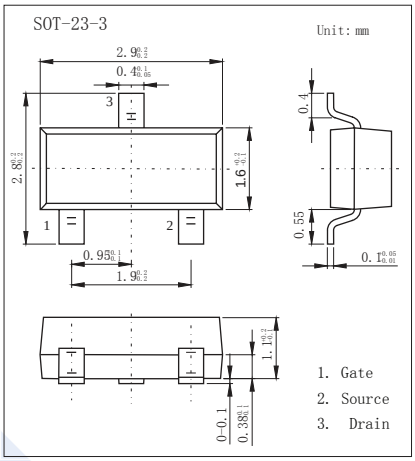
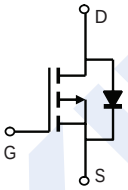
P-Channel MOSFET

KI2345



■ Features

- $V_{DS\ (V)}$ = -30V
- $R_{DS(ON)} \leqslant$ 68mΩ @V_{GS}=-10V
- $R_{DS(ON)} \leqslant$ 80mΩ @V_{GS}=-4.5V
- $R_{DS(ON)} \leqslant$ 100mΩ @V_{GS}=-2.5V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability



■ Absolute Maximum Ratings Ta = 25℃ Unless Otherwise Noted

Parameter		Symbol	Rating	Unit
Drain-source voltage		V_{DSS}	-30	V
Gate-source voltage		V_{GSS}	±12	V
Continuous drain current	@Ta = 25℃	I_D	-4.2	A
	@Ta = 70℃		-3.5	
Pulsed drain current		I_{DM}	-30	A
Power dissipation	@Ta = 25℃	P_D	1.4	W
	@Ta = 70℃		1.0	
Single plus avalanche energy (L=0.1mH)		E_{AS}	40	mJ
Thermal Resistance-Junction to Case		$R_{\theta JC}$	50	℃/W
Thermal Resistance.Junction-to-Ambient (Note 1)		$R_{\theta JA}$	90	℃/W
Operating junction and storage temperature range		T_j,T_{stg}	-55 to +150	℃

Note: 1. The device mounted on 1in2 FR4 board with 2 oz copper

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■ Electrical Characteristics Ta = 25℃ Unless Otherwise Specified

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-source breakdown voltage	V_{DSS}	V_{GS} = 0 V, I_D = -250 μA	-30			V
Gate threshold voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250 μA	-0.6		-1.3	V
Zero gate voltage drain current	I_{DSS}	V_{DS} = -24 V, V_{GS} = 0 V			-1	μA
Gate-body leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±12 V			±100	nA
Drain-source on-state resistance	$R_{DS(on)}$	V_{GS} = -10 V, I_D = -4.2 A			68	mΩ
		V_{GS} = -4.5 V, I_D = -4.0 A			80	
		V_{GS} = -2.5 V, I_D = -2.0 A			100	
On-state drain current （Note 2）	$I_{D(on)}$	V_{DS} = -5 V, V_{GS} = -10 V	-30			A
Forward transconductance	g_{fs}	V_{DS} = -5 V, I_D = -3. A	7			S
Input capacitance	C_{iss}	V_{DS} = -15V ,V_{GS} = 0 , f = 1 MHz		710		pF
Output capacitance	C_{oss}			70		
Reverse transfer capacitance	C_{rss}			20		
Total gate charge	Q_g	V_{DS} = -15V ,V_{GS} = -4.5 V , I_D= -4.0 A		9		nC
Gate-source charge	Q_{gs}			2.3		
Gate-drain charge	Q_{gd}			2		
Turn-on Delay time	$t_{d(on)}$	V_{DS} = -4V , R_L = 6.0Ω , V_{GS} = -10V , R_G = 6Ω		37		ns
Turn-on Reise time	t_r			23		
Turn-off Delay time	$t_{d(off)}$			46		
Turn-off Fall time	t_f			3		
Diode forward voltage	V_{SD}	I_S = -1.0 A, V_{GS} = 0 V			-1.0	V

Note：2. Pulse test: PW ≤ 300 μs duty cycle ≤ 2%.

