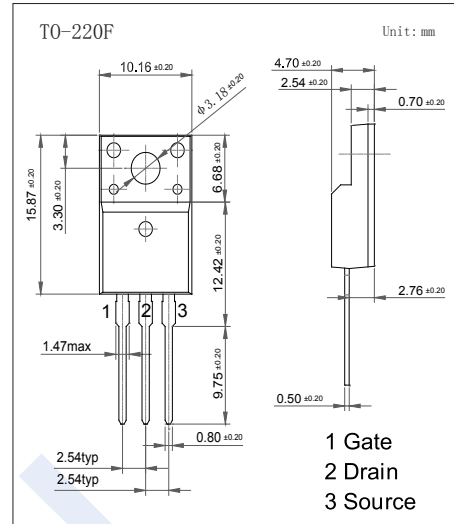
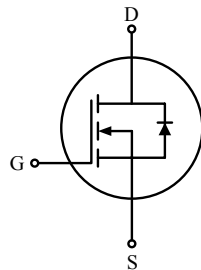


N-Channel MOSFET

KX10N60F

■ Features

- $V_{DS} (V) = 600V$
- $I_D = 10 A (V_{GS} = 10V)$
- $R_{DS(on)} < 730m\Omega (V_{GS} = 10V)$
- $Q_g(\text{typ.}) = 29.5nC$



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	600	V
Gate-Source Voltage	V_{GS}	± 30	
Continuous Drain Current	I_D	$T_c=25^\circ\text{C}$	10
		$T_c=70^\circ\text{C}$	6
Pulsed Drain Current (Note.1)	I_{DM}	25	A
Power Dissipation	P_D	$T_c=25^\circ\text{C}$	46
		Derate above 25°C	0.37
Repetitive Avalanche Energy (Note.2)	E_{AR}	16.5	mJ
Single Pulsed Avalanche Energy (Note.1)	E_{AS}	400	
Peak Diode Recovery dv/dt (Note.3)	dv/dt	4.5	V/ns
Thermal Resistance.Junction- to-Ambient	R_{thJA}	62.5	$^\circ\text{C}/\text{W}$
Thermal Resistance.Junction- to-Case	R_{thJC}	2.7	
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: $L = 5.5mH$, $I_s = 10A$, $V_{DD} = 50V$, $R_G = 25\Omega$, Starting $T_j = 25^\circ\text{C}$.

Note.2: Repetivity rating : Pulse width limited by junction temperature.

Note.3: $I_s \leq 10A$, $dI/dt \leq 200A/\mu s$, $V_{DD} \leq BV_{DSS}$, Starting $T_j = 25^\circ\text{C}$.

N-Channel MOSFET

KX10N60F

■ 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	600			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =600V, V _{GS} =0V			10	μA
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±30V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250 μA	2.5		4.5	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =5A			0.73	Ω
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V, f=1MHz		1350		pF
Output Capacitance	C _{oss}			140		
Reverse Transfer Capacitance	C _{rss}			13		
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =480V, I _D =10A (Note.1)		26		nC
Gate Source Charge	Q _{gs}			6		
Gate Drain Charge	Q _{gd}			10		
Turn-On DelayTime	t _{d(on)}	V _{DS} =300V, I _D =10A, R _G =25 Ω (Note.1)		32		ns
Turn-On Rise Time	t _r			35		
Turn-Off DelayTime	t _{d(off)}			88		
Turn-Off Fall Time	t _f			30		
Body Diode Reverse Recovery Time	t _{rr}	I _F =10A, V _{GS} =0, di/dt=100A/μs		350		
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =5A, di/dt=100A/μs		4.2		nC
Continuous Source Current	I _S	V _{GS} <V _{th}			10	A
Pulsed Source Current	I _{SM}				40	
Diode Forward Voltage	V _{SD}	I _S =10A, V _{GS} =0V			1.4	V

Note.1:Pulse Test : Pulse width ≤ 300 us, Duty Cycle ≤ 2%.

