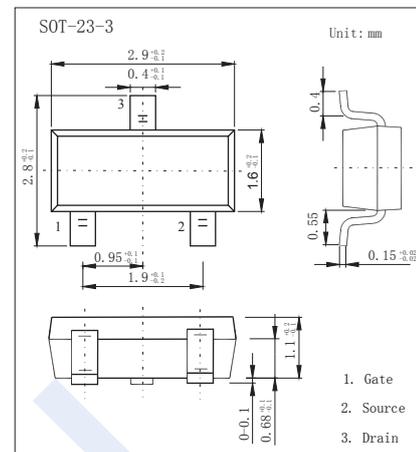
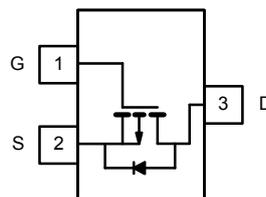


## P-Channel Enhancement MOSFET

### SI2307DS (KI2307DS)

#### ■ Features

- $V_{DS} (V) = -30V$
- $I_D = -3.0A$  ( $V_{GS} = -10V$ )
- $R_{DS(ON)} < 80m\Omega$  ( $V_{GS} = -10V$ )
- $R_{DS(ON)} < 140m\Omega$  ( $V_{GS} = -4.5V$ )



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

Parameter	Symbol	5 sec	Unit	
Drain-Source Voltage	$V_{DS}$	-30	V	
Gate-Source Voltage	$V_{GS}$	$\pm 20$		
Continuous Drain Current $T_J = 150^\circ C$ (Note.1,2)	$I_D$	$T_a = 25^\circ C$	-3	A
		$T_a = 70^\circ C$	-2.5	
Pulsed Drain Current	$I_{DM}$	-12		
Power Dissipation (Note.1,2)	$P_D$	$T_a = 25^\circ C$	1.25	W
		$T_a = 70^\circ C$	0.8	
Thermal Resistance.Junction- to-Ambient	$R_{thJA}$	$t \leq 5$ sec	100	$^\circ C/W$
Junction Temperature	$T_J$	150	$^\circ C$	
Junction and Storage Temperature Range	$T_{stg}$	-55 to 150		

Note.1: Surface mounted on FR4 board.

Note.2:  $t \leq 5$  sec.

## P-Channel Enhancement MOSFET

### SI2307DS (K12307DS)

#### ■ 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> =-250μ A, V <sub>GS</sub> =0V	-30			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-24V, V <sub>GS</sub> =0V			-1	μ A
		V <sub>DS</sub> =-24V, 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> =±20V			±100	nA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> I <sub>D</sub> =-250 μ A	-1.0		-3.0	V
Static Drain-Source On-Resistance *1	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-3A		64	80	m Ω
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-2.5A		103	140	
On state drain current *1	I <sub>D(ON)</sub>	V <sub>GS</sub> =-10V, V <sub>DS</sub> =-5V	-6			A
Forward Transconductance *1	g <sub>FS</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-3A		4.5		S
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =-15V, f=1MHz		565		pF
Output Capacitance	C <sub>oss</sub>			126		
Reverse Transfer Capacitance	C <sub>rss</sub>			75		
Total Gate Charge	Q <sub>g</sub>			10	15	
Gate Source Charge	Q <sub>gs</sub>	V <sub>GS</sub> =-15V, V <sub>DS</sub> =-15V, I <sub>D</sub> =-3A		1.9		
Gate Drain Charge	Q <sub>gd</sub>			2		
Turn-On DelayTime	t <sub>d(on)</sub>		V <sub>GS</sub> =-10V, V <sub>DS</sub> =-15V, R <sub>L</sub> =15 Ω, R <sub>GEN</sub> =6 Ω  I <sub>D</sub> =-1.0A		10	20
Turn-On Rise Time	t <sub>r</sub>			9	20	
Turn-Off DelayTime	t <sub>d(off)</sub>			27	50	
Turn-Off Fall Time	t <sub>f</sub>			7	16	
Maximum Body-Diode Continuous Current	I <sub>S</sub>					-1.25
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1.25A, V <sub>GS</sub> =0			-1.2	V

