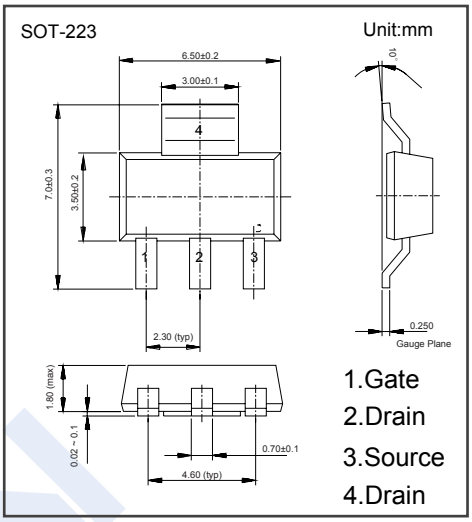
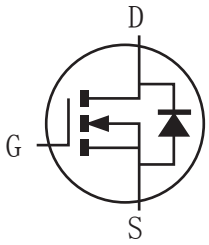
N-Channel MOSFET

ZXMN10A08G (KXMN10A08G)



■ Features

- $V_{DS\ (V)}$ = 100V
- I_D = 2.9 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 250mΩ (V_{GS} = 10V)
- $R_{DS(ON)}$ < 300mΩ (V_{GS} = 6V)



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current @ V_{GS}= 10V	TA=25℃ (Note.1)	I_D	2.9	A
	TA=70℃ (Note.1)		2.3	
	TA=25℃ (Note.2)		2	
Pulsed Drain Current		I_{DM}	11	
Power Dissipation	TA=25℃ (Note.2)	P_D	2	W
	TA=25℃ (Note.1)		3.9	mW/℃
Linear derating factor			16	W
Linear derating factor			31	mW/℃
Thermal Resistance.Junction- to-Ambient	(Note.2)	R_{thJA}	62.5	℃/W
	(Note.1)		32	
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

Note.1: For a device surface mounted on FR4 PCB measured at t ≤ 10 sec.

Note.2: For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz in still air conditions.

N-Channel MOSFET

ZXMN10A08G (KXMN10A08G)

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0V			0.5	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	2		4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=3.2A (Note.1)			250	mΩ
		V_{GS}=6V, I_D=2.6A (Note.1)			300	
Forward Transconductance	g_{FS}	V_{DS}=15V, I_D=3.2A (Note.1)		5		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=50V, f=1MHz		405		pF
Output Capacitance	C_{oss}			28.2		
Reverse Transfer Capacitance	C_{rss}			14.2		
Total Gate Charge	Q_g	V_{GS}= 5V, V_{DS}= 50V I_D= 1.2A		4.2		nC
		V_{GS}=10V, V_{DS}=50V, I_D=1.2A		7.7		
Gate Source Charge	Q_{gs}			1.8		
Gate Drain Charge	Q_{gd}			2.1		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=30V, I_D=1.2A,R_G=6Ω		3.4		ns
Turn-On Rise Time	t_r			2.2		
Turn-Off DelayTime	$t_{d(off)}$			8		
Turn-Off Fall Time	t_f			3.2		
Body Diode Reverse Recovery Time	t_{rr}	I_F= 1.2A, di/dt= 100A/μs,T_j=25°C		27		
Body Diode Reverse Recovery Charge	Q_{rr}			32		nC
Maximum Body-Diode Continuous Current	I_S				5	A
Pulsed source current	I_{SM}				11	
Diode Forward Voltage	V_{SD}	I_S=3.2A,V_{GS}=0V,T_j=25°C			0.95	V

Note.1:Measured under pulsed conditions. Pulse width ≤ 300us; duty cycle ≤ 2%.

