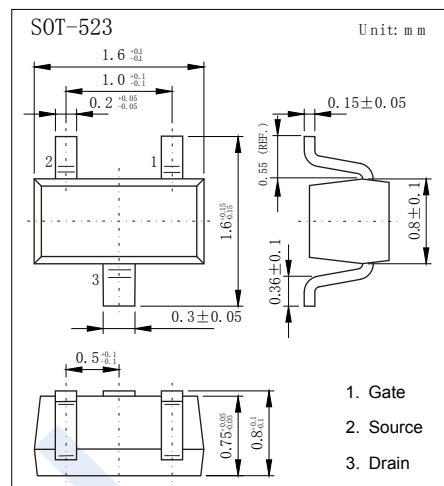
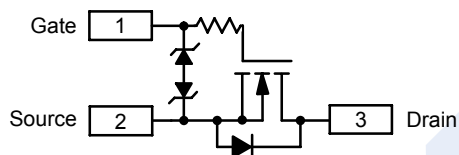


N-Channel MOSFET

KI502DT

■ Features

- $V_{DS} (V) = 20V$
- $I_D = 0.5 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 700m\Omega$ ($V_{GS} = 4.5V$)
- $R_{DS(ON)} < 850m\Omega$ ($V_{GS} = 2.5V$)
- $R_{DS(ON)} < 1.25\Omega$ ($V_{GS} = 1.8V$)
- Gate-Source ESD Protected: 2000 V



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

Parameter		Symbol	5 Secs	Steady State	Unit
Drain-Source Voltage		V _{bs}	20		V
Gate-Source Voltage		V _{GS}	±6		
Gate-Source ESD Rating		ESD	2000		
Continuous Drain Current	TA=25℃	I _D	600	500	mA
	TA=85℃		400	350	
Pulsed Drain Current		I _{DM}	1		A
Power Dissipation	TA=25℃	P _D	175	150	mW
	TA=85℃		90	80	
Junction Temperature		T _J	150		℃
Storage Temperature Range		T _{stg}	-55 to 150		

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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	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _D =20V, V _{GS} =0V			0.1	μA
		V _D =20V, V _{GS} =0V, T _J =85°C			5	
Gate-Body Leakage Current	I _{GSS}	V _D =0V, V _{GS} =±4.5V			±1	
Gate Threshold Voltage	V _{GS(th)}	V _D =V _{GS} , I _D =250 μA	0.45		0.9	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =600mA (Note.1)			700	mΩ
		V _{GS} =2.5V, I _D =500mA (Note.1)			850	
		V _{GS} =1.8V, I _D =350mA (Note.1)			1250	
On State Drain Current	I _{D(on)}	V _{GS} =4.5V, V _D =5V (Note.1)	700			mA
Forward Transconductance	g _{FS}	V _D =10V, I _D =400mA (Note.1)		1		S
Total Gate Charge	Q _g	V _{GS} =4.5V, V _D =10V, I _D =250mA		750		pC
Gate Source Charge	Q _{gs}			75		
Gate Drain Charge	Q _{gd}			225		
Turn-On DelayTime	t _{d(on)}	I _D =200mA V _{GS} =4.5V, V _D =10V, R _L =47Ω, R _G =10Ω		5		ns
Turn-On Rise Time	t _r			5		
Turn-Off DelayTime	t _{d(off)}			25		
Turn-Off Fall Time	t _f			11		
Maximum Body-Diode Continuous Current	I _S				250	mA
Diode Forward Voltage	V _{SD}	I _S =150mA, V _{GS} =0V (Note.1)			1.2	V

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

■ Marking

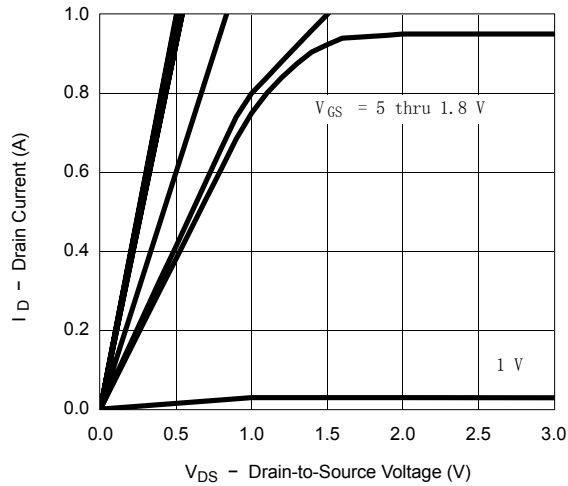
Marking	A*
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N-Channel MOSFET

