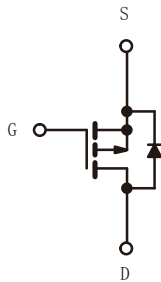


P-Channel Enhancement MOSFET

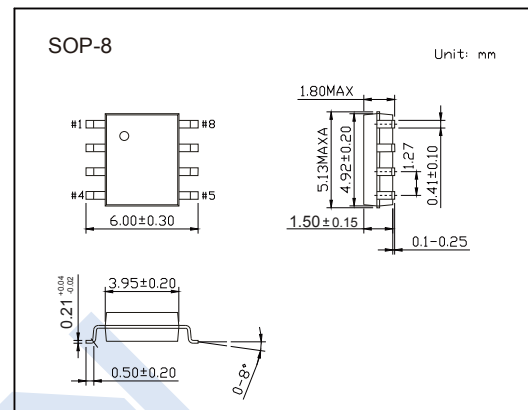
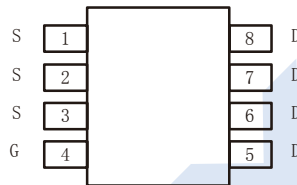
SI9435BDY (KI9435BDY)

■ Features

- $V_{DS} = -30V$
- $I_D = -5.7A$ ($V_{GS} = -10V$)
- $R_{DS(ON)} = 42\text{ m}\Omega$ @ $V_{GS} = -10\text{ V}$
- $R_{DS(ON)} = 70\text{ m}\Omega$ @ $V_{GS} = -4.5\text{ V}$



P-Channel MOSFET

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

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	-30	V	
Gate-Source Voltage	V_{GS}	± 20		
Continuous Drain Current	I_D	$T_A=25^\circ\text{C}$	-5.7	A
		$T_A=70^\circ\text{C}$	-4.6	
Pulsed Drain Current	I_{DM}	-30		
Power Dissipation	P_D	$T_A=25^\circ\text{C}$ *1	2.5	W
		$T_A=70^\circ\text{C}$ *2	1.6	
Thermal Resistance.Junction- to-Ambient	R_{thJA}	50	$^\circ\text{C}/\text{W}$	
Thermal Resistance.Junction- to-Case	R_{thJC}	25		
Junction Temperature	T_J	150	$^\circ\text{C}$	
Storage Temperature Range	T_{stg}	-55 to 150		

*1 $50^\circ\text{C}/\text{W}$ when mounted on a 1 in2 pad of 2 oz copper

*2 $105^\circ\text{C}/\text{W}$ when mounted on a .04 pad of 2 oz copper

P-Channel Enhancement MOSFET

SI9435BDY (KI9435BDY)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BVDSS	V _{GS} = 0 V, I _D = -250 μA	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -30 V, V _{GS} = 0 V			-1	μA
Gate-Body Leakage	I _{GSS}	V _{GS} = ±20 V, V _{DS} = 0 V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-1		-3	V
Static Drain-Source	R _{DS(on)}	V _{GS} = -10 V, I _D = -5.7 A		33	42	mΩ
		V _{GS} = -6 V, I _D = -5 A		43	55	
		V _{GS} = -4.5 V, I _D = -4.4 A,		56	70	
On-State Drain Current	I _{D(on)}	V _{GS} = -10 V, V _{DS} = -5 V	-20			A
Forward Transconductance	g _{FS}	V _{DS} = -15 V, I _D = -5.7 A		13		S
Input Capacitance	C _{iss}	V _{DS} = -15 V, V _{GS} = 0 V,		690		pF
Output Capacitance	C _{oss}	f = 1.0 MHz		306		pF
Reverse Transfer Capacitance	C _{rss}			77		pF
Turn-On Delay Time	t _{d(on)}	V _{DD} = -15 V, I _D = -1 A,		14	25	ns
Turn-On Rise Time	t _r	V _{GS} = -10 V, R _{GEN} = 6 Ω *		14	25	ns
Turn-Off Delay Time	t _{d(off)}			42	70	ns
Turn-Off Fall Time	t _f			30	50	ns
Total Gate Charge	Q _g	V _{DS} = -15 V, I _D = -3.5 A,		16	24	nC
Gate-Source Charge	Q _{gs}	V _{GS} = -10 V *		2.3		nC
Gate-Drain Charge	Q _{gd}			4.5		nC
Maximum Continuous Drain-Source Diode Forward Current	I _S				-5.7	A
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} = 0 V, I _S = -2.3 A *		-0.8	-1.1	V

