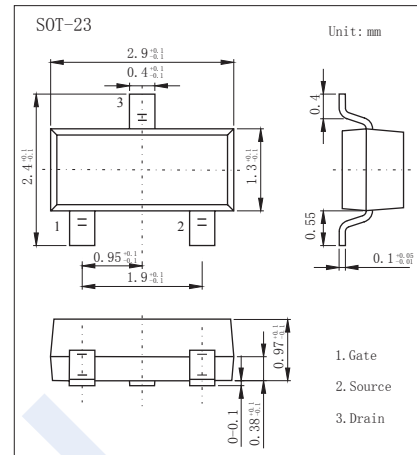
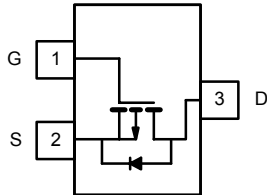


## P-Channel MOSFET

### SI2303BDS-HF (KI2303BDS-HF)

#### ■ Features

- $V_{DS} (V) = -30V$
- $R_{DS(ON)} < 200m\Omega$  ( $V_{GS} = -10V$ )
- $R_{DS(ON)} < 380m\Omega$  ( $V_{GS} = -4.5V$ )
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



#### ■ 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	$V_{GS}$	$\pm 20$			
Continuous Drain Current *1	$I_D$	$T_a = 25^\circ C$	-1.4	-1.3	A
		$T_a = 70^\circ C$	-1.1	-1.0	
Pulsed Drain Current *2	$I_{DM}$	-10			
Power Dissipation *1	$P_D$	$T_a = 25^\circ C$	0.9	0.7	W
		$T_a = 70^\circ C$	0.57	0.45	
Thermal Resistance.Junction- to-Ambient *1	$R_{thJA}$	*3	120	145	$^\circ C/W$
			140	175	
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,  $t \leq 5$  sec.

\*3 Surface Mounted on FR4 Board.

## P-Channel MOSFET

### SI2303BDS-HF (KI2303BDS-HF)

#### ■ 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	-30			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-30V, V <sub>GS</sub> =0V			-1	μA
		V <sub>DS</sub> =-30V, 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	-1.0		-3.0	V
Static Drain-Source On-Resistance *1	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-1.7A			200	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-1.3A			380	
On state drain current *1	I <sub>D(ON)</sub>	V <sub>GS</sub> =-10V, V <sub>DS</sub> ≤ -5V	-6			A
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> =-5V, I <sub>D</sub> =-1.7A		2.0		S
Input Capacitance *2	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =-15V, f=1MHz		180		pF
Output Capacitance *2	C <sub>oss</sub>			50		
Reverse Transfer Capacitance *2	C <sub>rss</sub>			35		
Total Gate Charge *2	Q <sub>g</sub>	V <sub>GS</sub> =-10V, V <sub>DS</sub> =-15V, I <sub>D</sub> =-1.7A		4.3	10	nC
Gate Source Charge *2	Q <sub>gs</sub>			0.8		
Gate Drain Charge *2	Q <sub>gd</sub>			1.3		
Turn-On DelayTime *3	t <sub>d(on)</sub>	V <sub>GS</sub> =-4.5V, V <sub>DS</sub> =-15V, R <sub>L</sub> =15Ω, R <sub>GEN</sub> =6Ω I <sub>D</sub> =1.0A		55	80	ns
Turn-On Rise Time *3	t <sub>r</sub>			40	60	
Turn-Off DelayTime *3	t <sub>d(off)</sub>			10	20	
Turn-Off Fall Time *3	t <sub>f</sub>			10	20	
Maximum Body-Diode Continuous Current	I <sub>S</sub>	5 sec			-0.75	A
		Steady State			-0.6	
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-0.75A, V <sub>GS</sub> =0V		-0.85	-1.2	V

