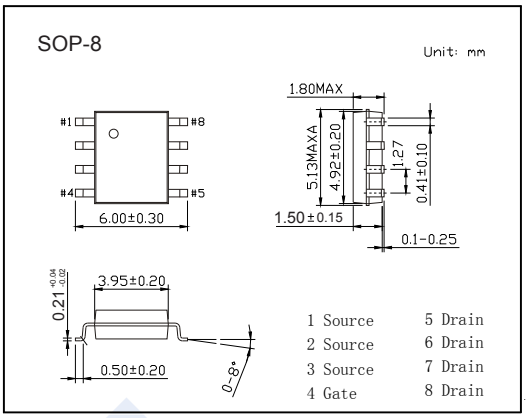
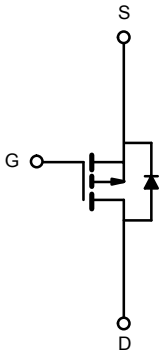
P-Channel MOSFET

SI4463BDY (KI4463BDY)



■ Features

- V_{DS} (V) =-20V
- I_D =-13.7 A (V_{GS} =-10V)
- $R_{DS(ON)}$ < 11mΩ (V_{GS} =-10V)
- $R_{DS(ON)}$ < 14mΩ (V_{GS} =-4.5V)
- $R_{DS(ON)}$ < 20mΩ (V_{GS} =-2.5V)



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	10 Secs	Steady State	Unit
Drain-Source Voltage		V_{DS}	-20		V
Gate-Source Voltage		V_{GS}	±12		
Continuous Drain Current	Ta = 25℃	I_D	-13.7	-9.8	A
	Ta = 70℃		-11.1	-7.9	
Pulsed Drain Current		I_{DM}	-50		
Power Dissipation	Ta = 25℃	P_D	3	1.5	W
	Ta = 70℃		1.9	0.95	
Thermal Resistance.Junction- to-Ambient		R_{thJA}	42	84	℃/W
Thermal Resistance.Junction- to-Foot		R_{thJF}	-	21	
Junction Temperature		T_J	150		℃
Junction Storage Temperature Range		T_{stg}	-55 to 150		

P-Channel MOSFET

SI4463BDY (KI4463BDY)

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-20V, V_{GS}=0V			-1	uA
		V_{DS}=-20V, V_{GS}=0V, T_J=70℃			-10	
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}=±12V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-0.6		-1.4	V
Static Drain-Source On-Resistance (Note.1)	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-13.7A			11	mΩ
		V_{GS}=-4.5V, I_D=-12.3A			14	
		V_{GS}=-2.5V, I_D=-5A			20	
On state drain current	$I_{D(ON)}$	V_{GS}=-5V, V_{DS}=-4.5V (Note.1)	-30			A
Forward Transconductance	g_{FS}	V_{DS}=-10V, I_D=-13.7A (Note.1)		44		S
Gate resistance	R_g	V_{GS}=0V, V_{DS}=0V, f=1MHz		2.7		Ω
Total Gate Charge	Q_g	V_{GS}=-4.5V, V_{DS}=-10V, I_D=-13.7A		37	56	nC
Gate Source Charge	Q_{gs}			8.7		
Gate Drain Charge	Q_{gd}			11		
Turn-On DelayTime	$t_{d(on)}$	V_{DD} = −10 V, R_L = 10 Ω I_D=−1 A, V_{GEN} = −4.5 V, Rg = 6 Ω			55	ns
Turn-On Rise Time	t_r				90	
Turn-Off DelayTime	$t_{d(off)}$				170	
Turn-Off Fall Time	t_f				115	
Body Diode Reverse Recovery Time	t_{rr}	I_F=-2.3A, dI/dt=100A/μs			75	
Maximum Body-Diode Continuous Current	I_S				-2.7	A
Diode Forward Voltage	V_{SD}	I_S=-2.7A,V_{GS}=0V (Note.1)			-1.1	V

Note.1: Pulse test; pulse width ≤ 300us, duty cycle ≤ 2%.

