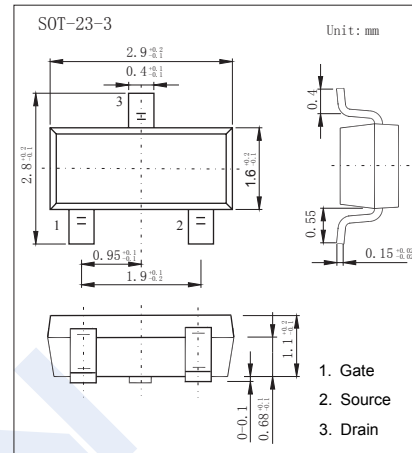
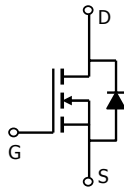


## N-Channel Enhancement MOSFET

## SI2324DS (KI2324DS)

## ■ Features

- $V_{DS} = 100V$
- $I_D = 2.3 A$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} < 234m\Omega$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} < 267m\Omega$  ( $V_{GS} = 6V$ )
- $R_{DS(ON)} < 278m\Omega$  ( $V_{GS} = 4.5V$ )

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

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	$V_{DS}$	100	V	
Gate-Source Voltage	$V_{GS}$	$\pm 20$		
Continuous Drain Current $T_J = 150^\circ C$ *1	$I_D$	$TA=25^\circ C$	2.3	A
		$TA=70^\circ C$	1.8	
Pulsed Drain Current	$I_{DM}$	5		
Power Dissipation	$P_D$	$TA=25^\circ C$	2.5	W
		$TA=70^\circ C$	1.6	
Thermal Resistance.Junction- to-Ambient	$R_{thJA}$	100	$^\circ C/W$	
Thermal Resistance.Junction- to-Case	$R_{thJC}$	50		
Junction Temperature	$T_J$	150	$^\circ C$	
Storage Temperature Range	$T_{stg}$	-55 to 150		

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

## N-Channel Enhancement MOSFET

## SI2324DS (KI2324DS)

## ■ 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	100			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =100V, V <sub>GS</sub> =0V			1	μA
		V <sub>DS</sub> =100V, 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 μA	1.2		2.8	V
Static Drain-Source On-Resistance <sup>a</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =1.5A		195	234	mΩ
		V <sub>GS</sub> =6V, I <sub>D</sub> =1A		222	267	
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =0.5A		231	278	
On State Drain Current <sup>a</sup>	I <sub>D(ON)</sub>	V <sub>GS</sub> =4.5V, V <sub>DS</sub> ≥5V	5			A
Forward Transconductance <sup>a</sup>	g <sub>FS</sub>	V <sub>DS</sub> =20V, I <sub>D</sub> =1.5A		2		S
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =50V, f=1MHz		190		pF
Output Capacitance	C <sub>oss</sub>			22		
Reverse Transfer Capacitance	C <sub>rss</sub>			13		
Gate Resistance	R <sub>g</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =0V, f=1MHz	0.3	1.4	2.8	Ω
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =4.5V, V <sub>DS</sub> =50V, I <sub>D</sub> =1.6A		5.2	10.4	nC
Gate Source Charge	Q <sub>gs</sub>			0.75		
Gate Drain Charge	Q <sub>gd</sub>			1.4		
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>GS</sub> =4.5V, V <sub>DS</sub> =50V, R <sub>L</sub> =39Ω, R <sub>GEN</sub> =1Ω		30	45	ns
Turn-On Rise Time	t <sub>r</sub>			26	39	
Turn-Off DelayTime	t <sub>d(off)</sub>			17	26	
Turn-Off Fall Time	t <sub>f</sub>			12	20	
Body Diode Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 1.3A, di/dt= 100A/μs		22	33	
Body Diode Reverse Recovery Charge	Q <sub>rr</sub>	I <sub>F</sub> = 1.3A, di/dt= 100A/μs		21	32	nC
Maximum Body-Diode Continuous Current	I <sub>S</sub>				2.1	A
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =1.3A, V <sub>GS</sub> =0V		0.8	1.2	V

