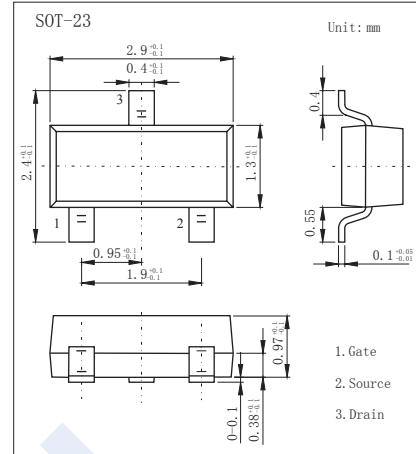
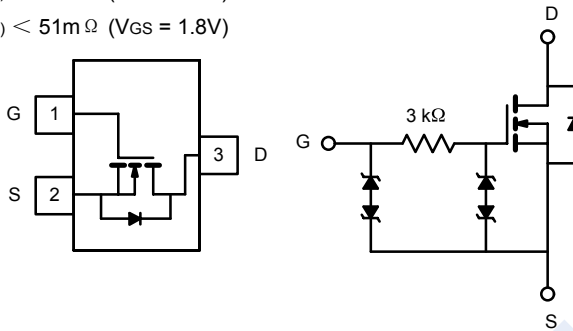


## N-Channel Enhancement MOSFET

### SI2314EDS (KI2314EDS)

#### ■ Features

- $V_{DS} (V) = 20V$
- $I_D = 4.9 A (V_{GS} = 4.5V)$
- $R_{DS(ON)} < 33m\Omega (V_{GS} = 4.5V)$
- $R_{DS(ON)} < 40m\Omega (V_{GS} = 2.5V)$
- $R_{DS(ON)} < 51m\Omega (V_{GS} = 1.8V)$



#### ■ 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	$V_{GS}$	$\pm 12$			
Continuous Drain Current *1	$I_D$	$T_a=25^\circ C$	4.9	3.77	A
		$T_a=70^\circ C$	3.9	3.0	
Pulsed Drain Current *2	$I_{DM}$	15			
Avalanche Current *2	$I_{AS}$	15		mJ	
Single Avalanche Energy	$E_{AS}$	11.25			
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 $t \leq 5$ sec Steady State	$R_{thJA}$	100		$^\circ C/W$	
		166			
Thermal Resistance.Junction-to-Foot	$R_{thJF}$	50		$^\circ C$	
Junction Temperature	$T_J$	150			
Storage Temperature Range	$T_{stg}$	-55 to 150			

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

\*2 Pulse width limited by maximum junction temperature

## N-Channel Enhancement MOSFET

### SI2314EDS (KI2314EDS)

#### ■ 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> =250 μA, V <sub>GS</sub> =0V	20			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =16V, V <sub>GS</sub> =0V			1	μA
		V <sub>DS</sub> =16V, V <sub>GS</sub> =0V, Ta=70°C			75	
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±4.5V			±1.5	μA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250 μA	0.45		1	V
On-State Drain Current *1	I <sub>D(on)</sub>	V <sub>DS</sub> ≥ 10 V, V <sub>GS</sub> = 4.5 V	15			A
Static Drain-Source On-Resistance *1	R <sub>DS(on)</sub>	V <sub>GS</sub> =4.5V, I <sub>D</sub> =5.0A		27	33	mΩ
		V <sub>GS</sub> =2.5V, I <sub>D</sub> =4.5A		33	40	
		V <sub>GS</sub> =1.8V, I <sub>D</sub> =4.0A		42	51	
Forward Transconductance *1	g <sub>FS</sub>	V <sub>DS</sub> =15V, I <sub>D</sub> =5.0A		40		S
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =4.5V, V <sub>DS</sub> =10V, I <sub>D</sub> =5.0A		11	14	nC
Gate Source Charge	Q <sub>gs</sub>			1.5		
Gate Drain Charge	Q <sub>gd</sub>			2.1		
Turn-On DelayTime	t <sub>d(on)</sub>	I <sub>D</sub> =1.0A, V <sub>DS</sub> =10V, V <sub>GEN</sub> =4.5V R <sub>L</sub> =10Ω, R <sub>G</sub> =6Ω		0.53	0.8	us
Turn-On Rise Time	t <sub>r</sub>			1.4	2.2	
Turn-Off DelayTime	t <sub>d(off)</sub>			13.5	20	
Turn-Off Fall Time	t <sub>f</sub>			5.9	9	
Body Diode Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 1.0A, di/di= 100A/μs		13	25	
Maximum Body-Diode Continuous Current	I <sub>S</sub>				1.0	A
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =1.0A, V <sub>GS</sub> =0V		0.8	1.2	V