■ Marking

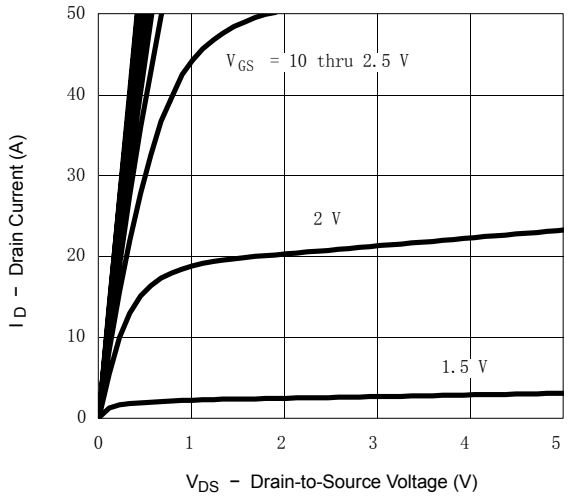
Marking	4463B KC****

P-Channel MOSFET

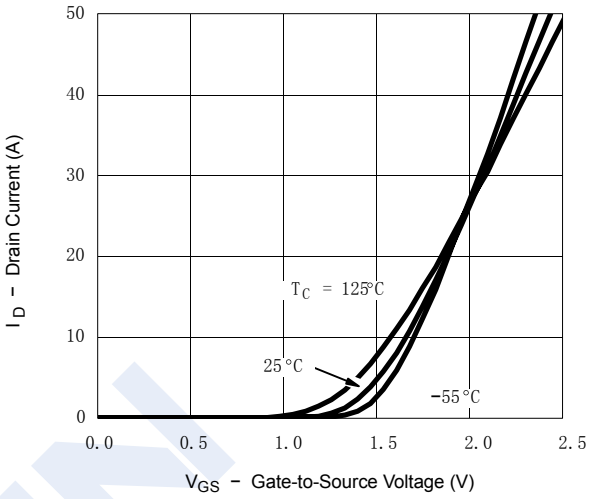
SI4463BDY (KI4463BDY)

