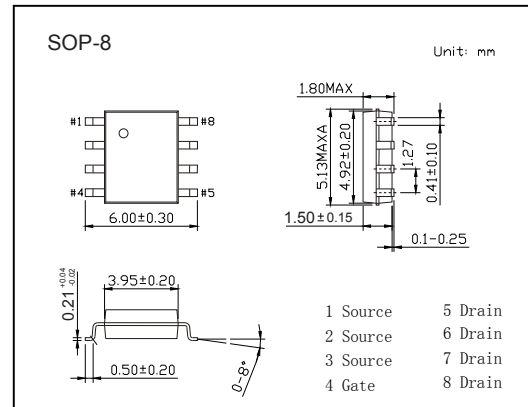
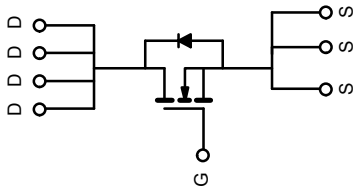




N-Channel MOSFET SI9410DY

■ Features

- $V_{DS} (V) = 30V$
- $I_D = 7 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 30m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 40m\Omega$ ($V_{GS} = 5V$)
- $R_{DS(ON)} < 50m\Omega$ ($V_{GS} = 4.5V$)



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current (Note.1)	$T_A = 25^\circ C$	I_D	7	A
	$T_A = 70^\circ C$		5.8	
Pulsed Drain Current		I_{DM}	30	
Power Dissipation (Note.1)	$T_A = 25^\circ C$	P_D	2.5	W
	$T_A = 70^\circ C$		1.6	
Thermal Resistance.Junction- to-Ambient		R_{thJA}	50	$^\circ C/W$
Junction Temperature		T_J	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 to 150	

Note.1: Surface Mounted on FR4 Board, $t \leq 10$ sec.

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μA, V _{GS} =0V	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =24V, V _{GS} =0V			2	μA
		V _{DS} =24V, V _{GS} =0V, T _J =55°C			25	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	1		3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =7A (Note.1)			30	mΩ
		V _{GS} =5V, I _D =4A (Note.1)			40	
		V _{GS} =4.5V, I _D =3.5A (Note.1)			50	
On-State Drain Current	I _{DS(on)}	V _{DS} ≥5 V, V _{GS} = 10 V	30			A
Forward Transconductance	g _{FS}	V _{DS} =15V, I _D =7A (Note.1)		15		S
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =15V, I _D =7A		24	50	nC
Gate Source Charge	Q _{gs}			2.8		
Gate Drain Charge	Q _{gd}			4.6		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =25V, R _L =25 Ω, R _{GEN} =6 Ω I _D =1A		14	30	ns
Turn-On Rise Time	t _r			10	60	
Turn-Off DelayTime	t _{d(off)}			46	150	
Turn-Off Fall Time	t _f			17	140	
Body Diode Reverse Recovery Time	t _{rr}	I _F = 2A, di/dt= 100A/μs		60		
Maximum Body-Diode Continuous Current	I _S				2.8	A
Diode Forward Voltage	V _{SD}	I _S =2A, V _{GS} =0V (Note.1)			1.1	V

