HEXFET$^®$Power MOSFET

KRF7460

■ Features

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SOP-8

Top View
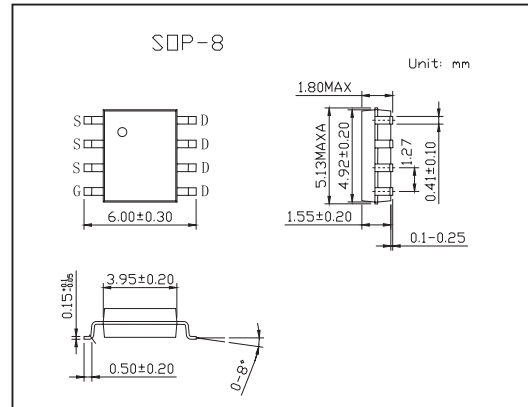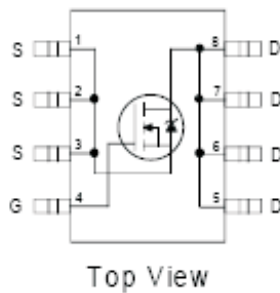
■ Absolute Maximum Ratings Ta = 25℃

| Parameter	Symbol	Rating	Unit
Continuous Drain Current, V_{GS} @ 10V,Ta = 25℃	I_D	12	A
Continuous Drain Current, V_{GS} @ 10V,T_A = 70℃	I_D	10	
Pulsed Drain Current*1	I_{DM}	100	
Power Dissipation Ta = 25℃ *1	P_D	2.5	W
T_A = 70℃ *1		1.6	
Linear Derating Factor		0.02	W/℃
Gate-to-Source Voltage	V_{GS}	±20	V
Drain-Source Voltage	V_{DS}	20	V
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to + 150	℃
Junction-to-Ambient	$R_{θJA}$	50	℃/W
Junction-to-Drain Lead	$R_{θJL}$	20	℃/W
Single Pulse Avalanche Energy*3	E_{AS}	240	mJ
Avalanche Current *2	I_{AR}	9.6	A

*1 Pulse width ≤ 400μs; duty cycle ≤ 2%.

*2 Repetitive rating; pulse width limited by max. junction temperature.

*3 Starting T_J = 25℃, L = 5.2mH,R_G = 25Ω, I_{AS} = 9.6A.

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	V(BR)DSS	VGS = 0V, ID = 250μA	20			V
Breakdown Voltage Temp. Coefficient	△V(BR)DSS/△TJ	ID = 1mA,Reference to 25℃		0.089		V/℃
Static Drain-to-Source On-Resistance	RDS(on)	VGS = 10V, ID = 12A*1		7.2	10	mΩ
		VGS = 4.5V, ID = 9.6A*1		10.5	14	
Gate Threshold Voltage	VGS(th)	VDS = VGS, ID = 250μA	1.0		3.0	V
Forward Transconductance	gfs	VDS = 16V, ID = 9.6A*1	26			S
Drain-to-Source Leakage Current	IDSS	VDS = 16V, VGS = 0V			20	μA
		VDS = 16V, VGS = 0V, TJ = 125℃			100	
Gate-to-Source Forward Leakage	IGSS	VGS = 16V			200	nA
Gate-to-Source Reverse Leakage		VGS = -16V			-200	
Total Gate Charge	Qg	ID = 9.6A		19		nC
Gate-to-Source Charge	Qgs	VDS = 10V		6.9		
Gate-to-Drain ("Miller") Charge	Qgd	VGS = 4.5V,*1		6.0		
Output Gate Charge	Qoss	VGS = 0V, VDS = 10V		17	26	
Turn-On Delay Time	td(on)	VDD = 10V		11		ns
Rise Time	tr	ID = 9.6A		6.9		
Turn-Off Delay Time	td(off)	RG =1.8Ω		12		
Fall Time	tf	VGS=4.5V		4.3		
Input Capacitance	Ciss	VGS = 0V		205.		pF
Output Capacitance	Coss	VDS = 10V		1060		
Reverse Transfer Capacitance	Crss	□ = 1.0MHz		150		
Continuous Source Current（Body Diode)	Is	MOSFET symbol showing the integral reverse p-n junction diode.			2.3	A
Pulsed Source Current （Body Diode) *2	ISM				100	
Diode Forward Voltage	VSD	TJ = 25℃, Is = 9.6A, VGS = 0V*1		0.8	1.3	V
		TJ = 125℃, Is = 9.6A, VGS = 0V*1		0.66		
Reverse Recovery Time	trr	TJ = 25℃, IF = 9.6A.VR=10V		44	66	ns
Reverse RecoveryCharge	Qrr	di/dt = 100A/μs*1		60	90	nC
Reverse Recovery Time	trr	TJ = 125℃, IF = 9.6A.VR=10V		44	66	ns
Reverse Recovery Charge	Qrr	di/dt = 100A/μs*1		64	96	nC

*1 Pulse width ≤ 400□s; duty cycle ≤ 2%.

*2 Repetitive rating; pulse width limited bymax

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