■ Typical Characterisitics

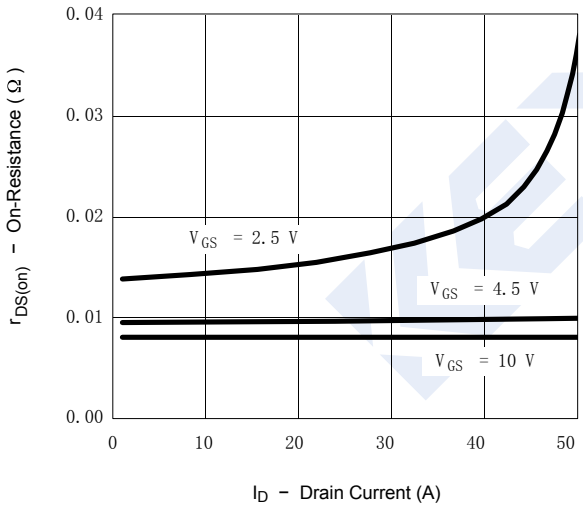
Output Characteristics



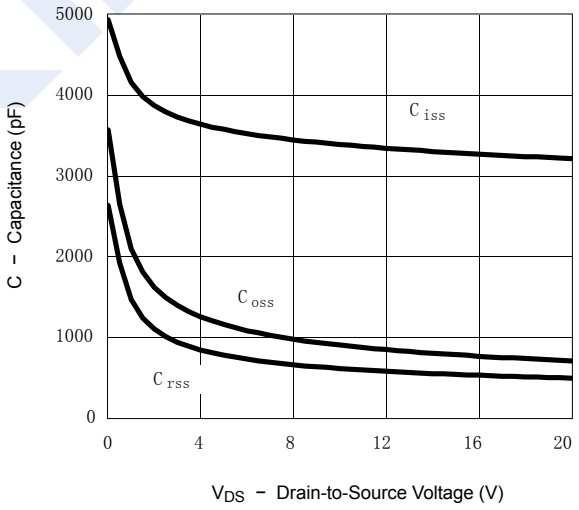
Transfer Characteristics



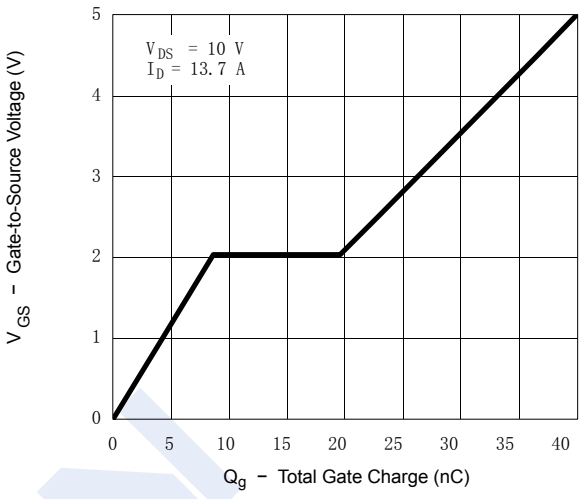
On-Resistance vs. Drain Current



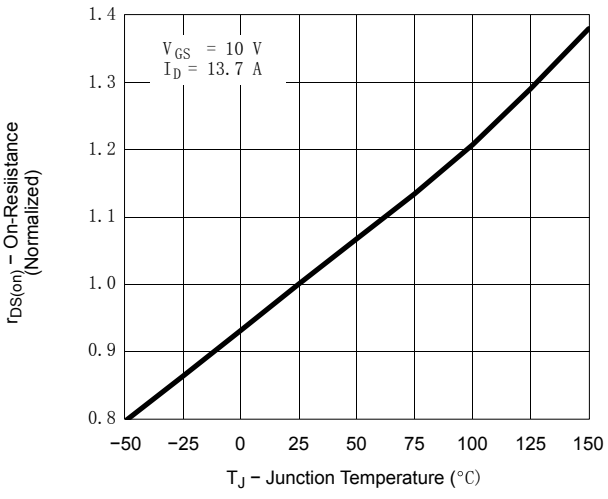
Capacitance



Gate Charge



On-Resistance vs. Junction T emperature

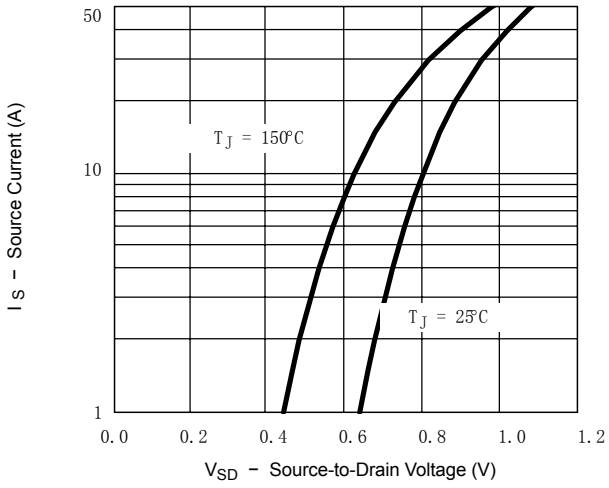


P-Channel MOSFET

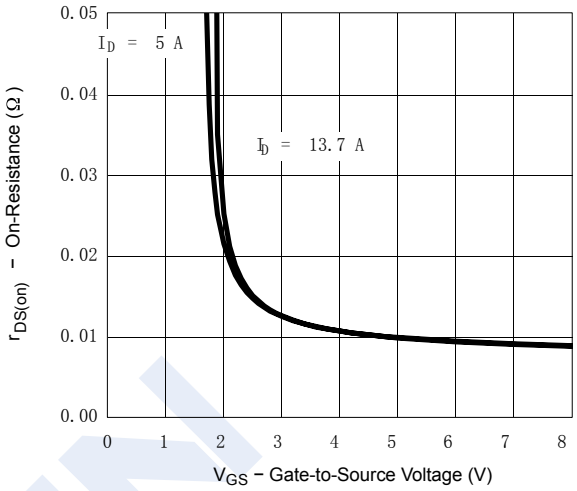
SI4463BDY (KI4463BDY)