■ Marking

Marking	A18E

■ Ordering Information

Deviece	Packaging	Shipping
KI2345	SOT23-3	3000/Tape&Reel

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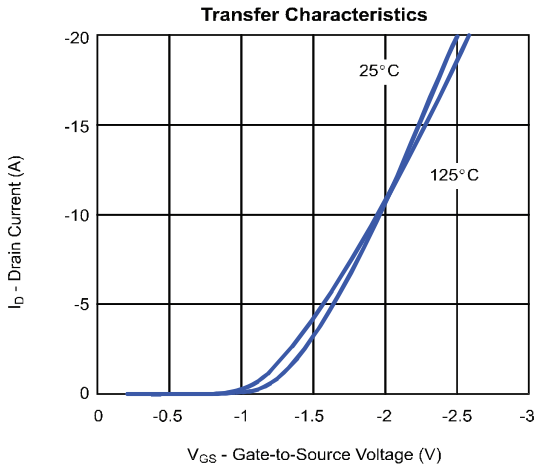
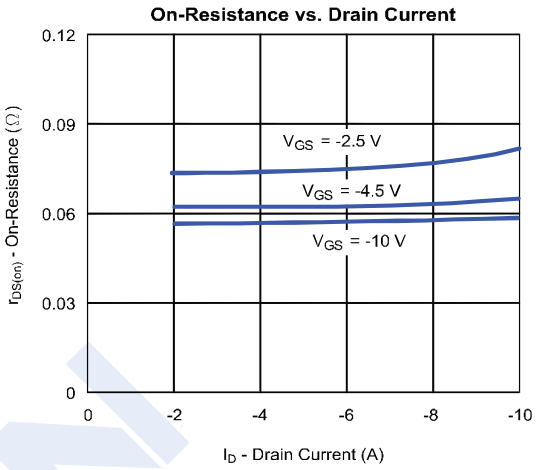
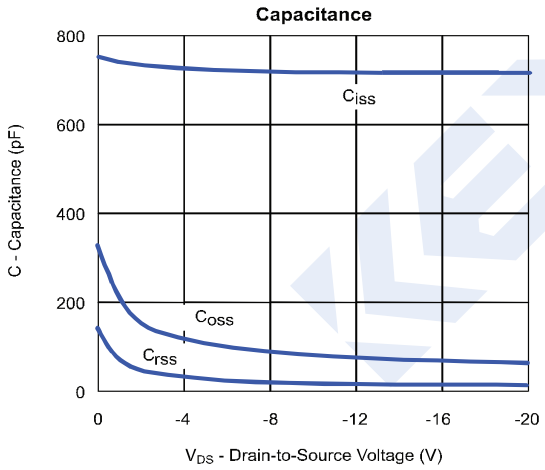
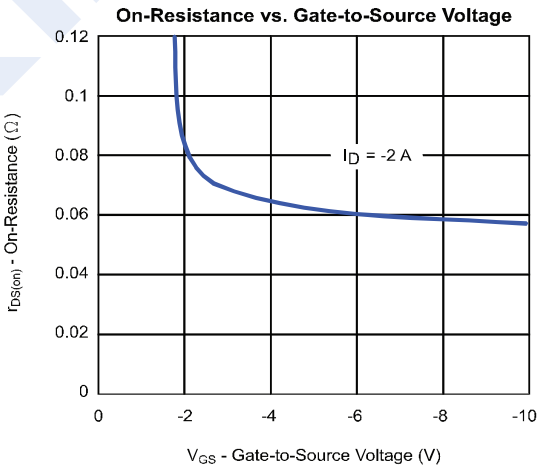
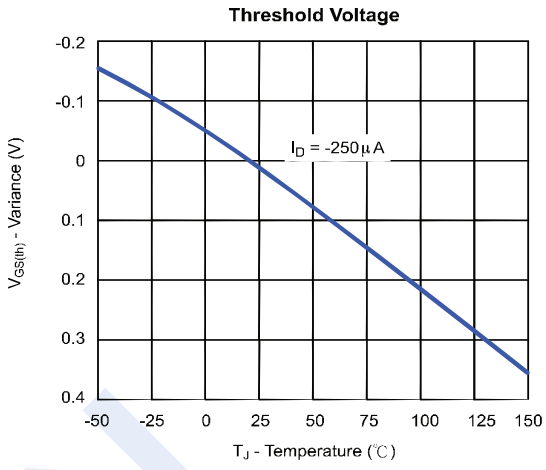
■ Typical Characteristics

