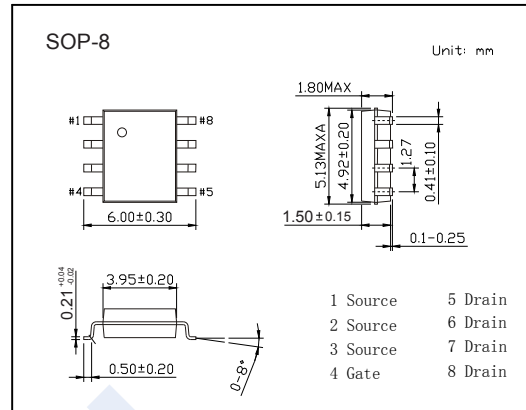
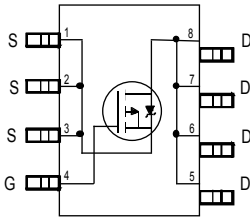


P-Channel MOSFET

IRF7205 (KRF7205)

■ Features

- $V_{DS} (V) = -30V$
- $I_D = -4.6 A (V_{GS} = -10V)$
- $R_{DS(ON)} < 70m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 130m\Omega (V_{GS} = -4.5V)$
- Fast Switching



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current	I_D	@ $T_a = 25^\circ C$	A
		@ $T_a = 70^\circ C$	
Pulsed Drain Current (Note.1)	I_{DM}	-15	
Power Dissipation @ $T_c = 25^\circ C$	P_D	2.5	W
Peak Diode Recovery dv/dt (Note.2)	dv/dt	-3	V/ns
Thermal Resistance, Junction- to-Ambient (Note.3)	R_{thJA}	50	$^\circ C/W$
Junction Temperature	T_J	150	$^\circ C$
Junction Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: Repetitive rating; pulse width limited by max. junction temperature.

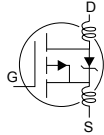
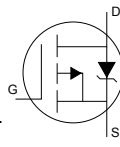
Note.2: $I_{SD} \leq -4.6A$, $di/dt \leq 90A/\mu s$, $V_{DD} \leq V_{(BR)DSS}$, $T_J \leq 150^\circ C$

Note.3: Surface mounted on FR-4 board, $t \leq 10sec$.

P-Channel MOSFET

IRF7205 (KRF7205)

■ 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	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V			-1	μA
		V _{DS} =-15V, V _{GS} =0V, T _J =70°C			-5	
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 =-250 μA	-1		-3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-4.6A (Note.1)			70	mΩ
		V _{GS} =-4.5V, I _D =-2A (Note.1)			130	
Forward Transconductance	g _{FS}	V _{DS} =-15V, I _D =-4.6A (Note.1)		6.6		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-10V, f=1MHz		870		pF
Output Capacitance	C _{oss}			720		
Reverse Transfer Capacitance	C _{rss}			220		
Total Gate Charge	Q _g	V _{GS} =-10V, V _{DS} =-15V, I _D =-4.6A (Note.1)			40	nC
Gate Source Charge	Q _{gs}			5.2		
Gate Drain Charge	Q _{gd}			7.5		
Turn-On DelayTime	t _{d(on)}	V _{DS} =-15V, I _D =-1A, R _L =10Ω, R _G =6Ω (Note.1)			30	ns
Turn-On Rise Time	t _r				60	
Turn-Off DelayTime	t _{d(off)}				150	
Turn-Off Fall Time	t _f				100	
Body Diode Reverse Recovery Time	t _{rr}	I _F =-4.6A, di/dt=100A/μs, T _J =25°C			100	ns
Body Diode Reverse Recovery Charge	Q _{rr}				180	
Internal Drain Inductance	L _D	Between lead,6mm(0.25in.) from package and center of die contact 		2.5		nH
Internal Source Inductance	L _S				4	
Continuous Source Current (Body Diode)	I _S	MOSFET symbol showing the integral reverse p-n junction diode. 			-2.5	A
Pulsed Source Current (Body Diode)	I _{SM}				-15	
Diode Forward Voltage	V _{SD}	I _S =-1.25A, V _{GS} =0V, T _J =25°C (Note.1)			-1.2	V

Note.1: Pulse width ≤ 300μs; duty cycle ≤ 2%.