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

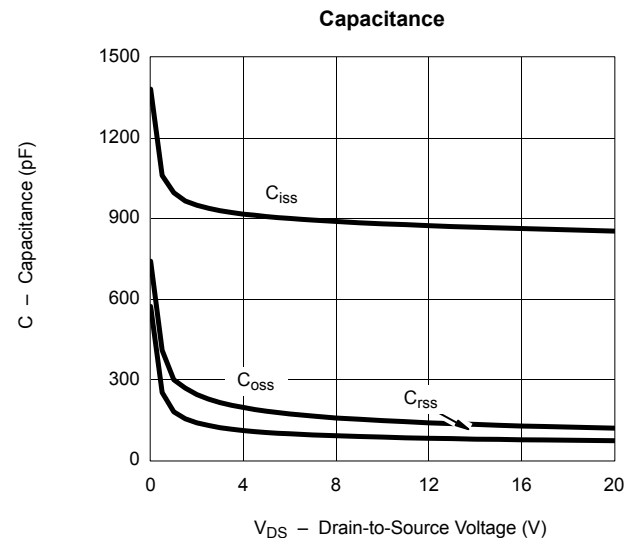
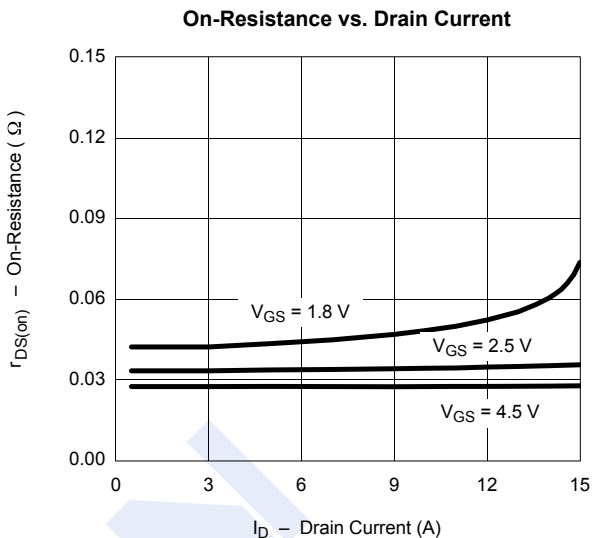
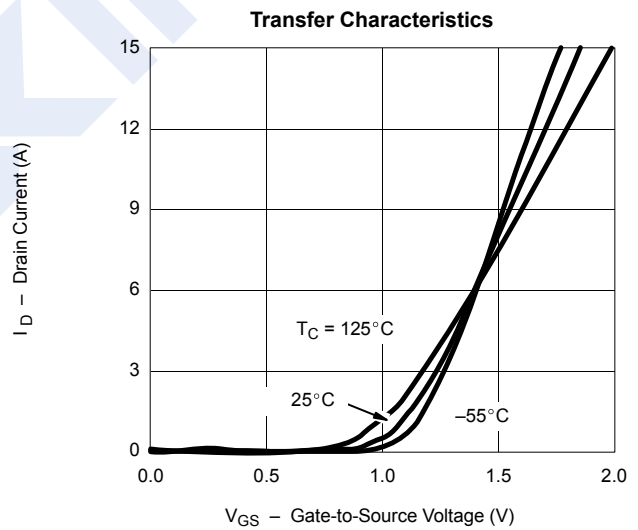
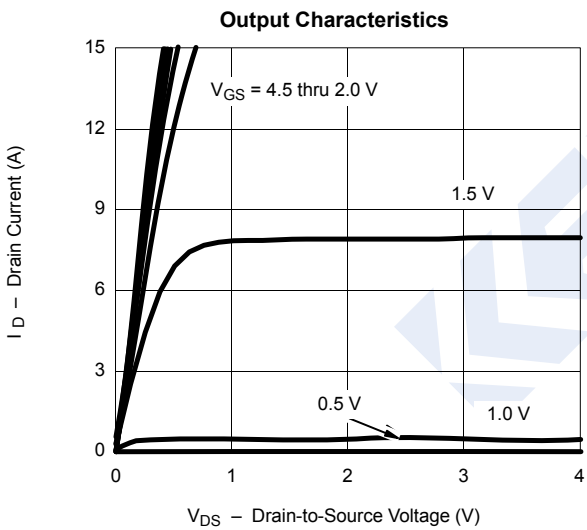
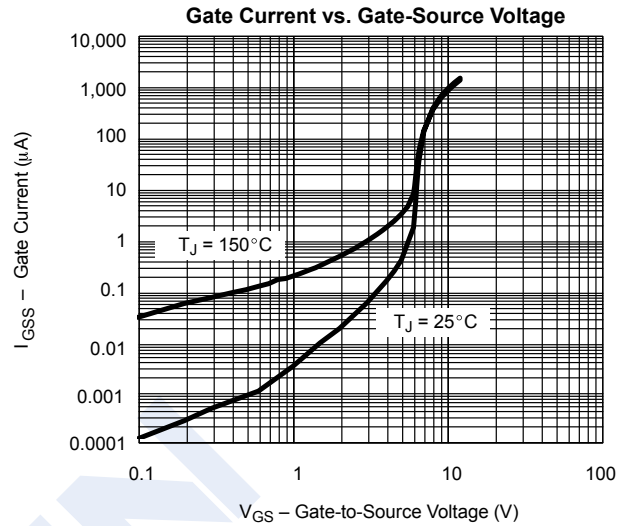
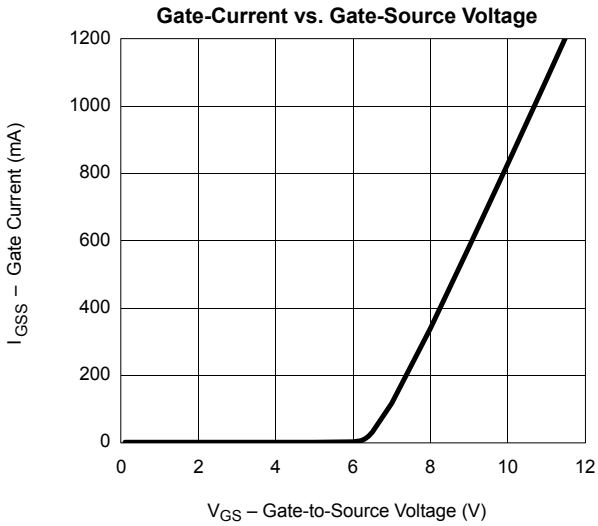
#### ■ Marking

