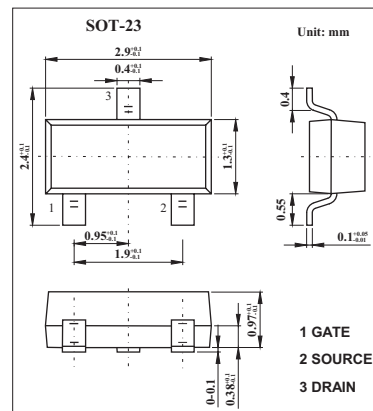
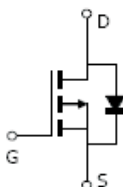


KI2321DS

Features

- $V_{DS} (V) = -30V$
- $I_D = -4.2 A (V_{GS} = -10V)$
- $R_{DS(ON)} < 50m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 65m\Omega (V_{GS} = -4.5V)$
- $R_{DS(ON)} < 120m\Omega (V_{GS} = -2.5V)$



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	$T_A=25^\circ C$	A
		$T_A=70^\circ C$	
Pulsed Drain Current	I_{DM}	-30	
Power Dissipation	P_D	$T_A=25^\circ C$	W
		$T_A=70^\circ C$	
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ C$

Thermal Characteristics

Parameter	Symbol	Typ	Max	Unit
Maximum Junction-to-Ambient*1	$R_{\theta JA}$	65	90	$^\circ C/W$
Maximum Junction-to-Ambient *1		85	125	$^\circ C/W$
Maximum Junction-to-Lead *2	$R_{\theta JL}$	43	60	$^\circ C/W$

*1 The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz.

Copper, in a still air environment with $T_A = 25^\circ C$

*2 . The $R_{\theta JA}$ is the sum of the thermal impedance from junction to lead $R_{\theta JL}$ and lead to ambient.

KI2321DS

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μ A, V _{GS} =0V	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{Ds} =-24V, V _{GS} =0V			-1	μ A
		V _{Ds} =-24V, V _{GS} =0V, T _J =55°C			-5	
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 =-250 μ A	-0.7	-1	-1.3	V
Static Drain-Source On-Resistance	r _{DS(ON)}	V _{GS} =-10V, I _D =-4.2A		42	50	m Ω
		V _{GS} =-4.5V, I _D =-4A		53	65	m Ω
		V _{GS} =-2.5V, I _D =-1A		80	120	m Ω
On state drain current	I _{D(ON)}	V _{GS} =-4.5V, V _{Ds} =-5V	-25			A
Forward Transconductance	g _{fs}	V _{Ds} =-5V, I _D =-5A	7	11		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{Ds} =-15V, f=1MHz		954		pF
Output Capacitance	C _{oss}			115		pF
Reverse Transfer Capacitance	C _{rss}			77		pF
Gate resistance	R _g	V _{GS} =0V, V _{Ds} =0V, f=1MHz		6		Ω
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{Ds} =-15V, I _D =-4A		9.4		nC
Gate Source Charge	Q _{gs}			2		nC
Gate Drain Charge	Q _{gd}			3		nC
Turn-On DelayTime	t _{D(on)}	V _{GS} =-10V, V _{Ds} =-15V, R _L =3.6 Ω, R _{GEN} =6 Ω		6.3		ns
Turn-On Rise Time	t _r			3.2		ns
Turn-Off DelayTime	t _{D(off)}			38.2		ns
Turn-Off Fall Time	t _f			12		ns
Body Diode Reverse Recovery Time	t _{rr}	I _F =-4A, di/dt=100A/ μ s		20.2		ns
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =-4A, di/dt=100A/ μ s		11.2		nC
Maximum Body-Diode Continuous Current	I _S				-2.2	A
Pulsed Body-Diode Current *	I _{SM}				-30	A
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V		-0.75	-1	V

