

N-Channel MOSFET

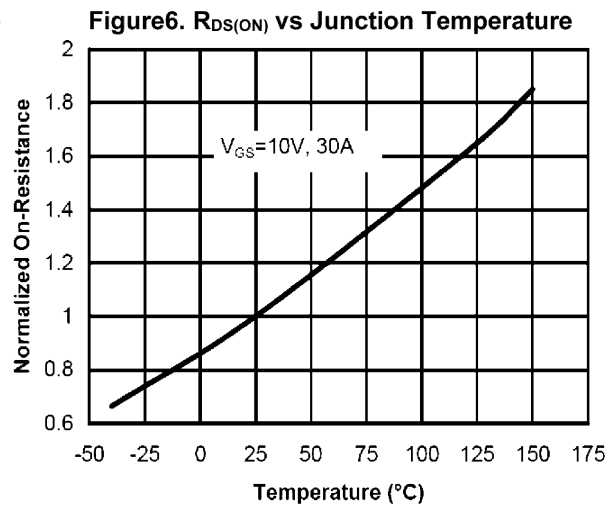
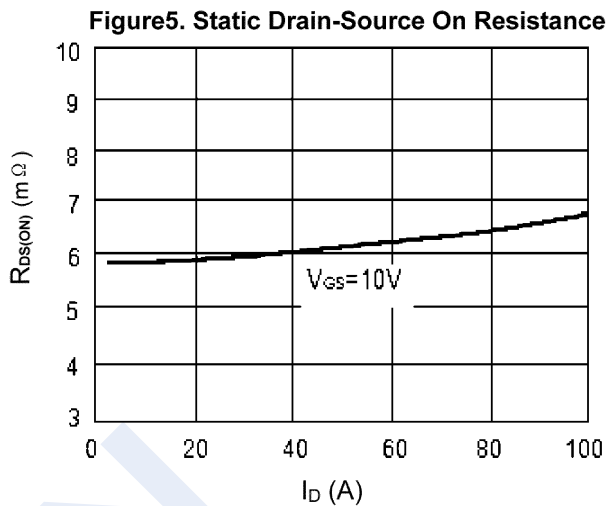
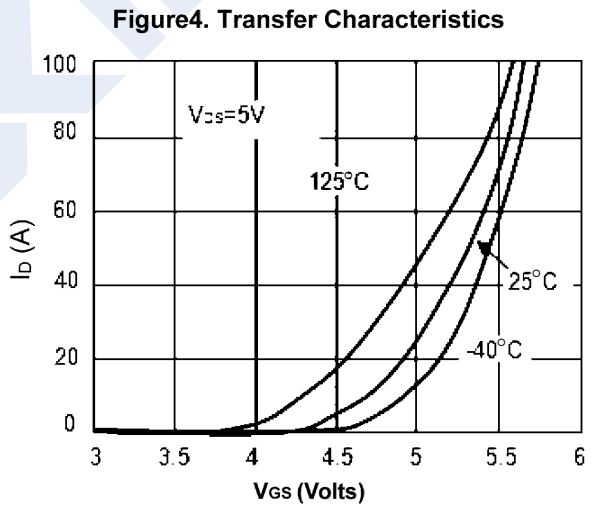
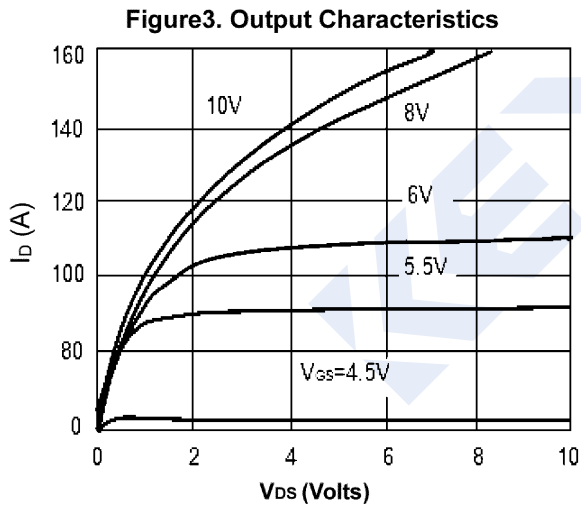
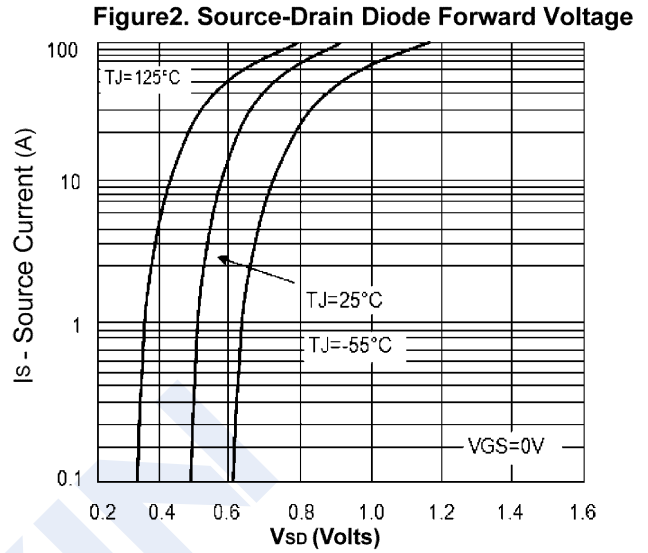
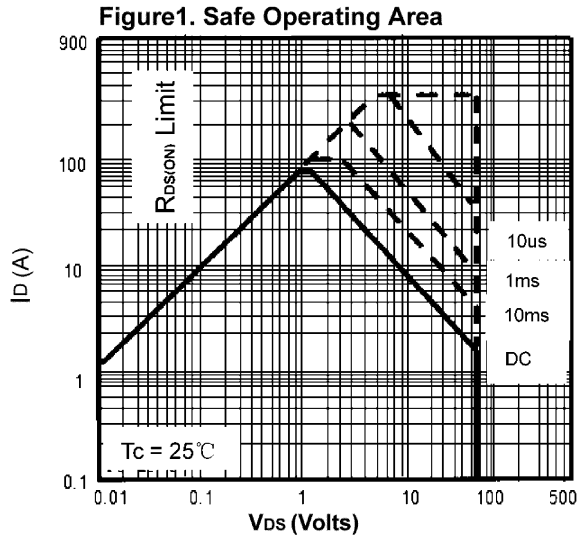
KX90N06