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

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

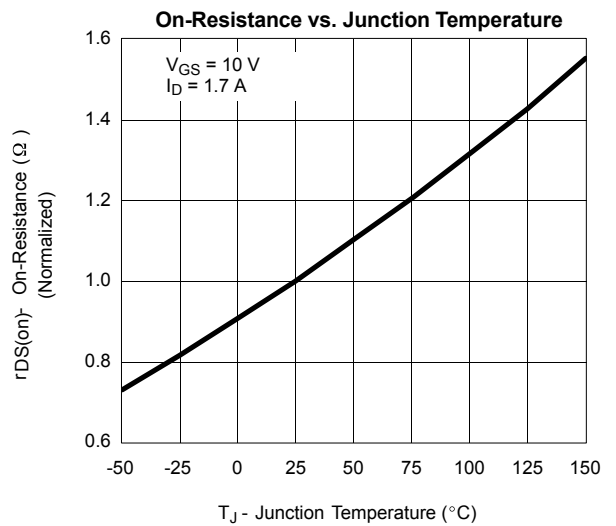
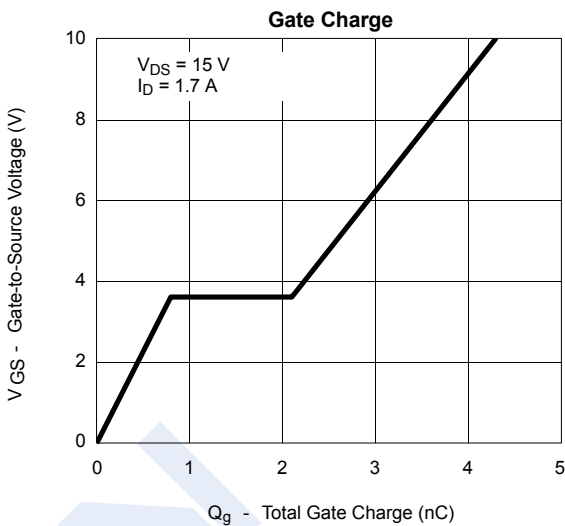
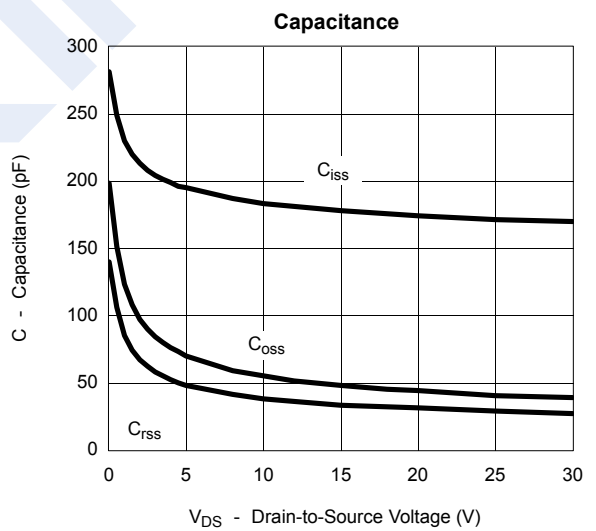
