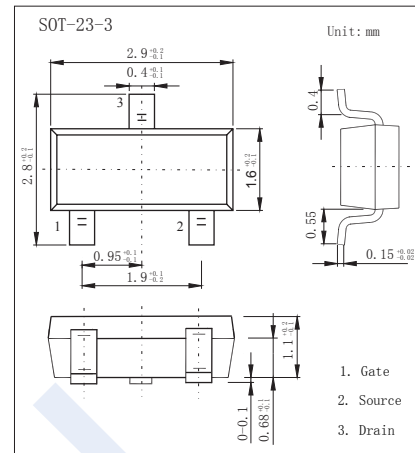
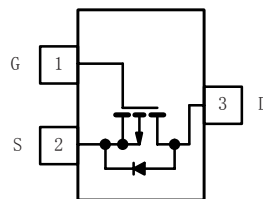


P-Channel Enhancement MOSFET

SI2307BDS (KI2307BDS)

■ Features

- $V_{DS} (V) = -30V$
- $R_{DS(ON)} < 78m\Omega$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 130m\Omega$ ($V_{GS} = -4.5V$)



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

Parameter	Symbol	5 sec	Steady State	Unit	
Drain-Source Voltage	V_{DS}	-30		V	
Gate-Source Voltage	V_{GS}	± 20			
Continuous Drain Current ($T_j=150^\circ C$) *1	I_D	$T_a = 25^\circ C$	-3.2	-2.5	A
		$T_a = 70^\circ C$	-2.6	-2.0	
Pulsed Drain Current *2	I_{DM}	-12			
Power Dissipation *1	P_D	$T_a = 25^\circ C$	1.25	0.75	W
		$T_a = 70^\circ C$	0.8	0.48	
Thermal Resistance.Junction- to-Ambient *1	R_{thJA}	100		$^\circ C/W$	
Thermal Resistance.Junction- to-Ambient *3		166			
Junction Temperature	T_J	150		$^\circ C$	
Storage Temperature Range	T_{stg}	-55 to 150			

*1 Pulse width limited by maximum junction temperature.

*2 Surface Mounted on FR4 board, $t \leq 5$ s.

*3 Surface Mounted on FR4 board.

P-Channel Enhancement MOSFET

SI2307BDS (KI2307BDS)

■ 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	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
		V _{DS} =-30V, V _{GS} =0V, T _J =55°C			-10	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-1.0		-3.0	V
Static Drain-Source On-Resistance *1	R _{DS(on)}	V _{GS} =-10V, I _D =-3.2A		63	78	mΩ
		V _{GS} =-4.5V, I _D =-2.5A		105	130	
On state drain current *1	I _{D(ON)}	V _{GS} =-10V, V _{DS} ≤ -10V	-6			A
Forward Transconductance *1	g _{FS}	V _{DS} =-10V, I _D =-3.2A		5.0		S
Input Capacitance *2	C _{iss}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		380		pF
Output Capacitance *2	C _{oss}			100		
Reverse Transfer Capacitance *2	C _{rss}			75		
Gate resistance	R _g	f=1MHz		8.0		Ω
Total Gate Charge *2	Q _g	V _{GS} =-10V, V _{DS} =-15V, I _D =-1.7A		9.0	15	nC
Gate Source Charge *2	Q _{gs}			1.4		
Gate Drain Charge *2	Q _{gd}			2.4		
Turn-On DelayTime *3	t _{d(on)}	V _{GS} =-4.5V, V _{DS} =-15V, R _L =15 Ω, R _{GEN} =6 Ω I _D =1.0A		9	20	ns
Turn-On Rise Time *3	t _r			12	20	
Turn-Off DelayTime *3	t _{d(off)}			25	40	
Turn-Off Fall Time *3	t _f			14	21	
Maximum Body-Diode Continuous Current	I _S	5 sec			-1.25	A
		Steady State			-0.75	
Diode Forward Voltage	V _{SD}	I _S =-0.75A, V _{GS} =0V		-0.85	-1.2	V

*1Pulse test: pulse width ≤ 300 μs, duty cycle ≤ 2 %.