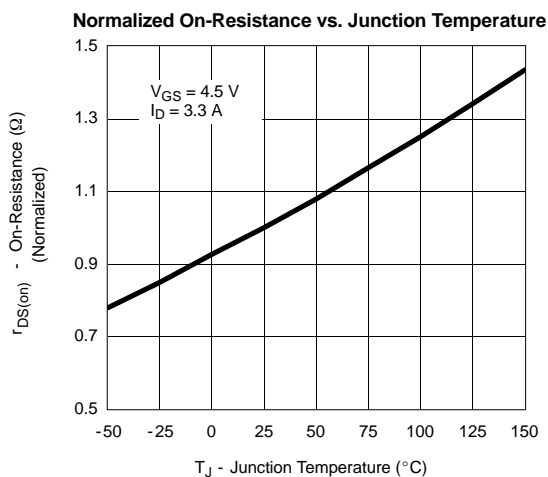
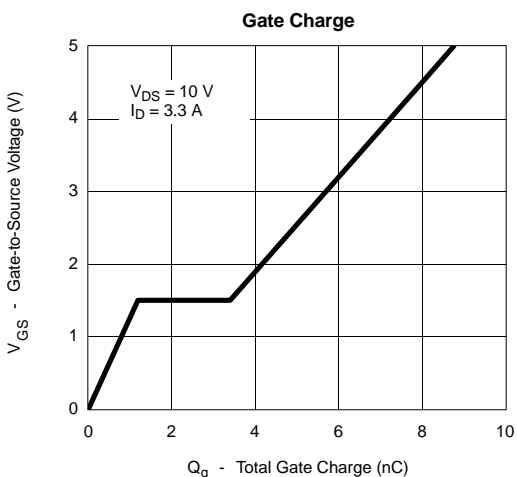
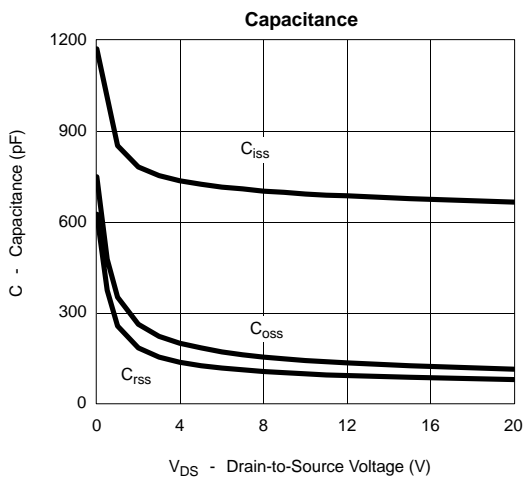
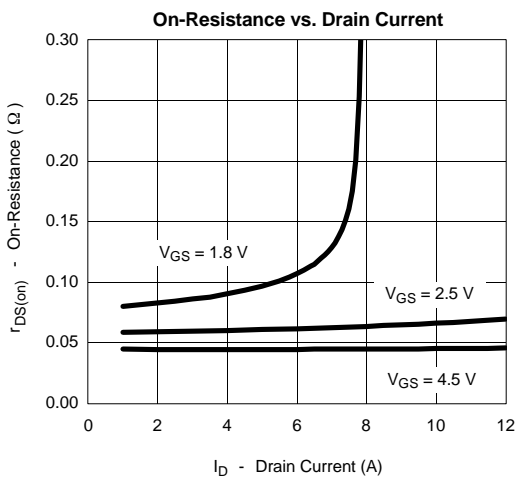
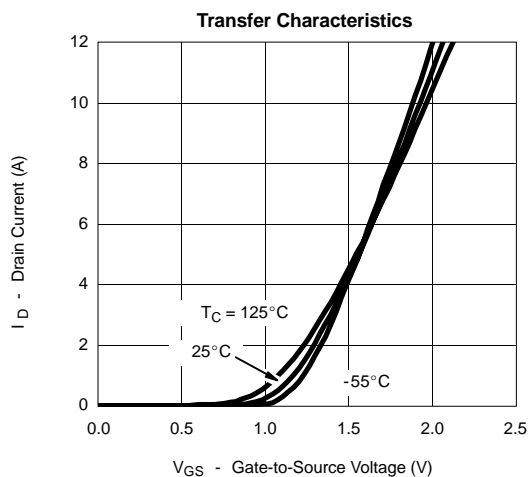
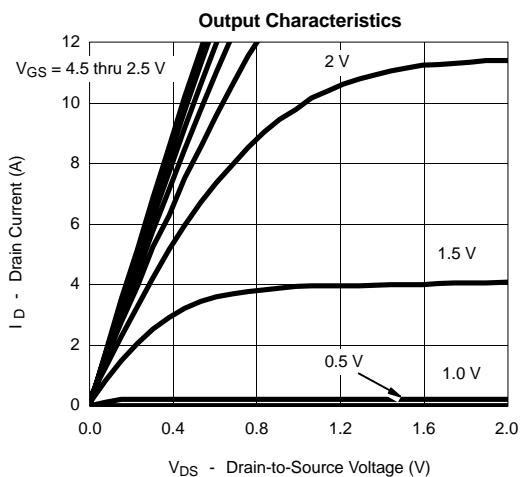
* Repetitive rating, pulse width limited by junction temperature.