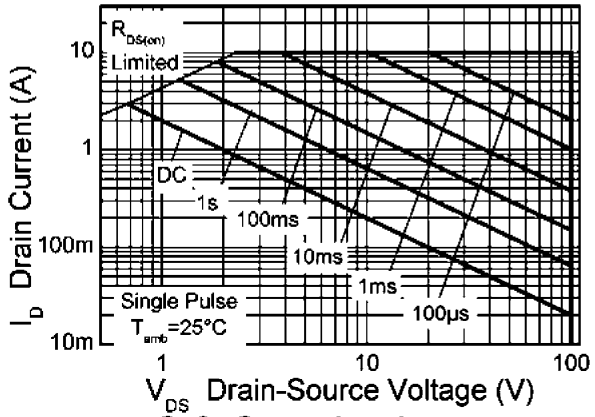
■ Marking

Marking	ZXMN 10A08

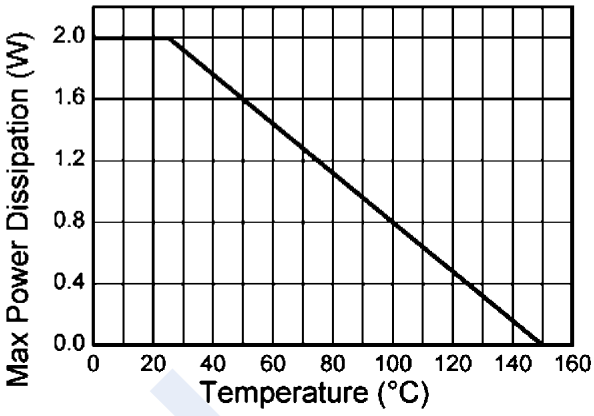
N-Channel MOSFET

ZXMN10A08G (KXMN10A08G)

