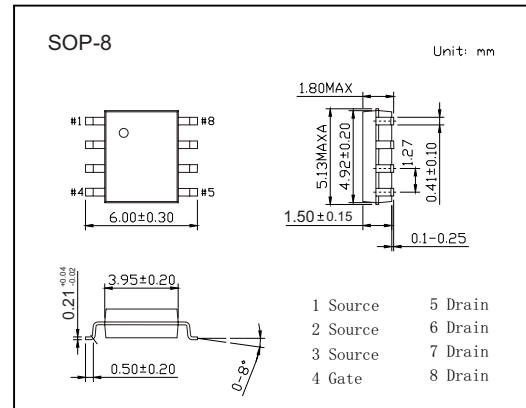
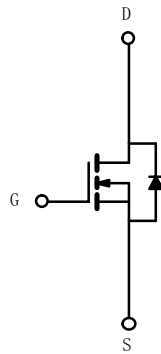


N-Channel MOSFET KI10N03

■ Features

- $V_{DS} (V) = 30V$
- $I_D = 10 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 13.5m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 20m\Omega (V_{GS} = 4.5V)$



■ 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 (Note.1)	I_D	$T_A = 25^\circ\text{C}$	10
		$T_A = 70^\circ\text{C}$	8
Pulsed Drain Current	I_{DM}	50	A
Power Dissipation	P_D	$T_A = 25^\circ\text{C}$	2.5
		$T_A = 70^\circ\text{C}$	1.6
Thermal Resistance.Junction- to-Ambient (Note.1)	R_{thJA}	50	$^\circ\text{C}/\text{W}$
Thermal Resistance.Junction- to-Case	R_{thJC}	22	
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

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

N-Channel MOSFET

KI10N03

■ 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} =30V, V _{GS} =0V			1	μA
		V _{DS} =30V, 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 =10A (Note.1)			13.5	mΩ
		V _{GS} =4.5V, I _D =5A (Note.1)			20	
On State Drain Current	I _{D(ON)}	V _{GS} =5V, V _{DS} =10V (Note.1)	20			A
Forward Transconductance	g _{FS}	V _{DS} =15V, I _D =5A (Note.1)		38		S
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	0.5		2.6	Ω
Gate Charge	Q _g	V _{DS} = 15 V, V _{GS} = 5 V, I _D = 10 A		20	34	nC
Total Gate Charge	Q _{gt}			37	60	
Gate Source Charge	Q _{gs}	V _{GS} =10V, V _{DS} =15V, I _D =10A		7		
Gate Drain Charge	Q _{gd}			7		
Turn-On DelayTime	t _{d(on)}				30	ns
Turn-On Rise Time	t _r	V _{GS} =10V, V _{DS} =25V, I _D =1A			20	
Turn-Off DelayTime	t _{d(off)}	R _L =25 Ω, R _{GEN} =6 Ω			100	
Turn-Off Fall Time	t _f				80	
Body Diode Reverse Recovery Time	t _{rr}	I _F = 2.3A, di/dt= 100A/μs			80	
Maximum Body-Diode Continuous Current	I _S				2.3	A
Diode Forward Voltage	V _{SD}	I _S =2.3A, V _{GS} =0V (Note.1)			1.1	V

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

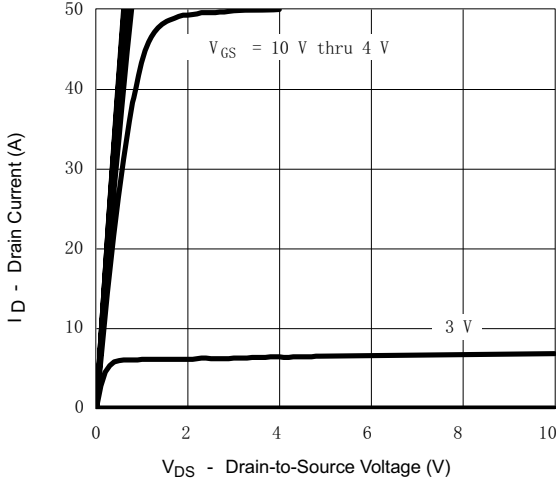
■ Marking

Marking	10N03 KC***
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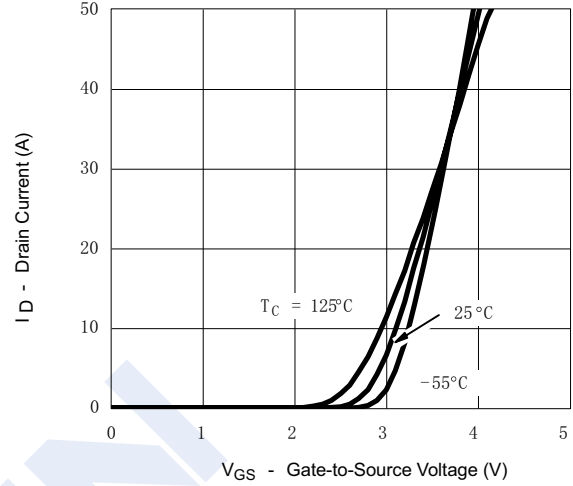
N-Channel MOSFET KI10N03