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μ A, V _{GS} =0V	70			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =68V, V _{GS} =0V, T _C = 25°C			1	μ A
		V _{DS} =68V, V _{GS} =0V, T _C = 125°C			10	
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =± 25V			± 100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μ A	2		4	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =40A		5.9	7.2	mΩ
Forward Transconductance	g _{FS}	V _{DS} =10V, I _D =40A		28		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V, f=1MHz		3187		pF
Output Capacitance	C _{oss}			396		
Reverse Transfer Capacitance	C _{rss}			184		
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =50V, I _D =40A		82		nC
Gate Source Charge	Q _{gs}			16.2		
Gate Drain Charge	Q _{gd}			36.7		
Turn-On DelayTime	t _{d(on)}	V _{DD} =30V, I _D =2A, R _L =15Ω V _{GS} =10V, R _G =2.5Ω		11		ns
Turn-On Rise Time	t _r			13		
Turn-Off DelayTime	t _{d(off)}			22		
Turn-Off Fall Time	t _f			27		
Body Diode Reverse Recovery Time	t _{rr}	I _F = 75A, di/dt= 100A/μ s, T _J = 25°C		40		nC
Body Diode Reverse Recovery Charge	Q _{rr}			81		
Maximum Body-Diode Continuous Current	I _S			80		A
Pulsed Source-Drain Current	I _{SM}			320		
Diode Forward Voltage	V _{SD}	I _S =40A, V _{GS} =0V, T _J = 25°C		0.69	0.95	V