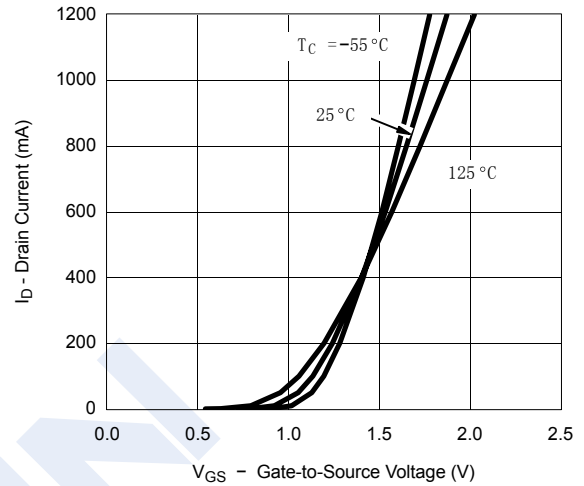
KI502DT

Typical Characteristics

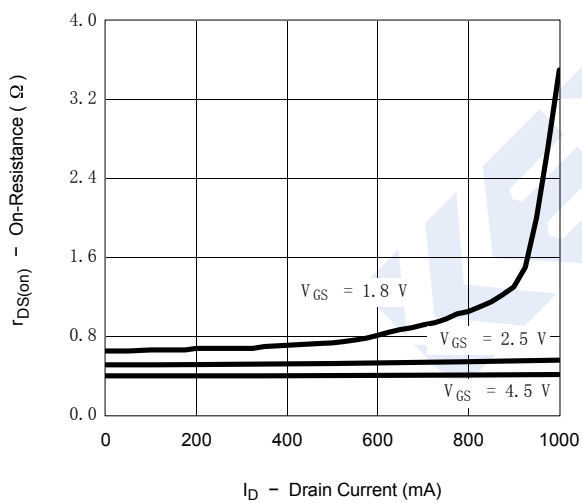
Output Characteristics



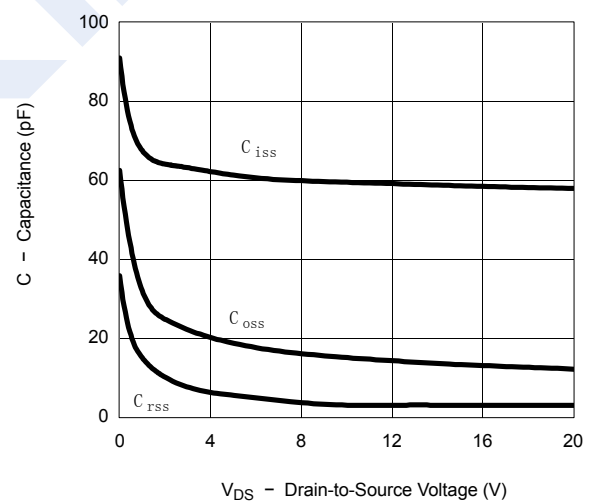
Transfer Characteristics



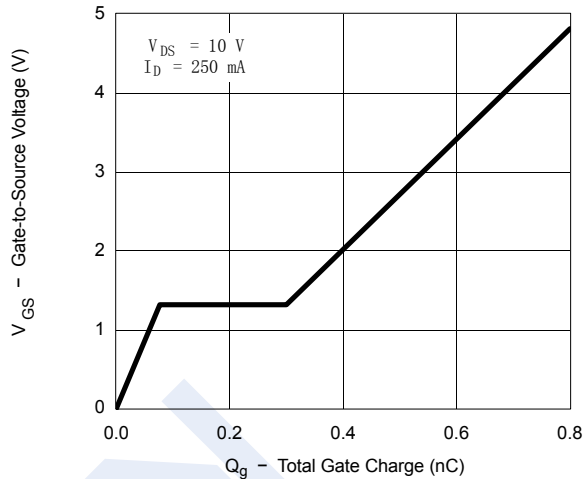
On-Resistance vs. Drain Current



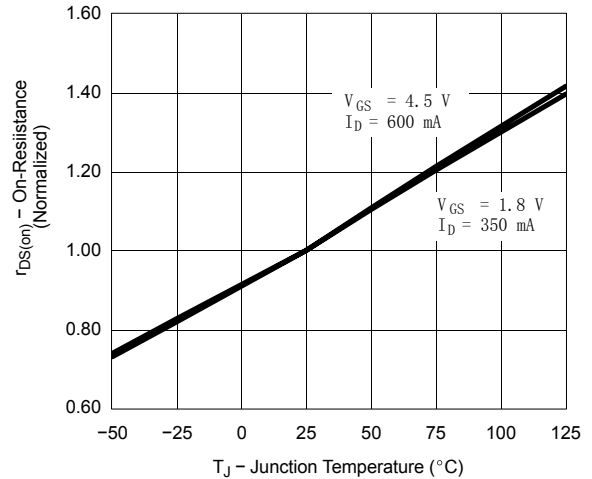
Capacitance



Gate Charge



On-Resistance vs. Junction Temperature

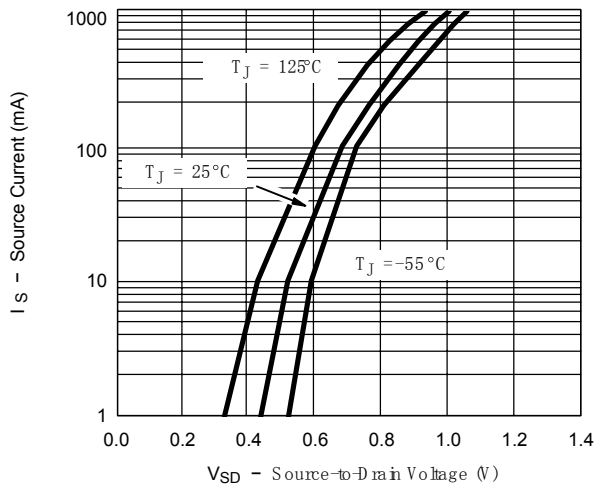


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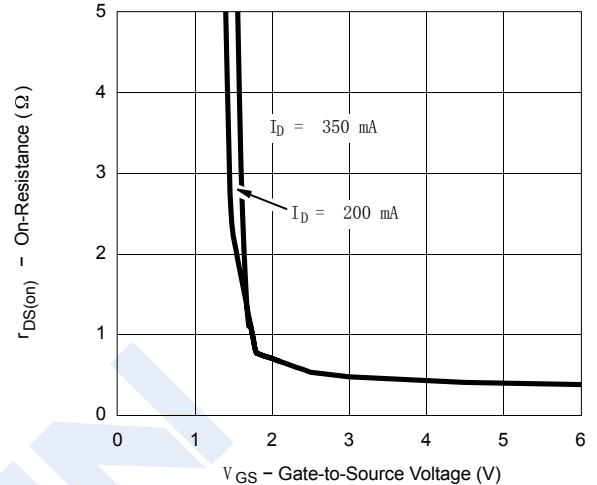