■ Typical Characteristics

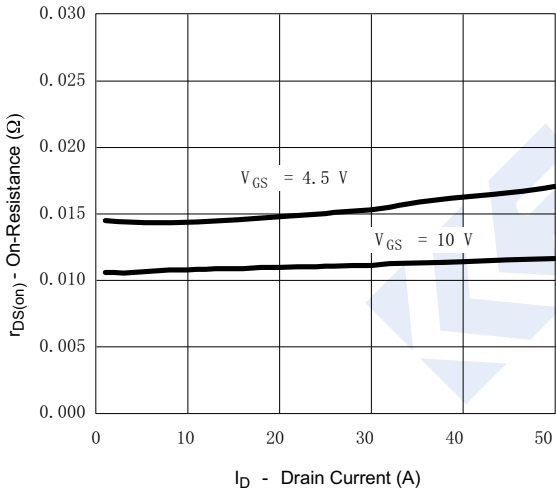
Output Characteristics



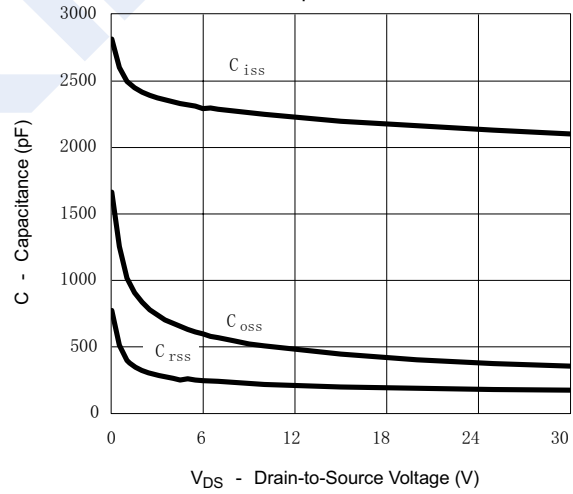
Transfer Characteristics



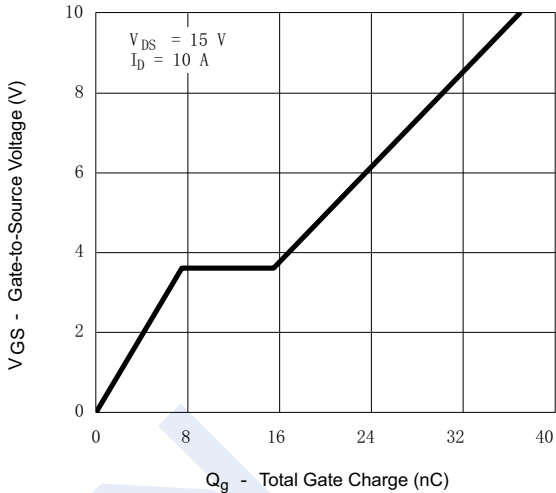
On-Resistance vs. Drain Current



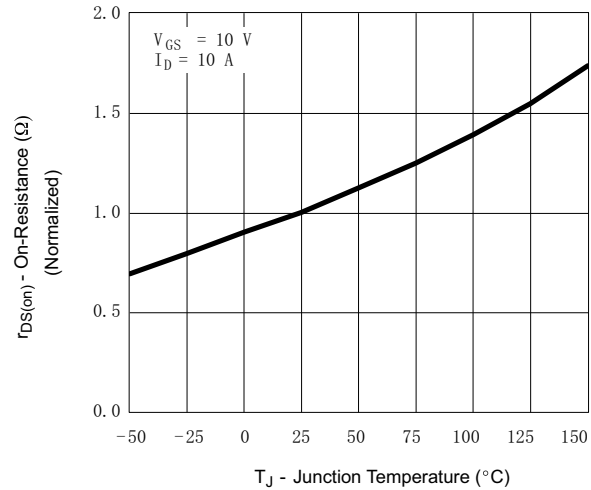
Capacitance



Gate Charge



On-Resistance vs. Junction Temperature



N-Channel MOSFET KI10N03

Typical Characteristics