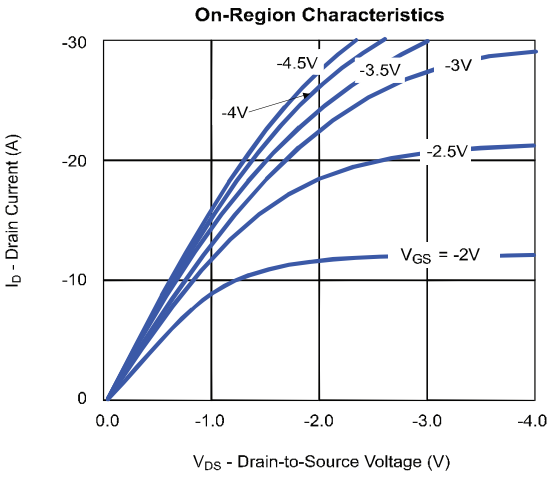












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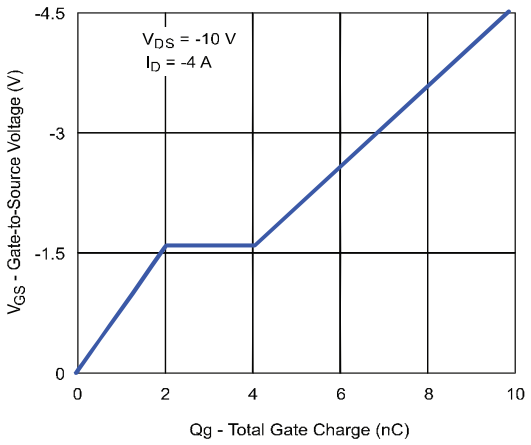
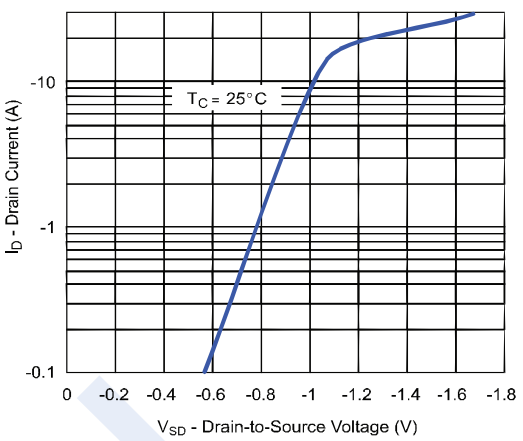
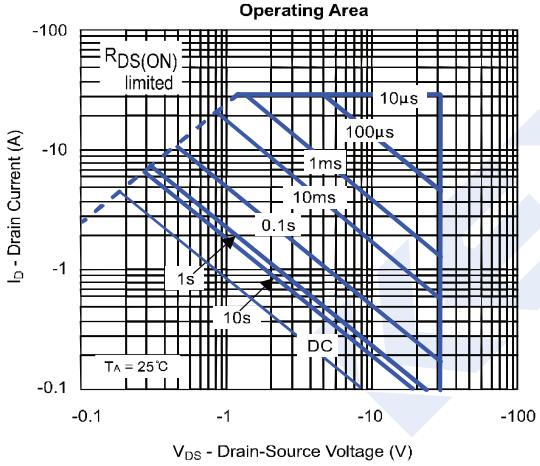
Gate Charge



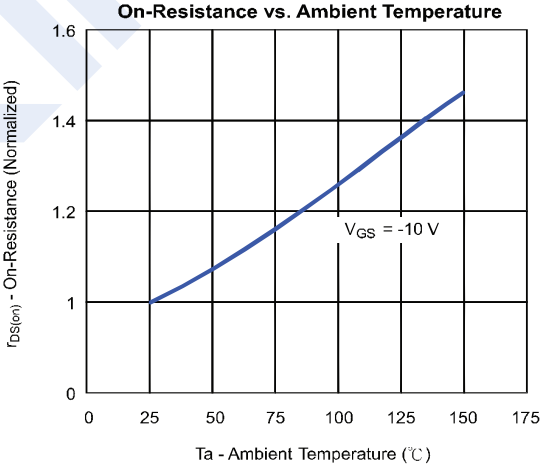
On-Resistance vs. Drain Current



Maximum Forward Biased Safe Operating Area



On-Resistance vs. Ambient Temperature



Normalized Thermal Transient Impedance, Junction-to-Ambient