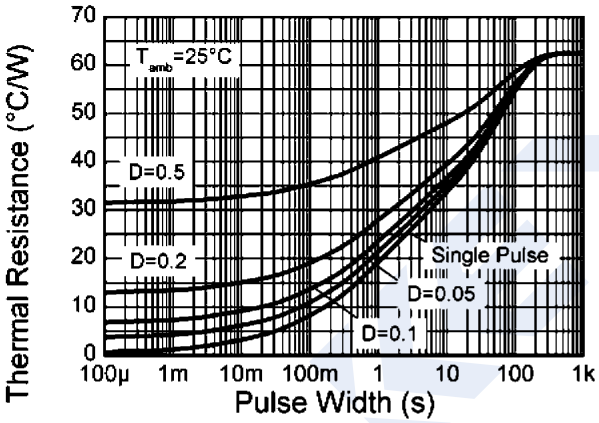
■ Typical Characterisitics



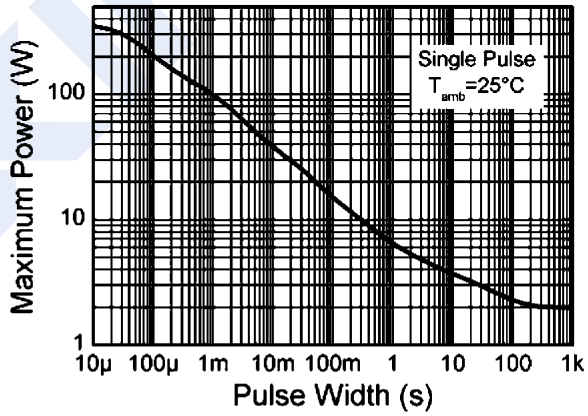
Safe Operating Area



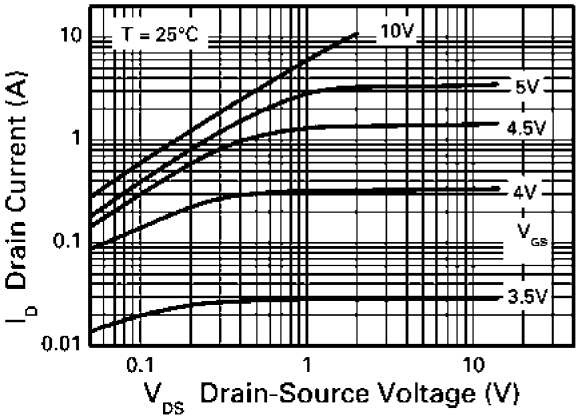
Derating Curve



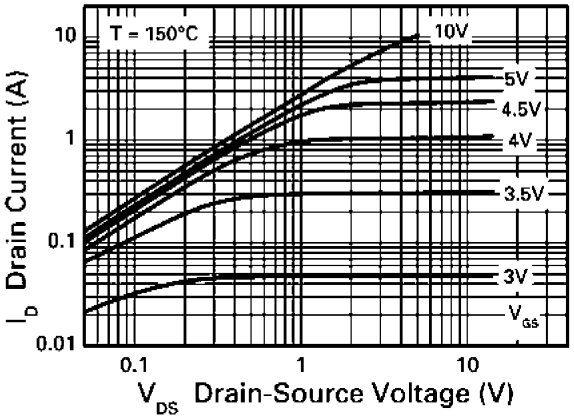
Transient Thermal Impedance



Pulse Power Dissipation



Output Characteristics

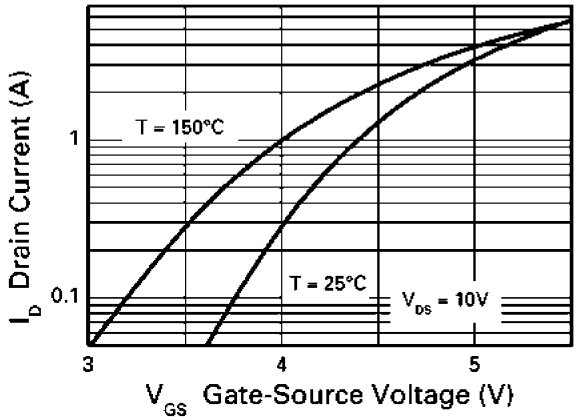


Output Characteristics

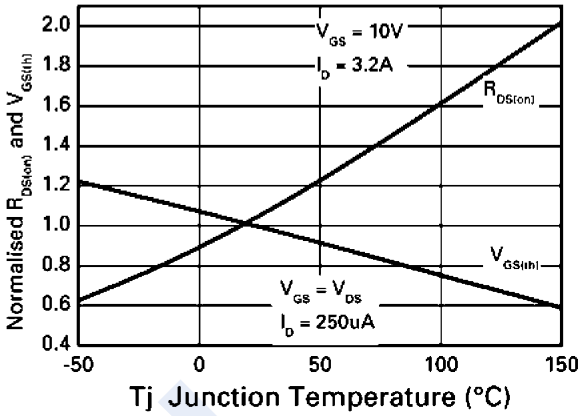
N-Channel MOSFET

ZXMN10A08G (KXMN10A08G)