■ Typical Characterisitics

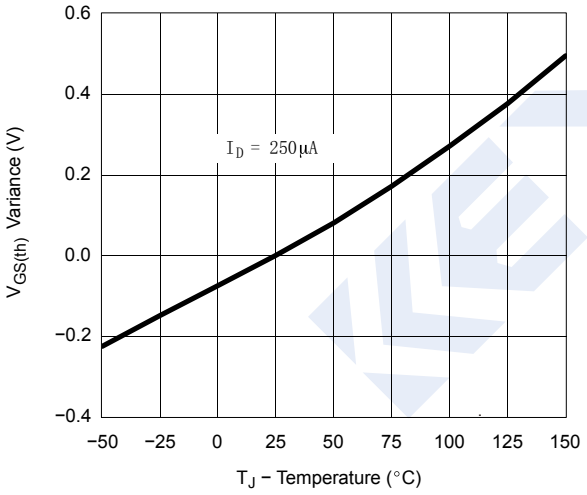
Source-Drain Diode Forward V oltage



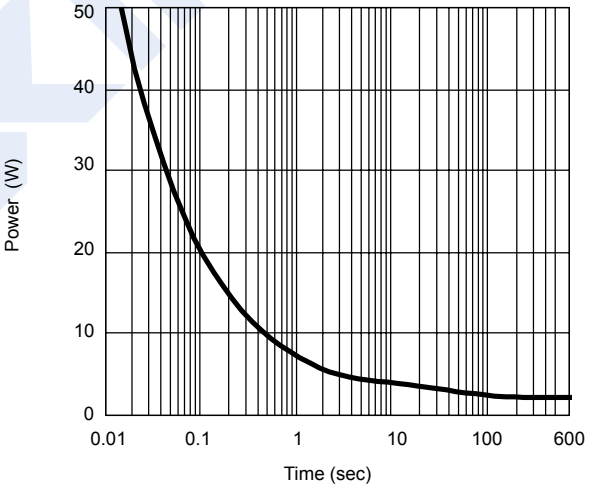
On-Resistance vs. Gate-to-Source Voltage



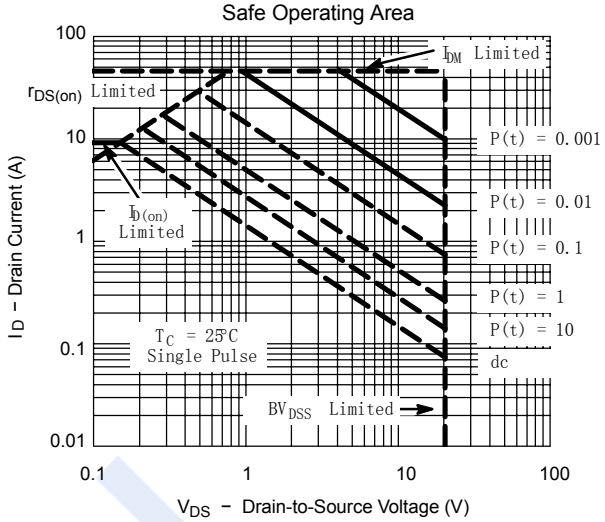
Threshold V oltage



Single Pulse Power, Junction-to-Ambient



Safe Operating Area



P-Channel MOSFET

SI4463BDY (KI4463BDY)

■ Typical Characterisitics