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

*3 Switching time is essentially independent of operating temperature.

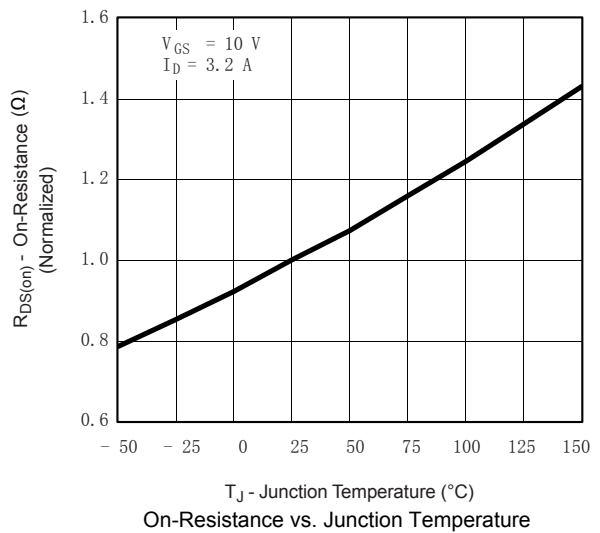
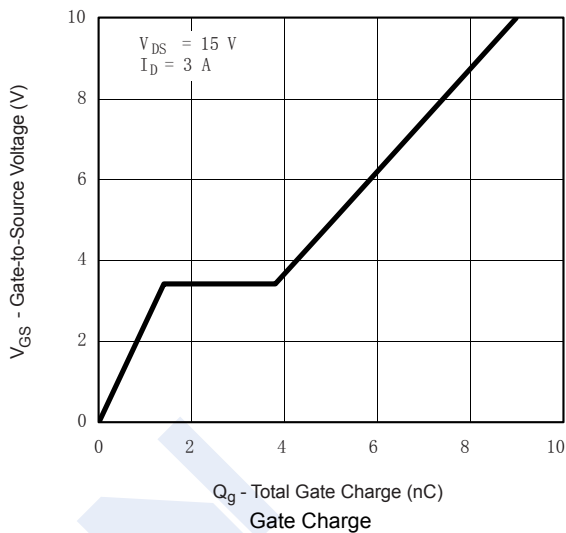