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

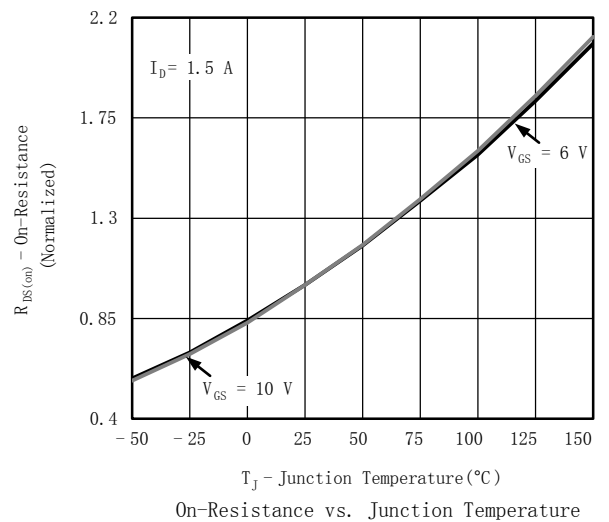
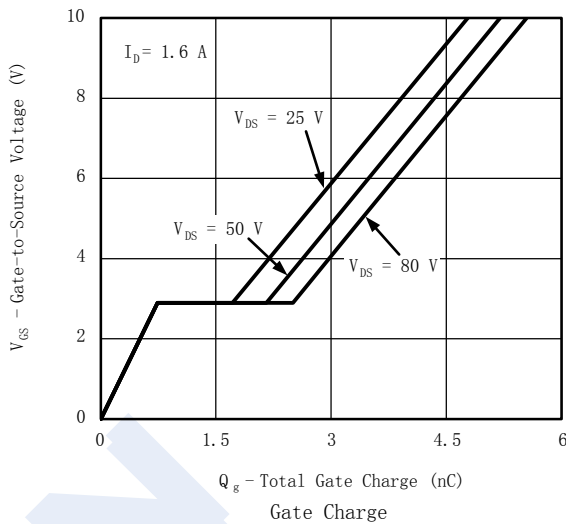
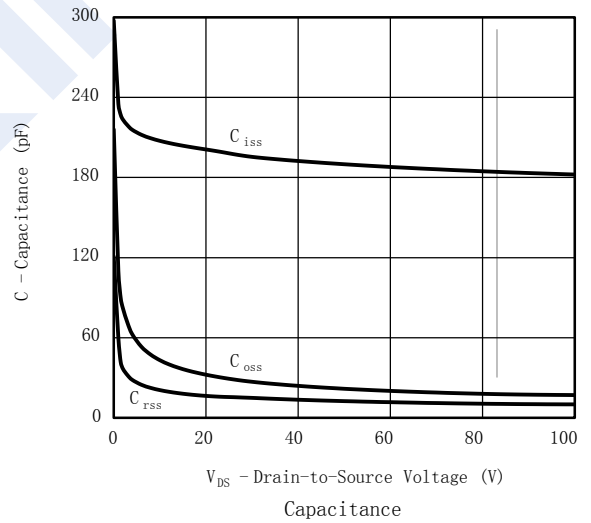
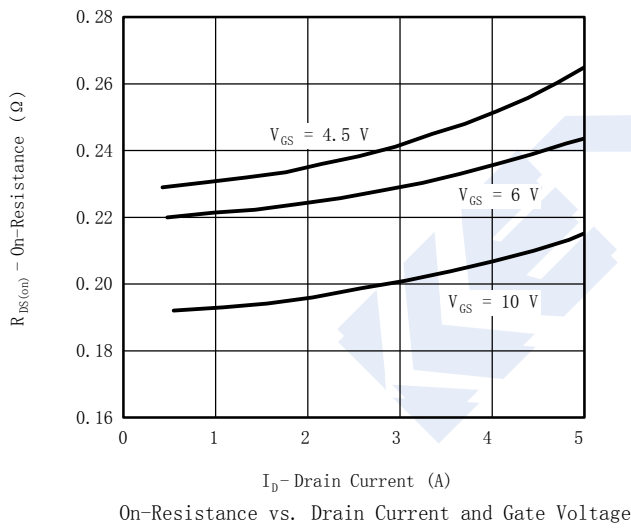
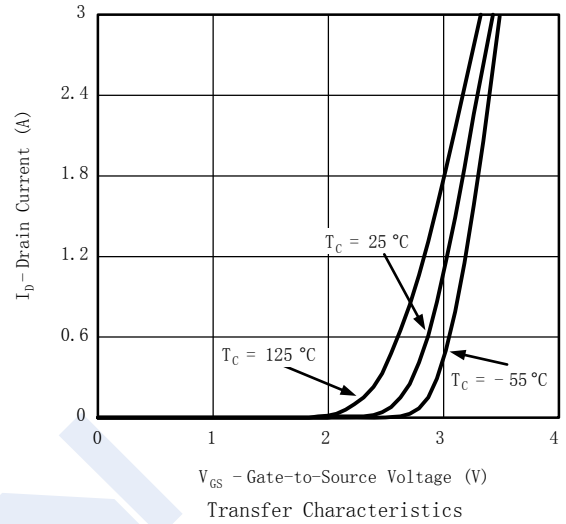
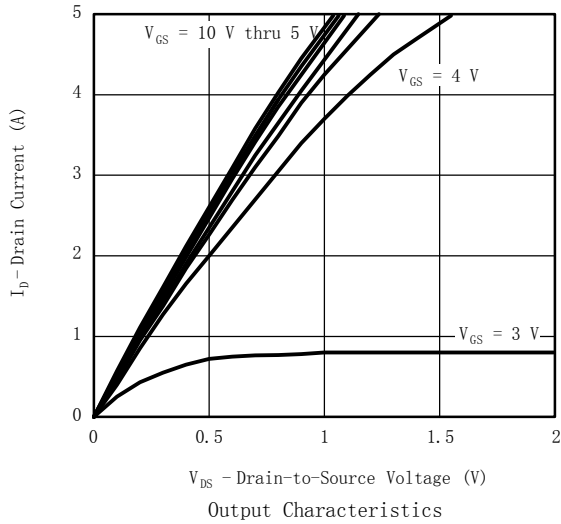
## ■ Marking