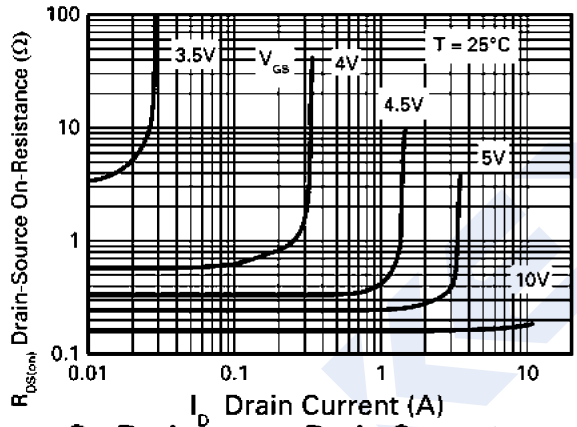
■ Typical Characterisitics



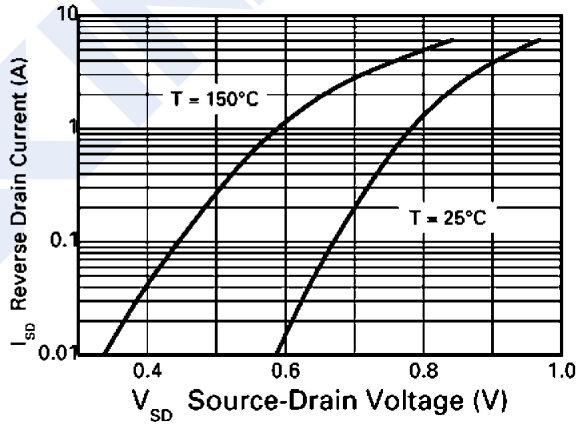
Typical Transfer Characteristics



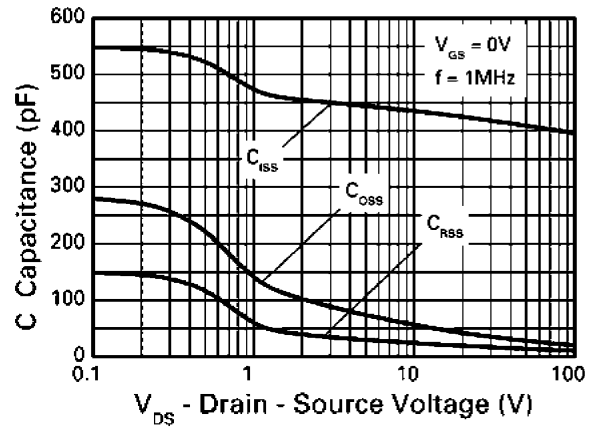
Normalised Curves v Temperature



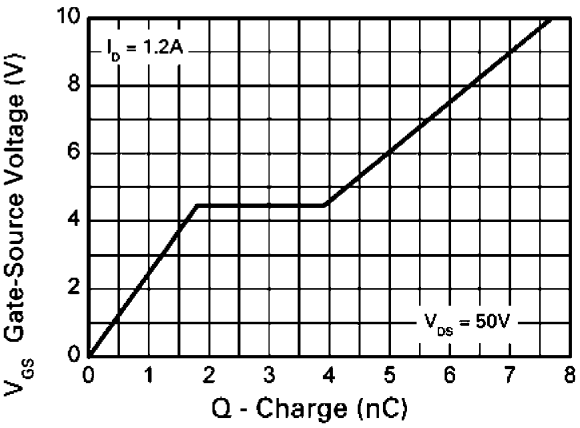
On-Resistance v Drain Current



Source-Drain Diode Forward Voltage



Capacitance v Drain-Source Voltage

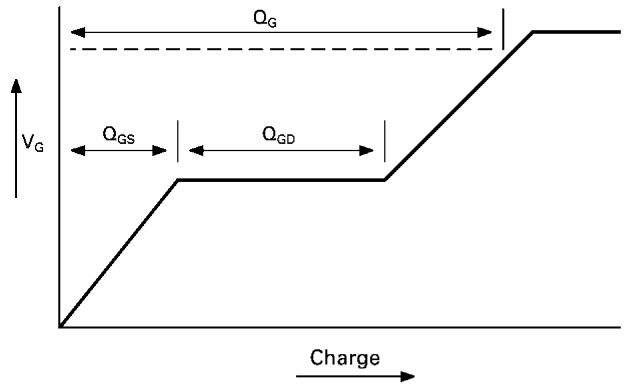


Gate-Source Voltage v Gate Charge

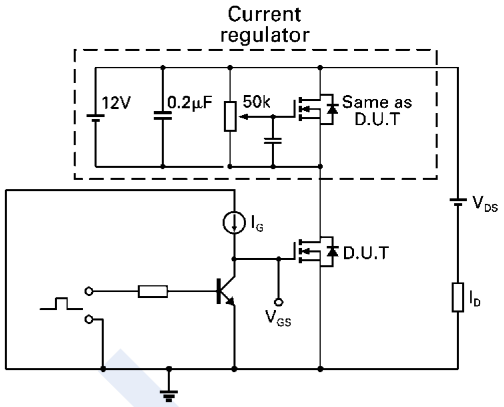
N-Channel MOSFET

ZXMN10A08G (KXMN10A08G)

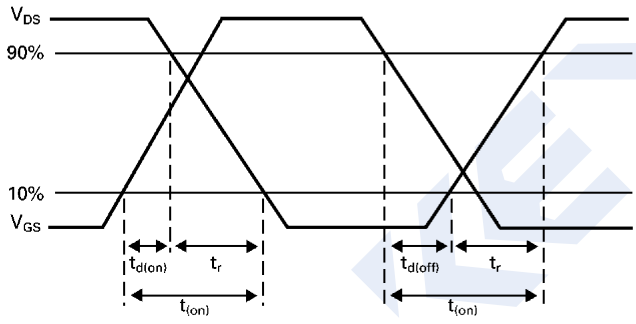
■ Typical Characterisitics



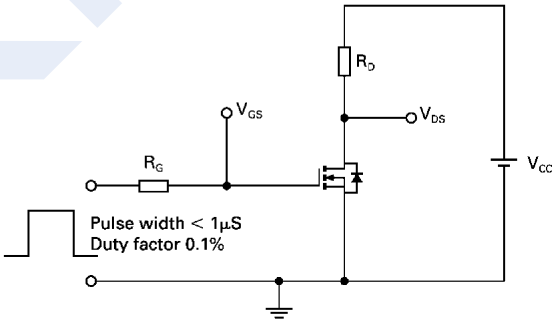
Basic gate charge waveform



Gate charge test circuit



Switching time waveforms



Switching time test circuit