* Pulse Test: Pulse Width < 300 μs, Duty Cycle < 2.0%

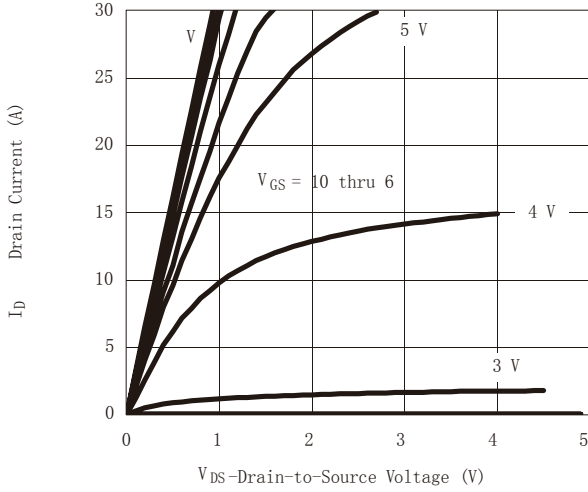
■ Marking

Marking	9435B KC****
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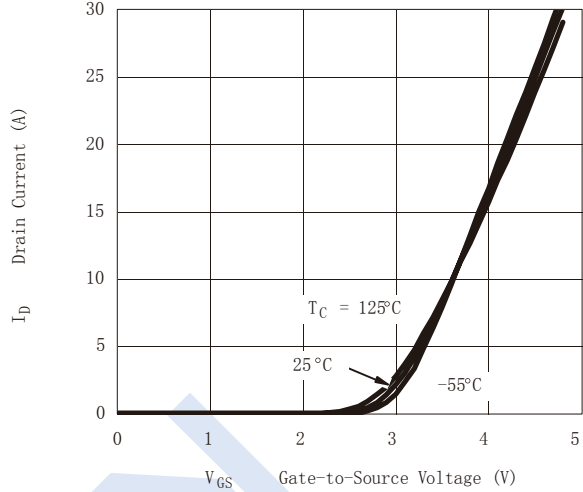
SI9435BDY (K19435BDY)