Marking	D 4*
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## N-Channel Enhancement MOSFET

### SI2324DS (KI2324DS)

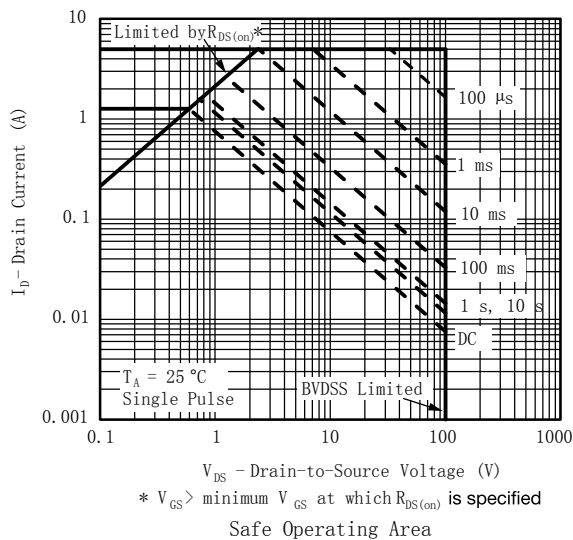
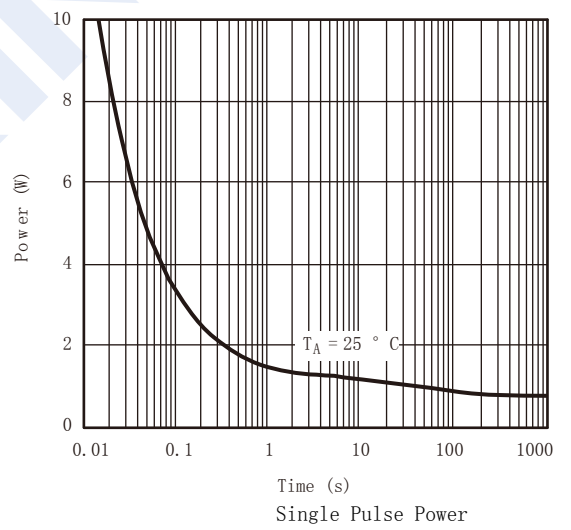
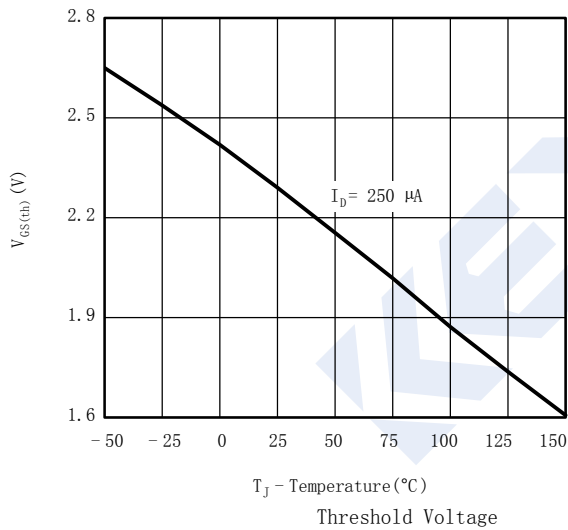
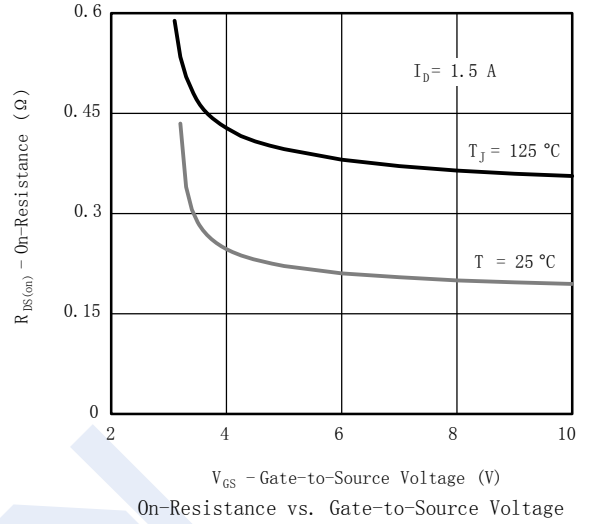
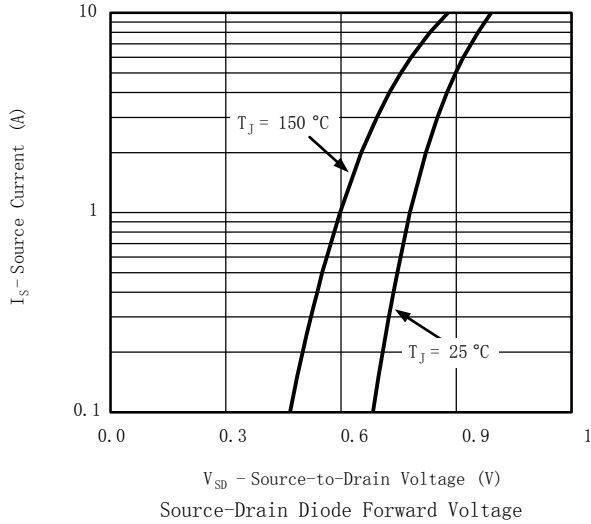
#### Typical Characteristics