N-Channel MOSFET KX90N06

■ Typical Characteristics



N-Channel MOSFET KX90N06

■ Typical Characteristics

Figure7. BV_{DSS} vs Junction Temperature

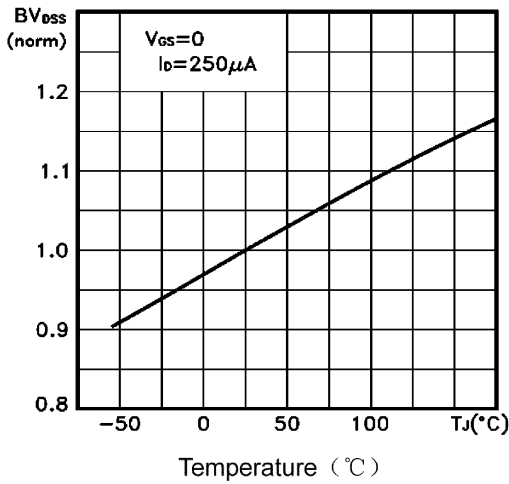


Figure8. $V_{GS(th)}$ vs Junction Temperature

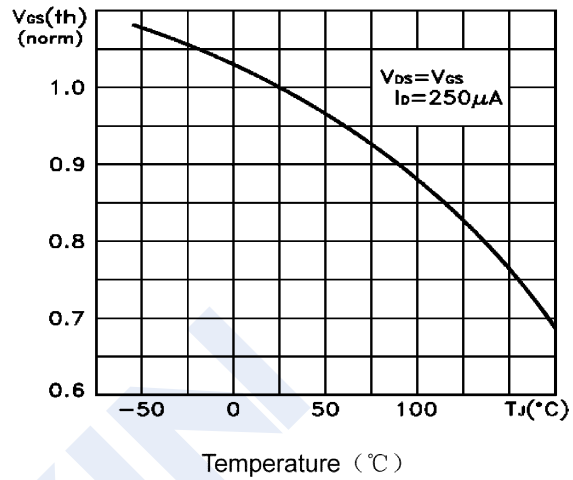


Figure9. Gate Charge Waveforms

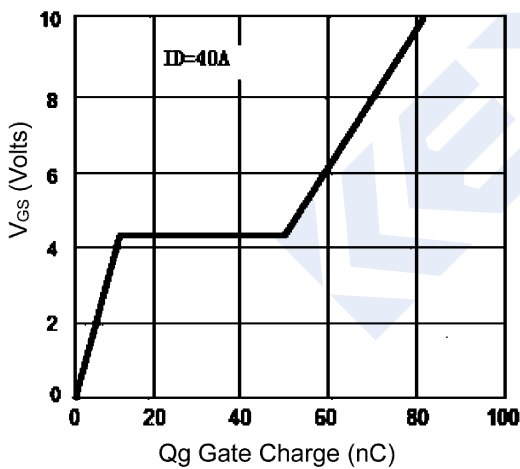


Figure10. Capacitance

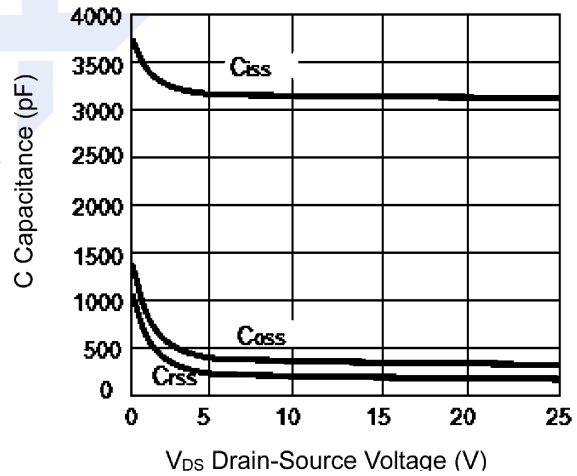


Figure11. Normalized Maximum Transient Thermal Impedance