Marking	C4*
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## N-Channel Enhancement MOSFET

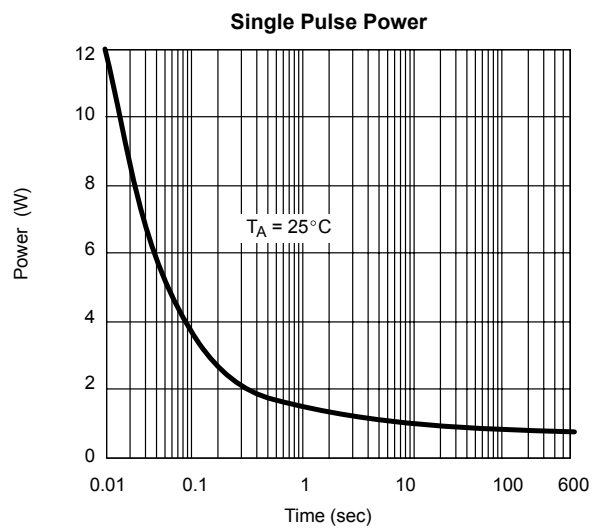
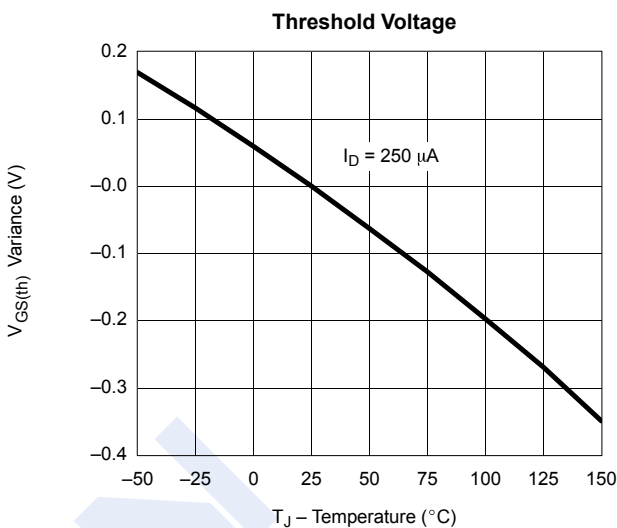
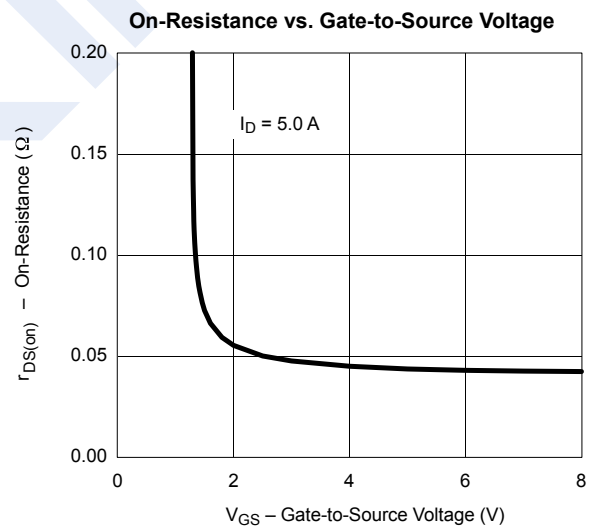
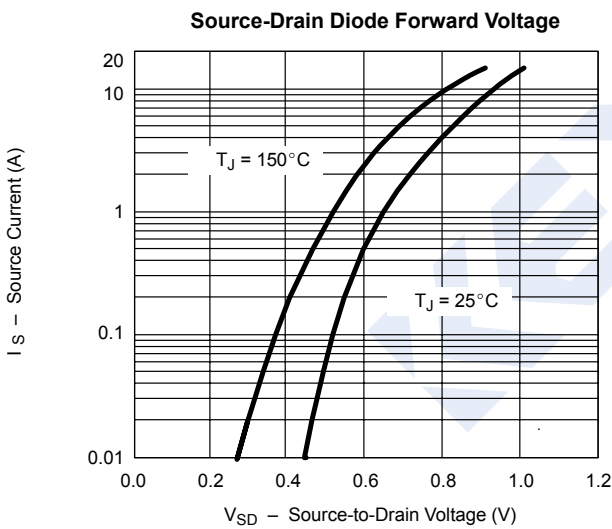
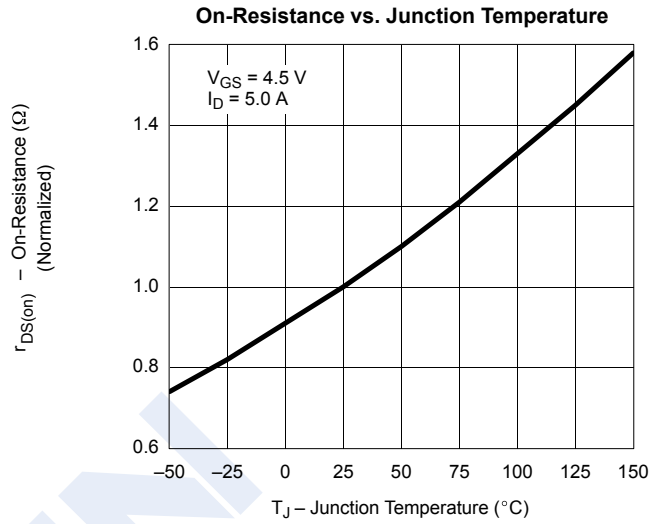