## N-Channel Enhancement MOSFET

### SI2324DS (KI2324DS)

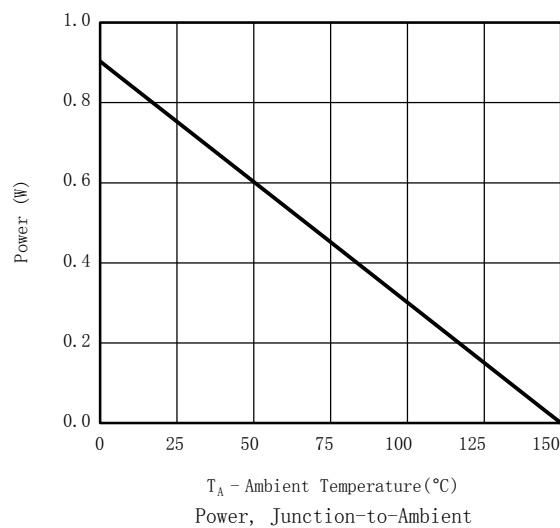
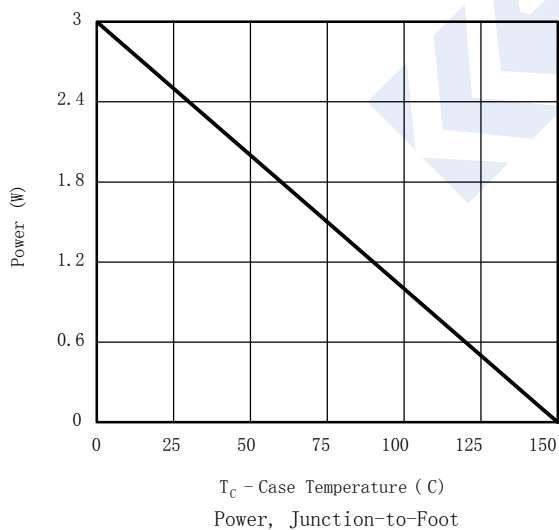
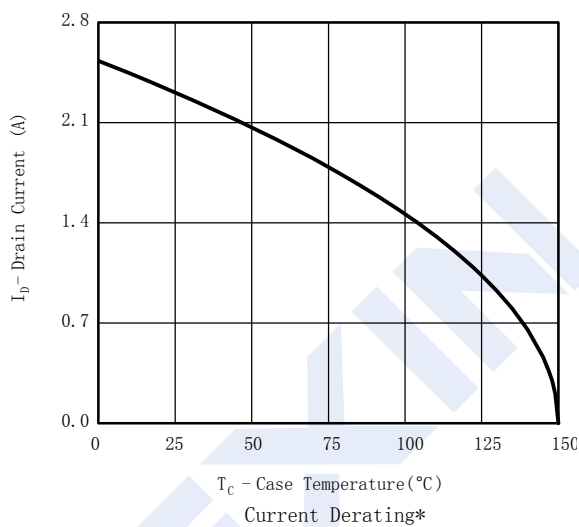
■ Typical Characteristics



## N-Channel Enhancement MOSFET

## SI2324DS (KI2324DS)

## ■ Typical Characteristics



## N-Channel Enhancement MOSFET

## SI2324DS (KI2324DS)

## ■ Typical Characteristics