■ Typical Characteristics

Fig1. I_D - V_{DS}

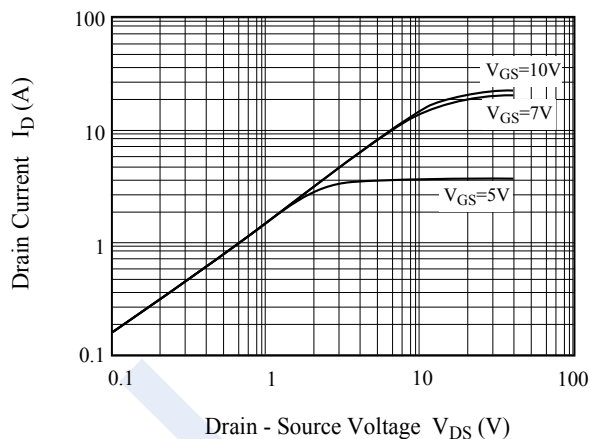
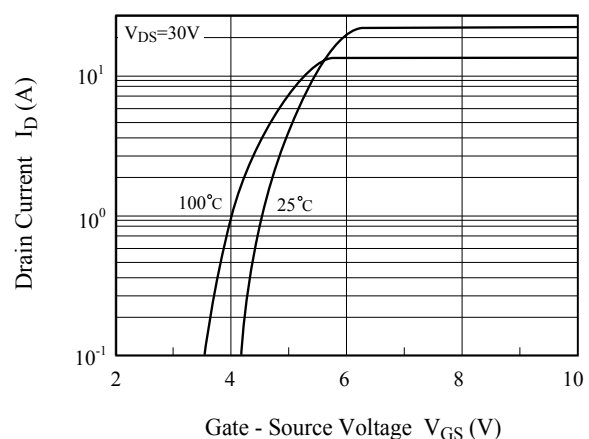