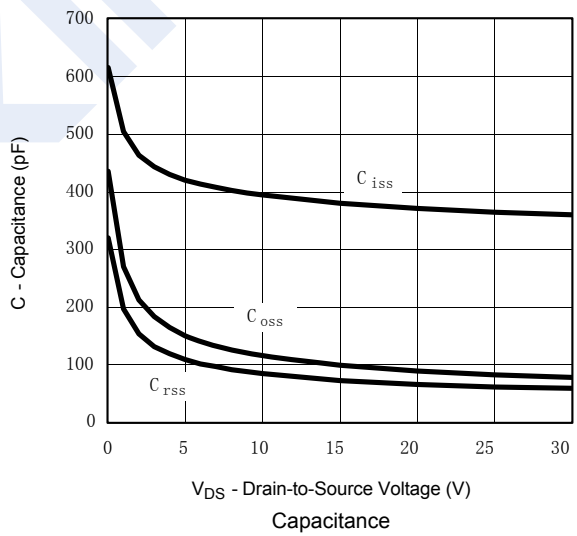
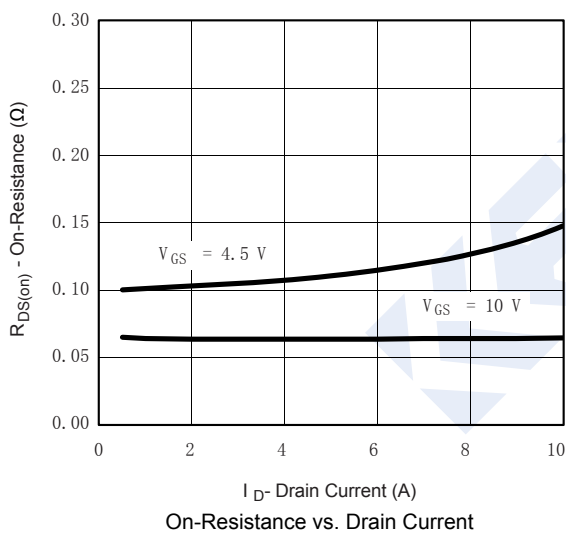
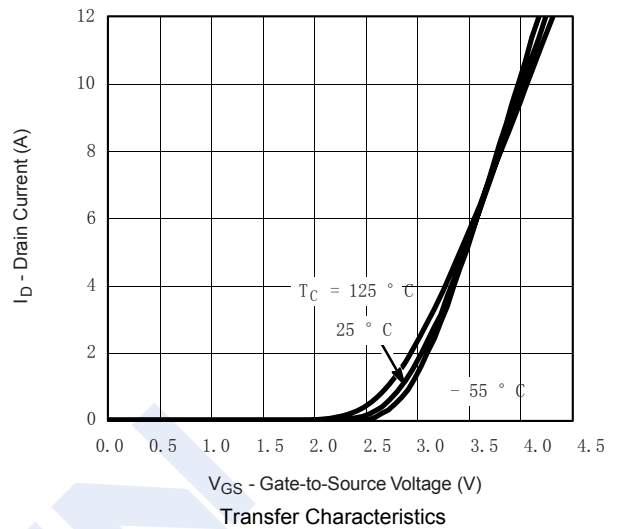
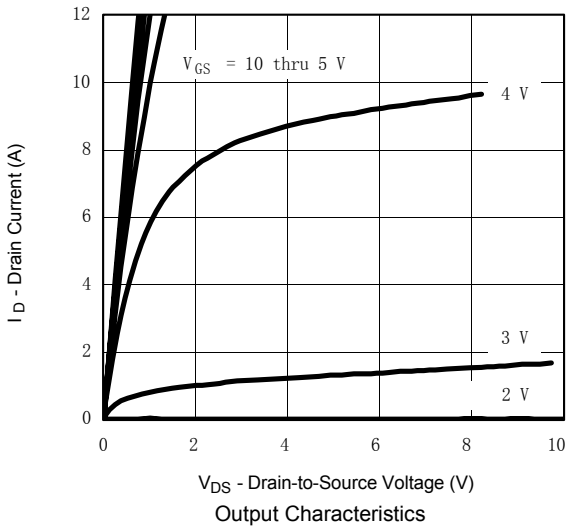
■ Marking