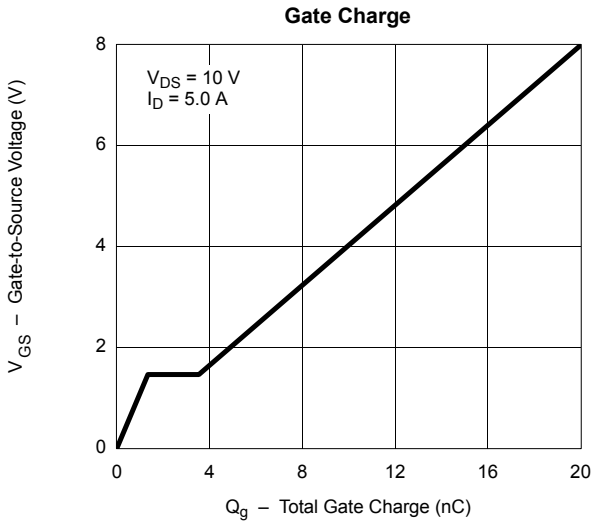
### SI2314EDS (KI2314EDS)

■ Typical Characteristics



## N-Channel Enhancement MOSFET SI2314EDS (KI2314EDS)

■ Typical Characteristics



## N-Channel Enhancement MOSFET

### SI2314EDS (KI2314EDS)

#### ■ Typical Characteristics