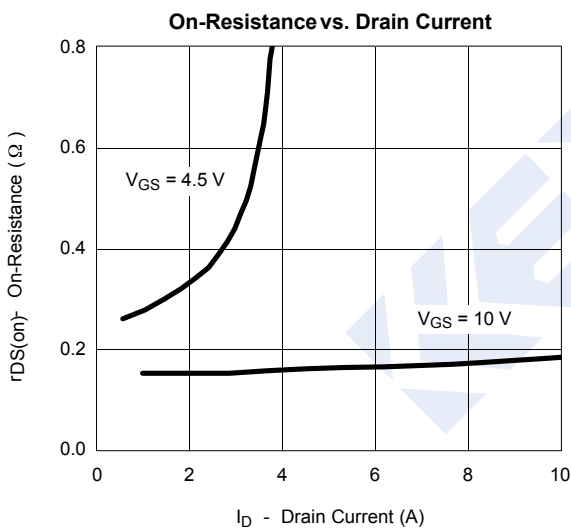
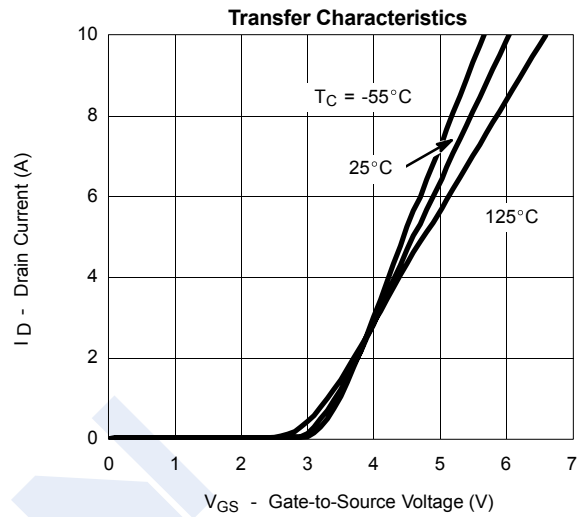
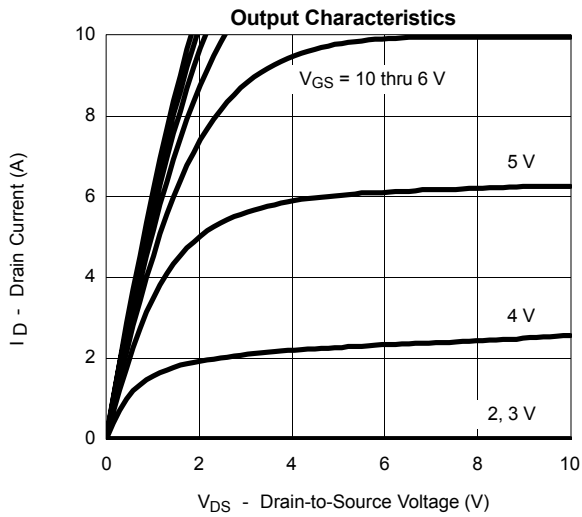
\*3 Switching time is essentially independent of operating temperature.