■ Marking

Marking	D1SUB
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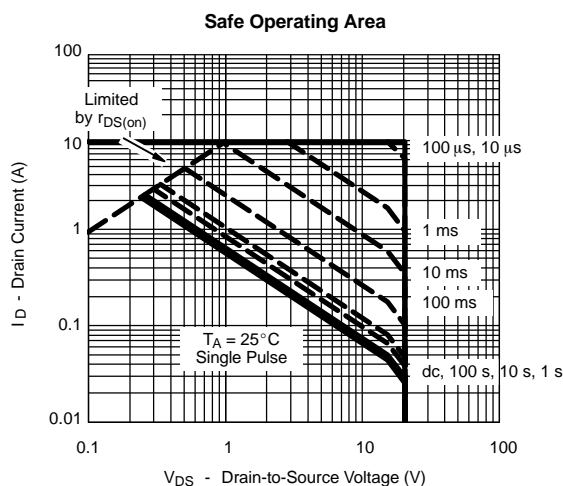
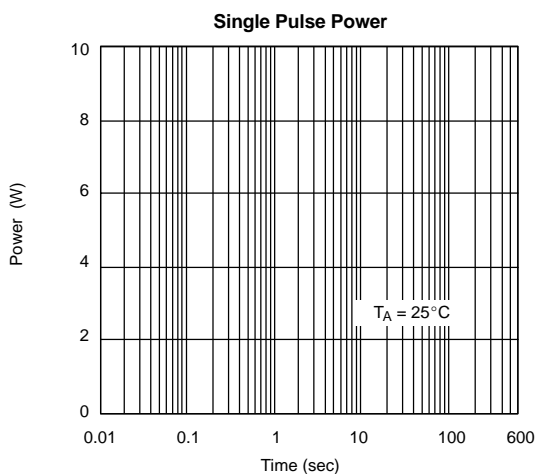
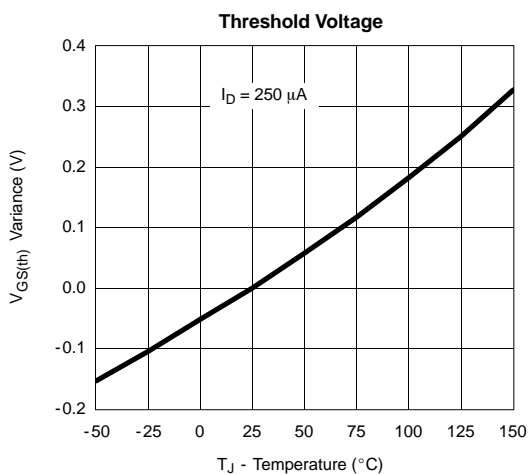
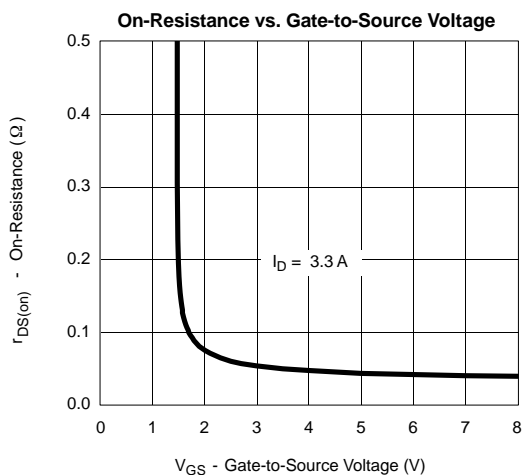
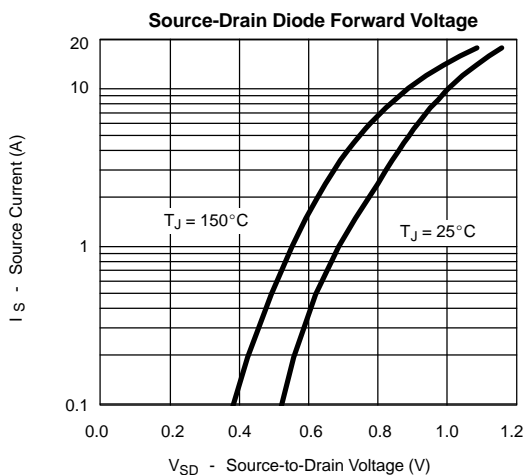
■ Typical Characteristics





KI2321DS

Typical Characteristics



■ Typical Characteristics