Marking	L7*
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P-Channel Enhancement MOSFET

SI2307BDS (KI2307BDS)

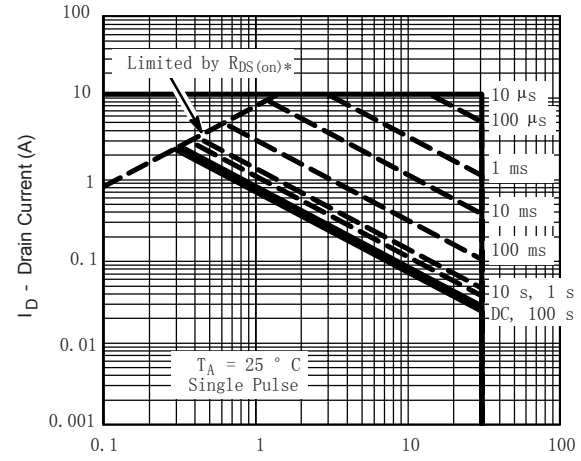
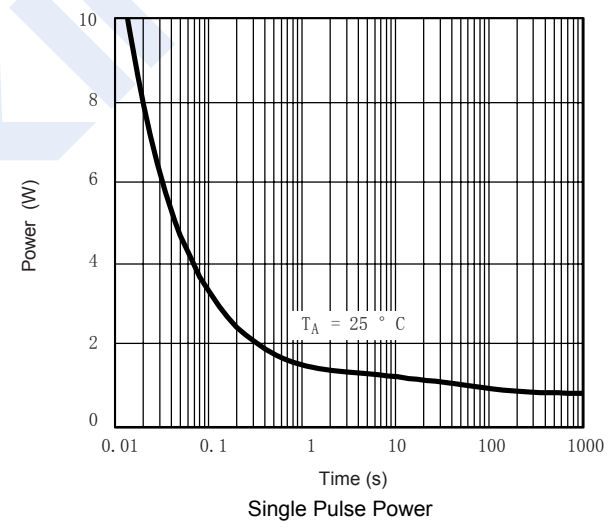
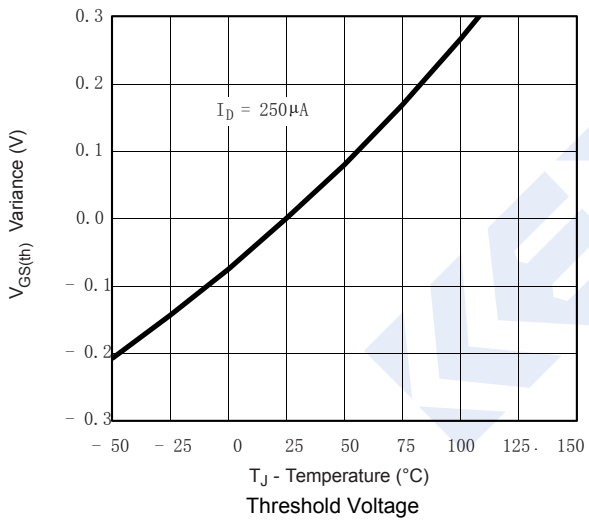
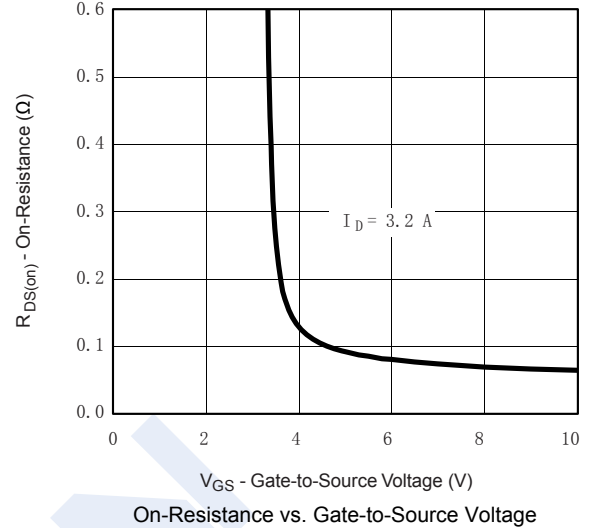
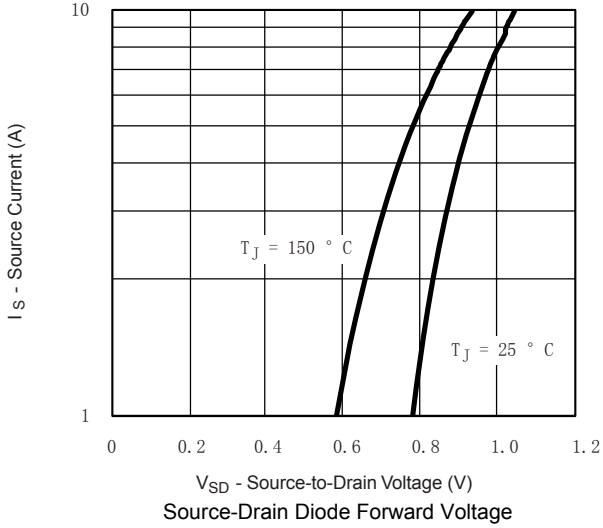
Typical Characteristics



P-Channel Enhancement MOSFET

SI2307BDS (KI2307BDS)

Typical Characteristics



* $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified
 Square Wave Pulse Duration (s)
 Safe Operating Area, Junction-to-Case

P-Channel Enhancement MOSFET
SI2307BDS (KI2307BDS)

■ Typical Characteristics

