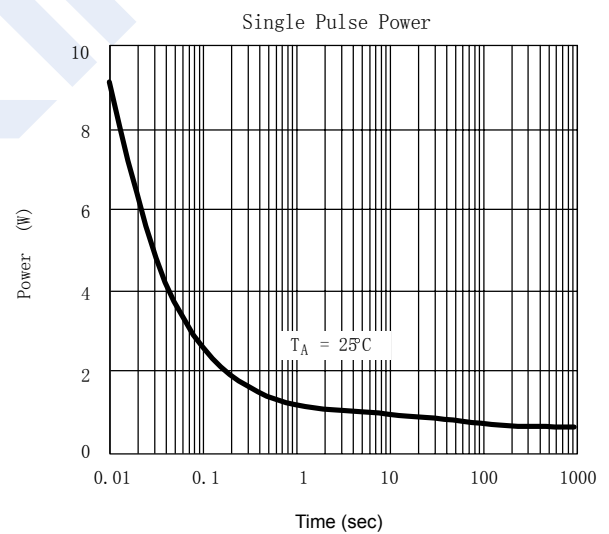
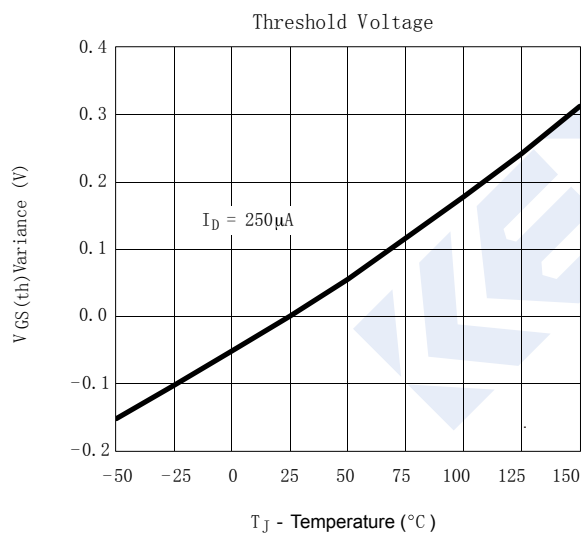
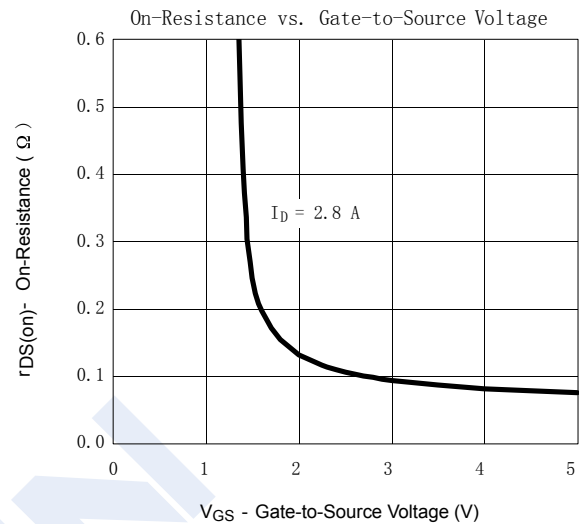
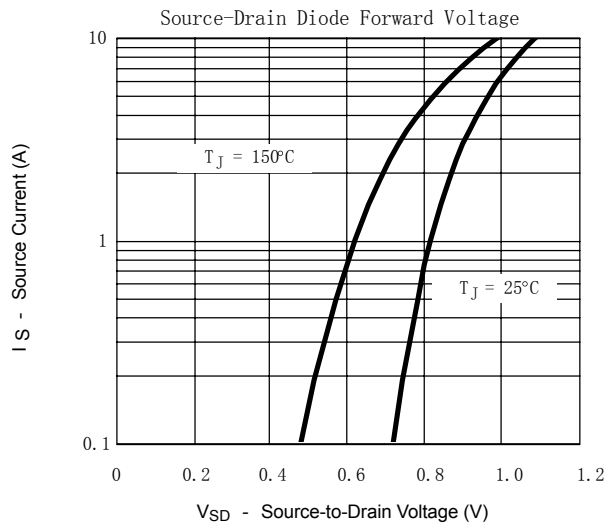
■ Typical Characteristics



P-Channel Enhancement MOSFET

SI2301DS (KI2301DS)

■ Typical Characteristics



P-Channel Enhancement MOSFET

SI2301DS (KI2301DS)

■ Typical Characteristics