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■ Typical Characteristics

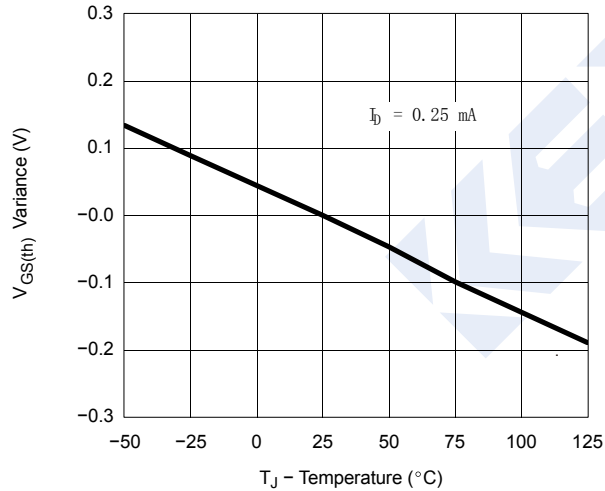
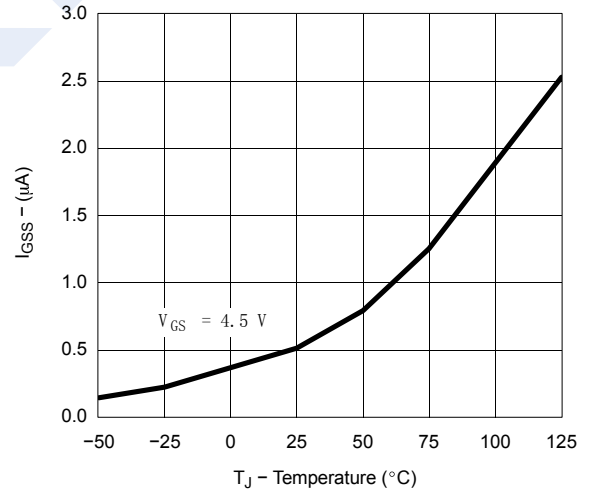
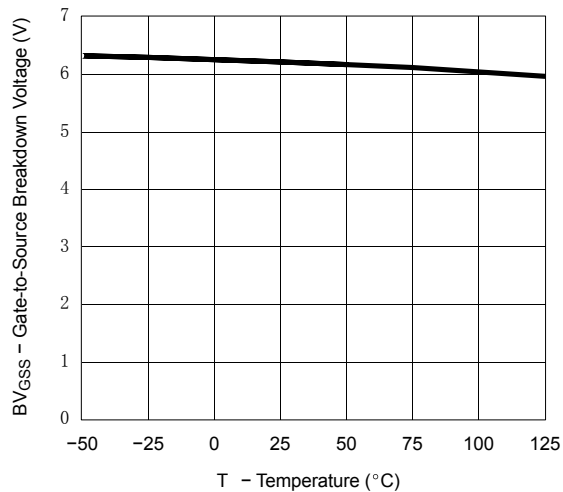
Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage



Threshold Voltage Variance vs. Temperature

 I_{GSS} vs. Temperature BV_{GSS} vs. Temperature

N-Channel MOSFET

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■ Typical Characteristics