Fig2. I_D - V_{GS}



N-Channel MOSFET KX10N60F

■ Typical Characteristics

Fig3. $BV_{DSS} - T_j$

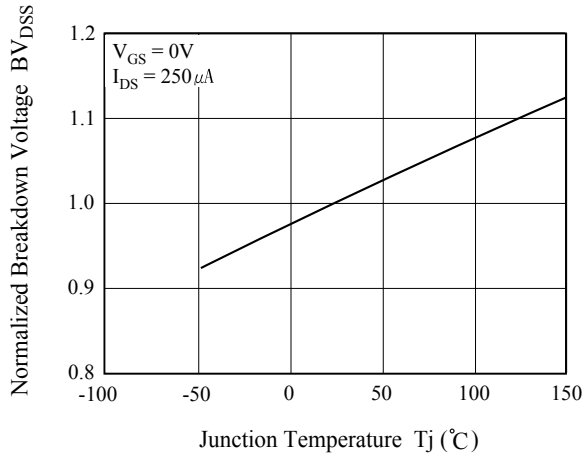


Fig4. $R_{DS(ON)} - I_D$

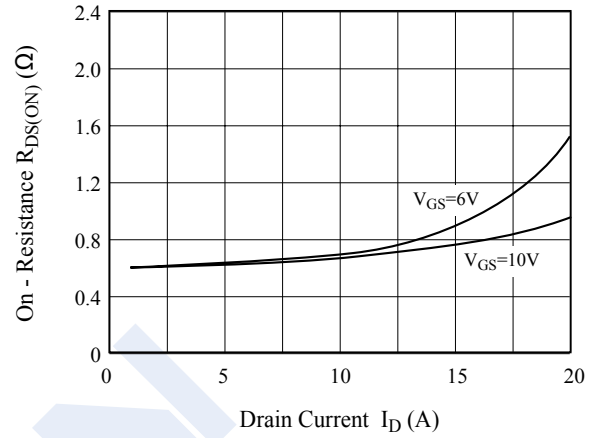


Fig5. $I_S - V_{SD}$

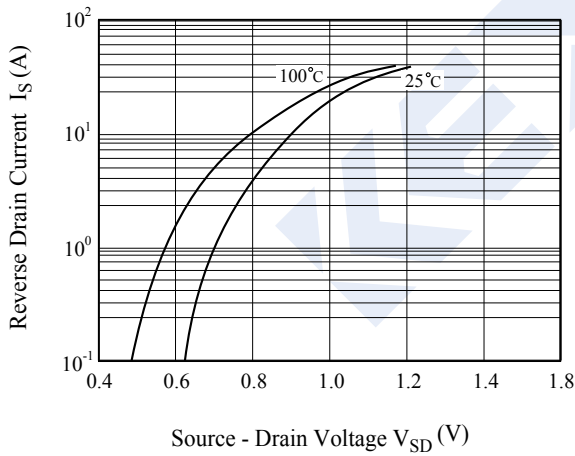


Fig6. $R_{DS(ON)} - T_j$

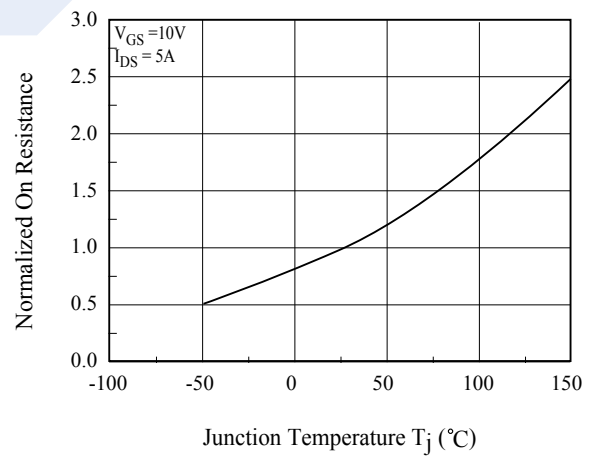


Fig 7. $C - V_{DS}$

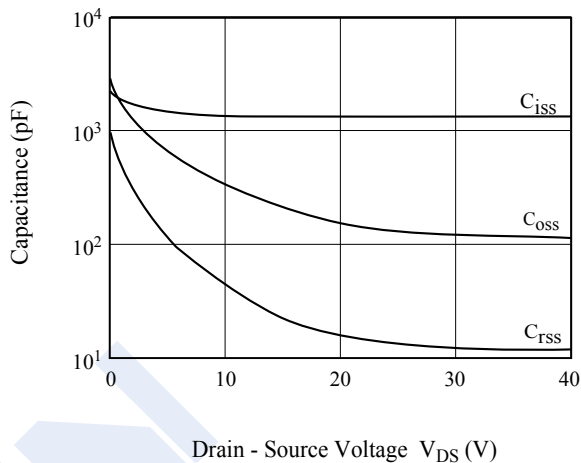
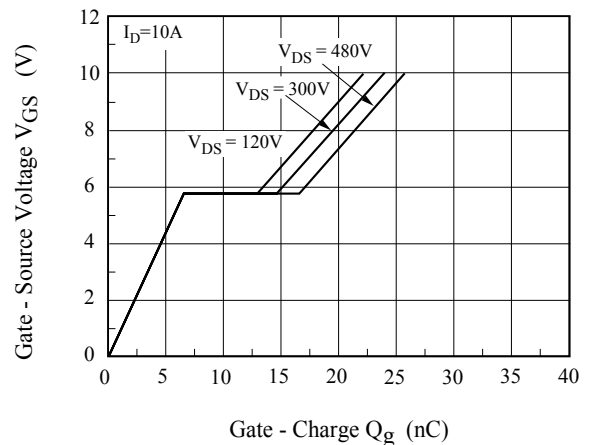


Fig8. $Q_g - V_{GS}$



N-Channel MOSFET KX10N60F

■ Typical Characteristics

Fig9. Safe Operation Area

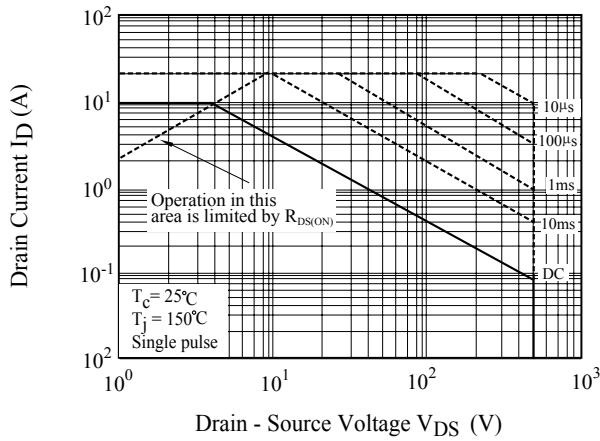


Fig10 $I_D - T_j$

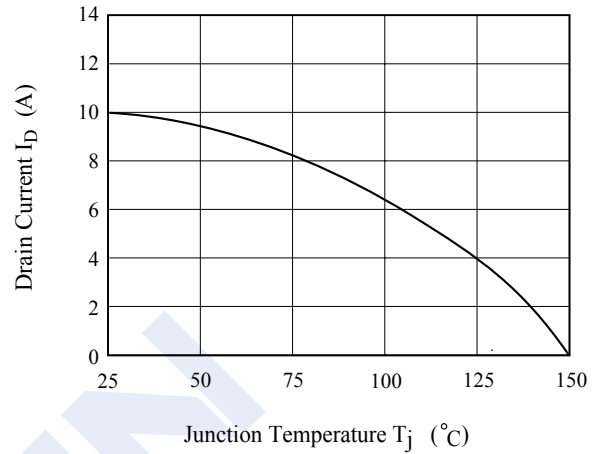


Fig11. Transient Thermal Response Curve