■ Typical Characteristics

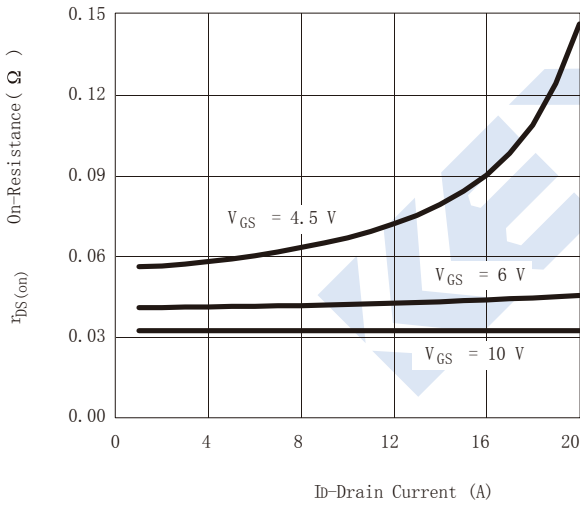
Output Characteristics



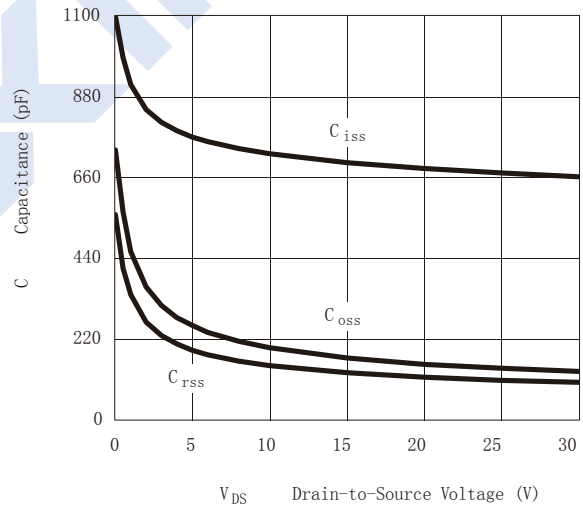
Transfer Characteristics



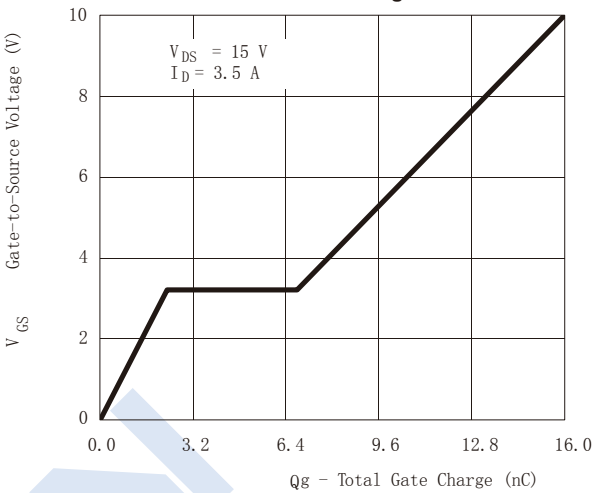
On-Resistance vs. Drain Current



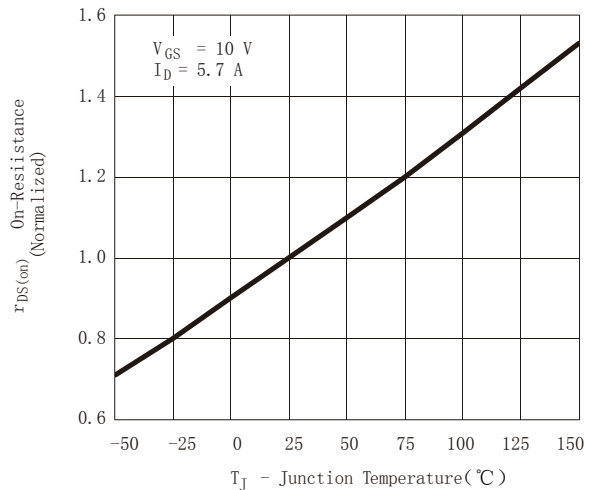
Capacitance



Gate Charge