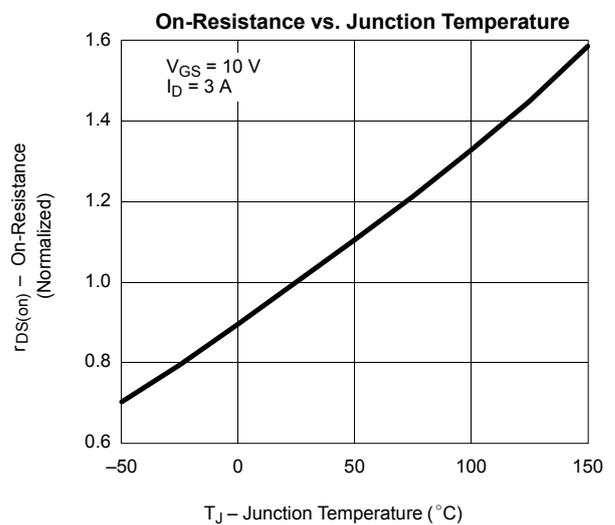
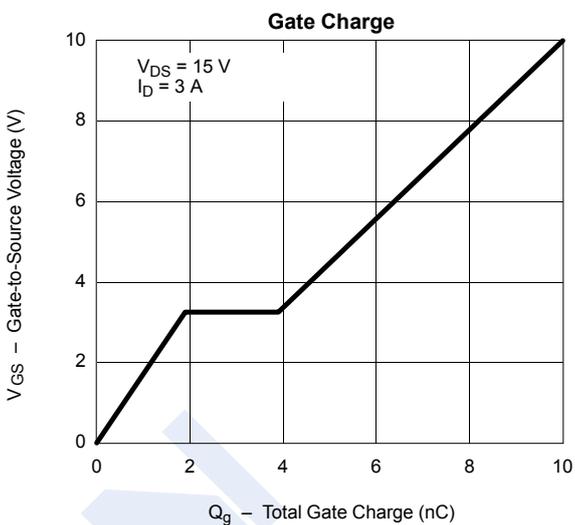
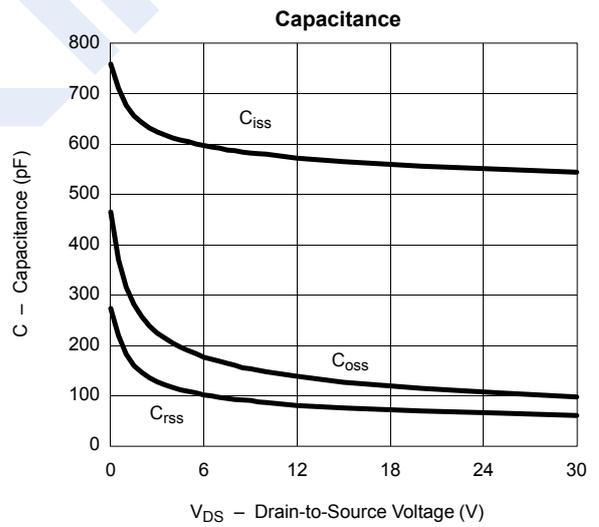
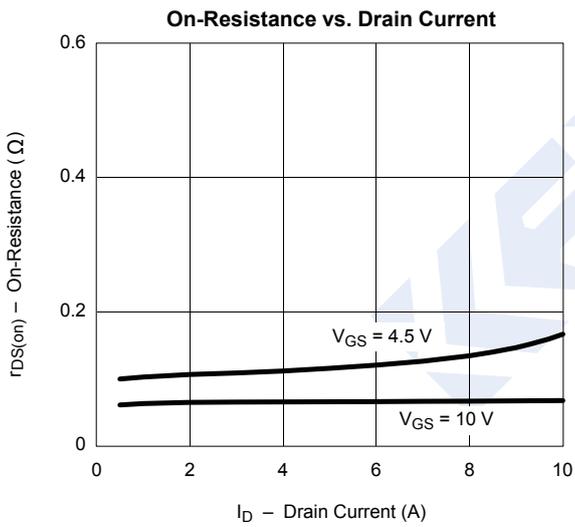
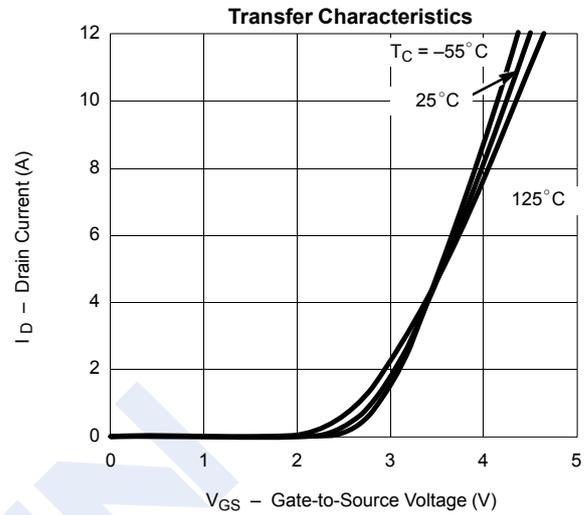
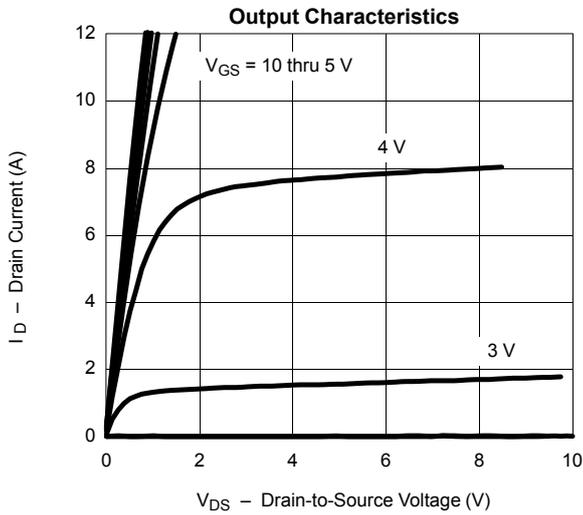
\*1Pulse test: PW ≤ 300us duty cycle ≤ 2%.