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

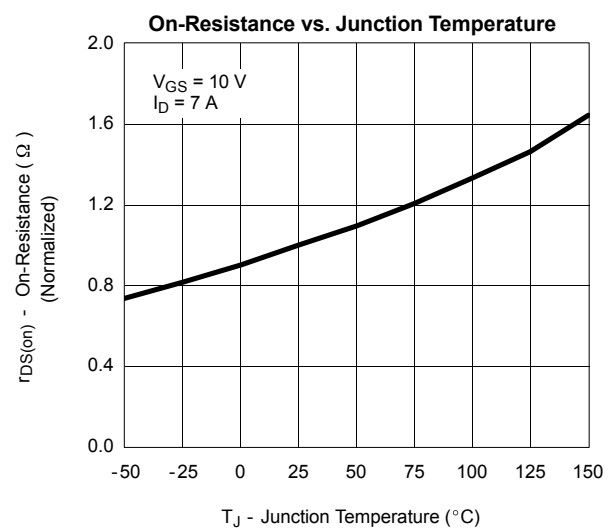
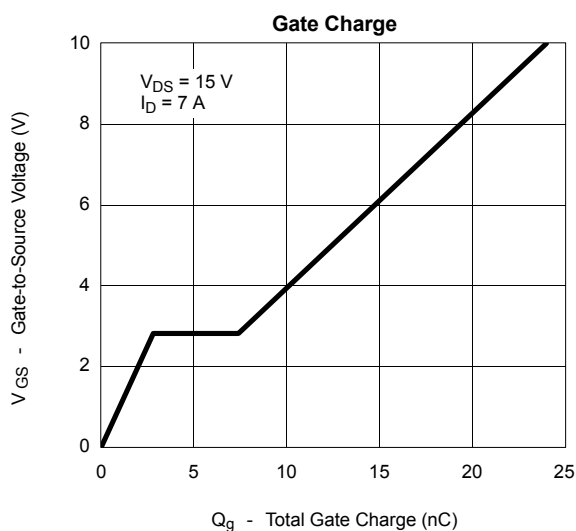
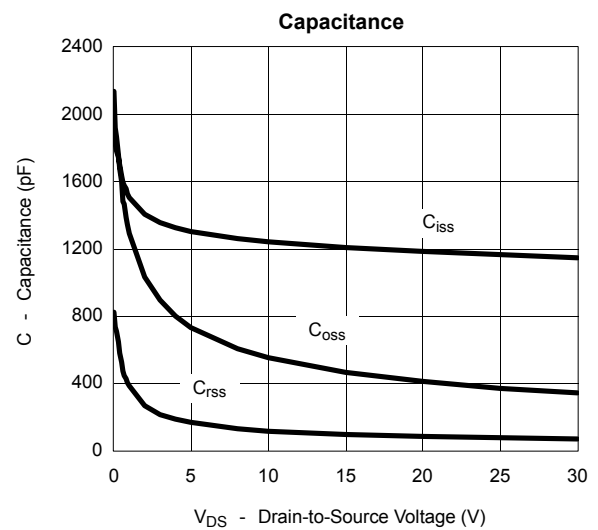
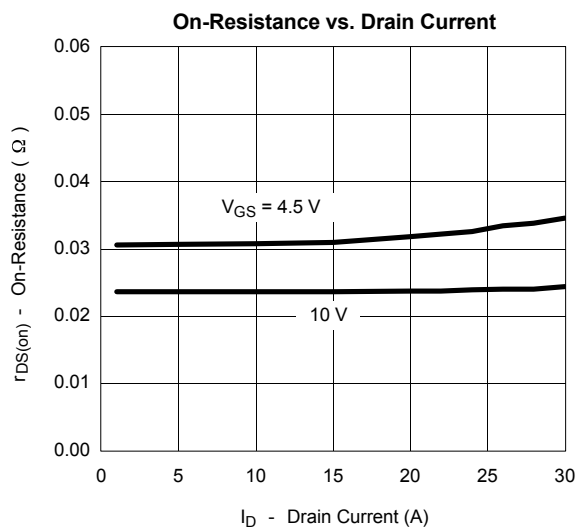
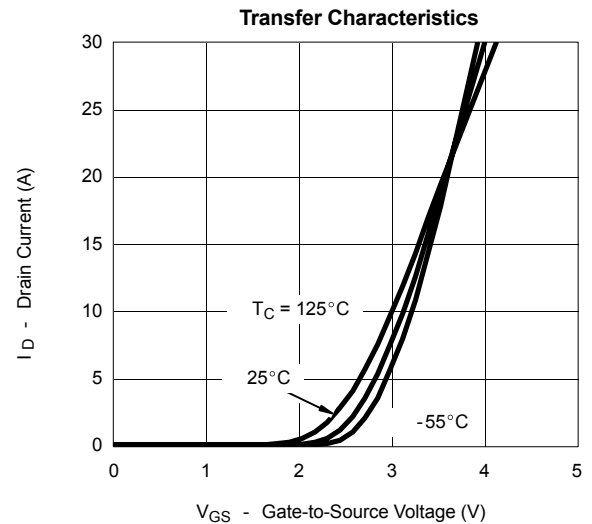
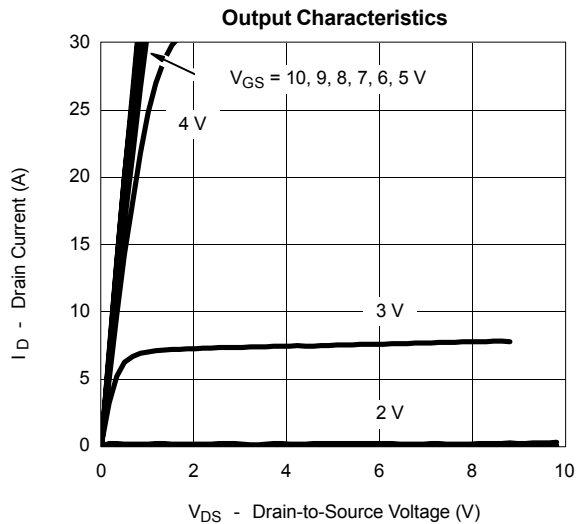
■ Marking

Marking	9410 KC****
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N-Channel MOSFET

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Typical Characteristics



N-Channel MOSFET

SI9410DY

Typical Characteristics