#### ■ Marking

Marking	L3* <sub>F</sub>
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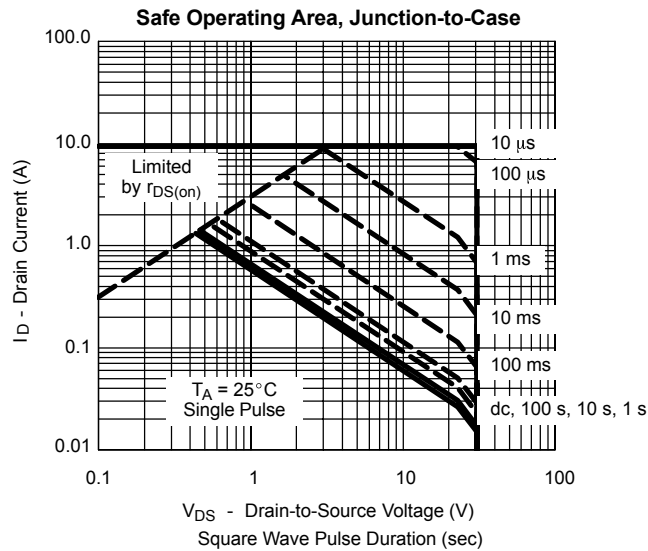
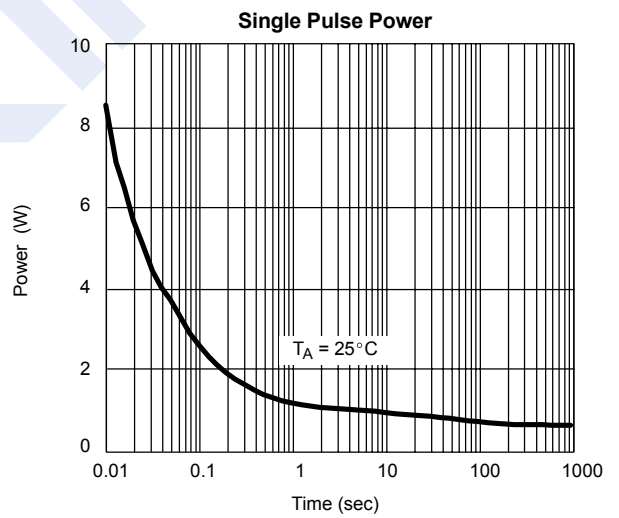
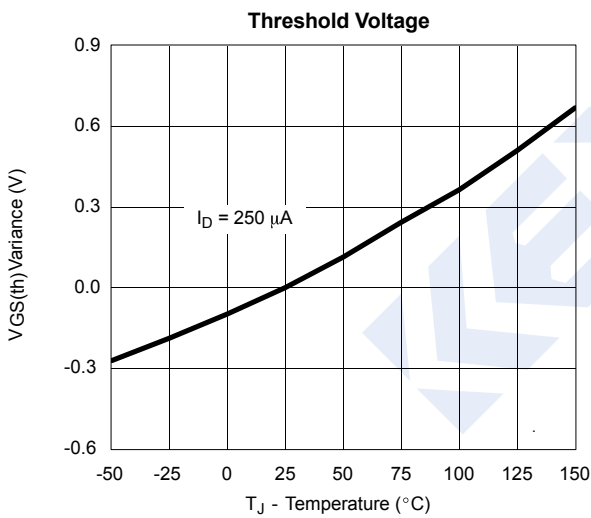
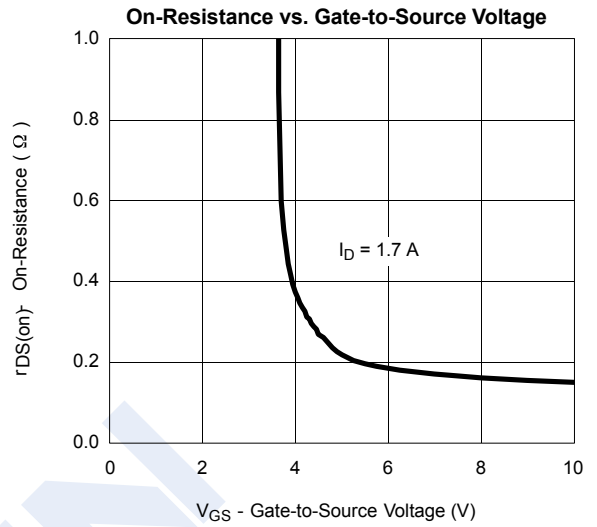
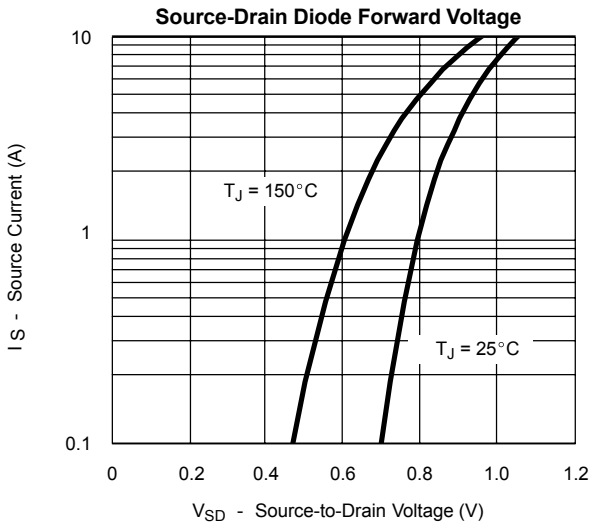
## P-Channel MOSFET SI2303BDS-HF (KI2303BDS-HF)

■ Typical Characteristics



## P-Channel MOSFET SI2303BDS-HF (KI2303BDS-HF)

■ Typical Characteristics



## P-Channel MOSFET

### SI2303BDS-HF (KI2303BDS-HF)

#### ■ Typical Characteristics