#### ■ Marking

Marking	A7*
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## P-Channel Enhancement MOSFET SI2307DS (KI2307DS)

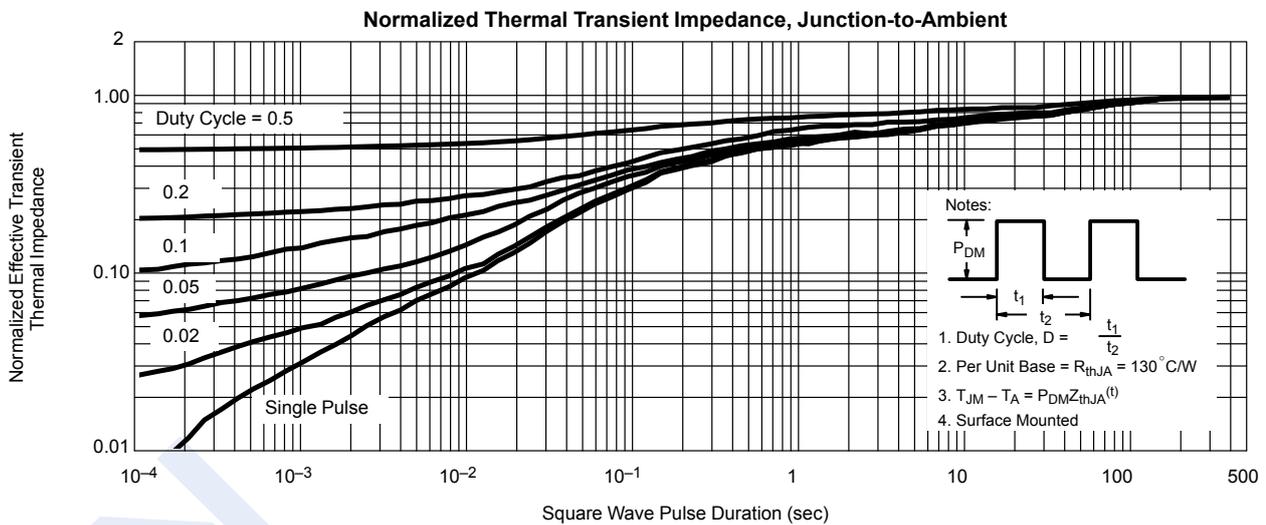
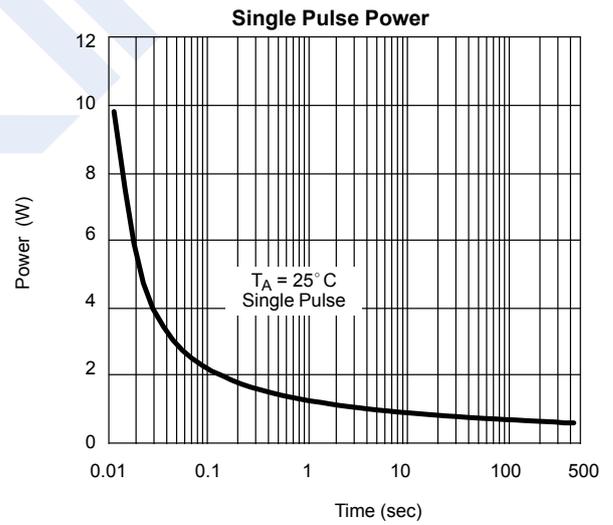
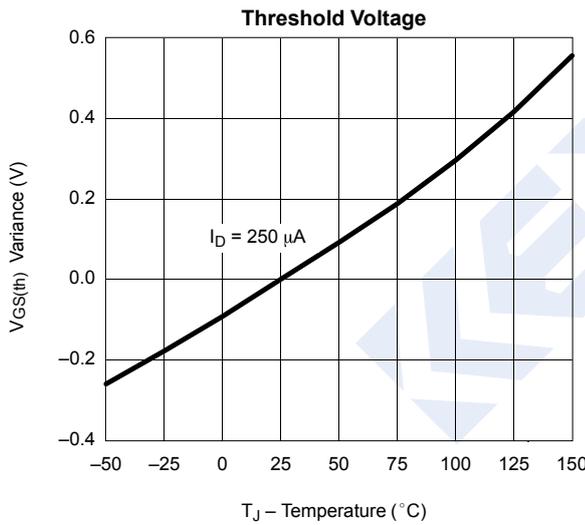