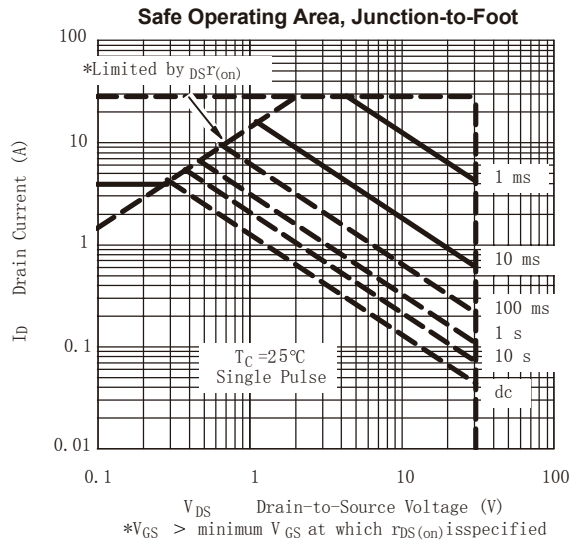
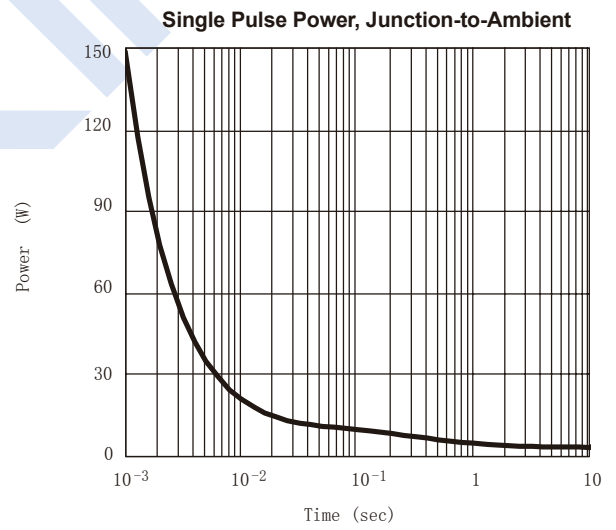
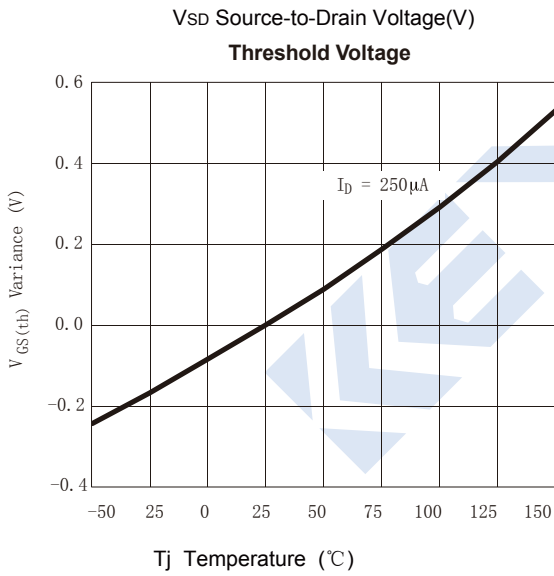
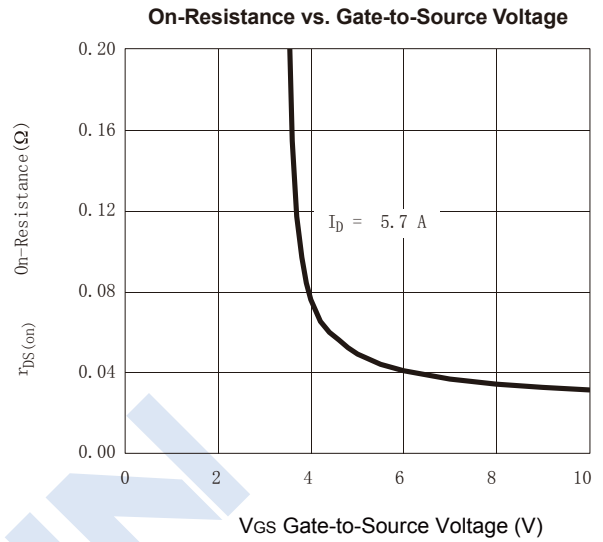
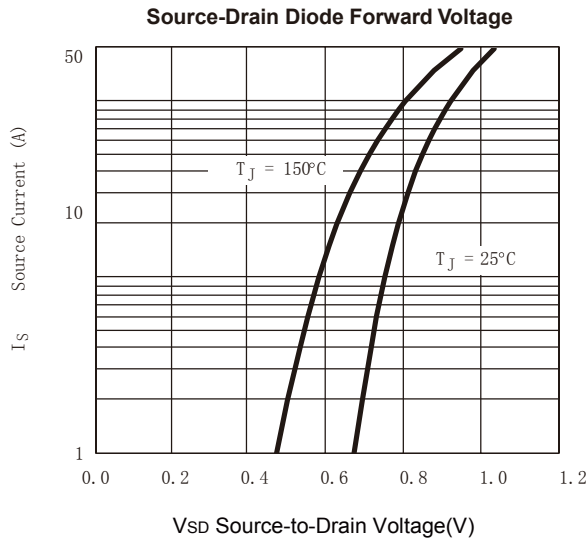


On-Resistance vs. Junction Temperature



SI9435BDY (KI9435BDY)

Typical Characteristics



SI9435BDY (KI9435BDY)

■ Typical Characteristics