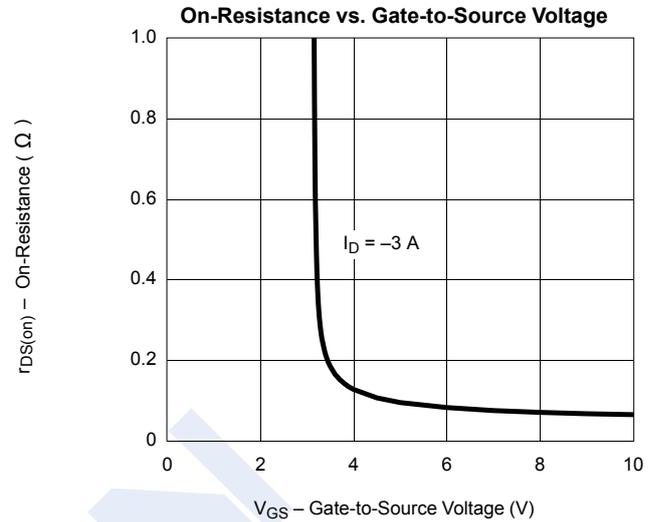
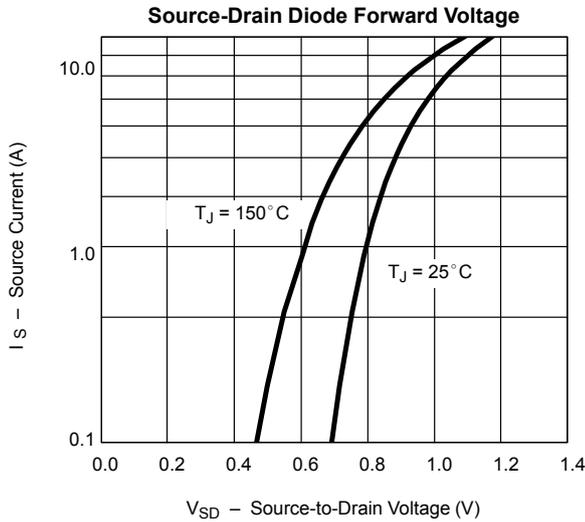
■ Typical Characteristics



## P-Channel Enhancement MOSFET

### SI2307DS (KI2307DS)

■ Typical Characteristics



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