■ Marking

Marking	7205 KC****
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P-Channel MOSFET IRF7205 (KRF7205)

■ Typical Characteristics

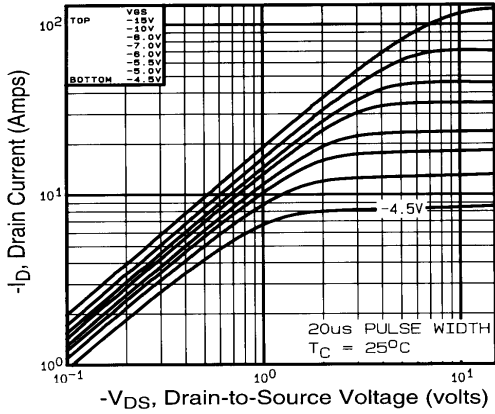


Fig 1. Typical Output Characteristics,

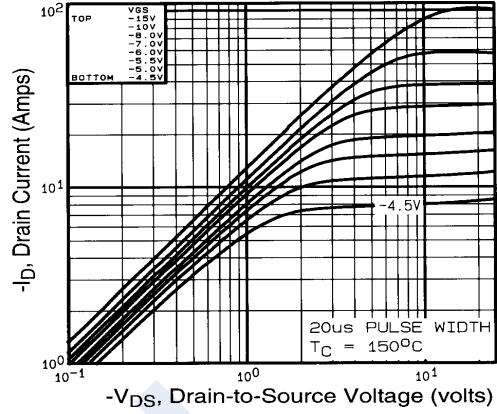


Fig 2. Typical Output Characteristics,

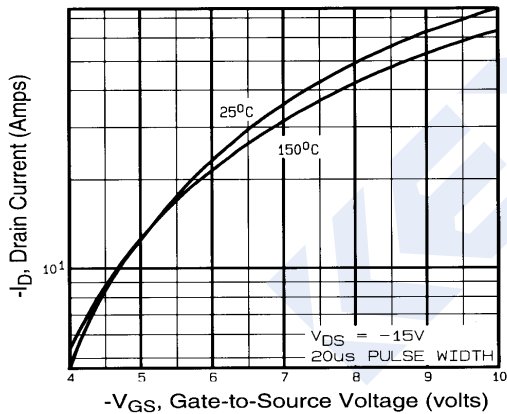


Fig 3. Typical Transfer Characteristics

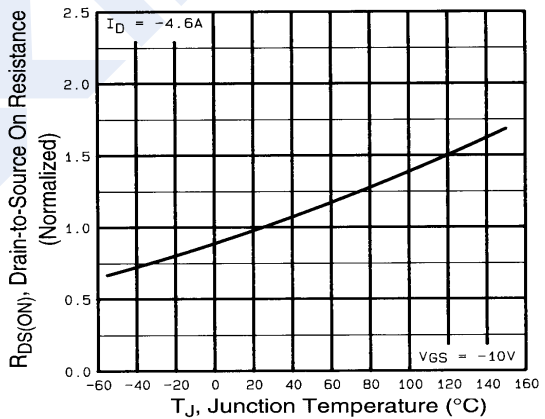


Fig 4. Normalized On-Resistance Vs. Temperature

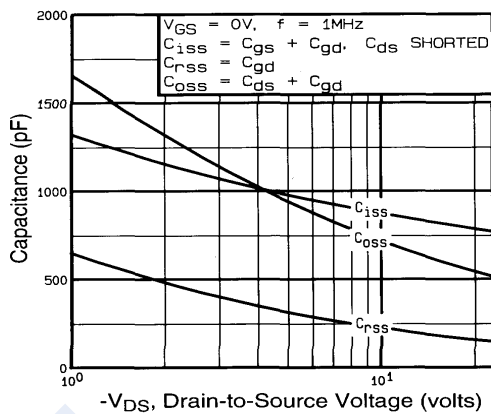


Fig 5. Typical Capacitance Vs. Drain-to-Source Voltage

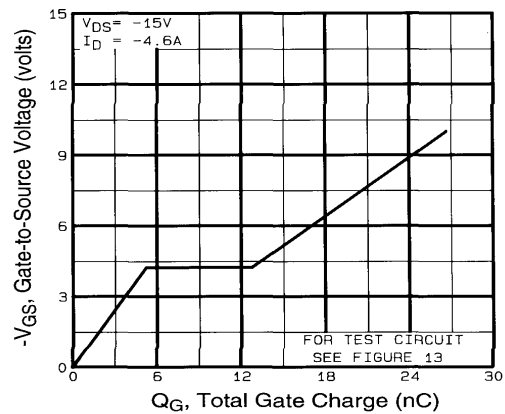


Fig 6. Typical Gate Charge Vs. Gate-to-Source Voltage

P-Channel MOSFET IRF7205 (KRF7205)

■ Typical Characteristics

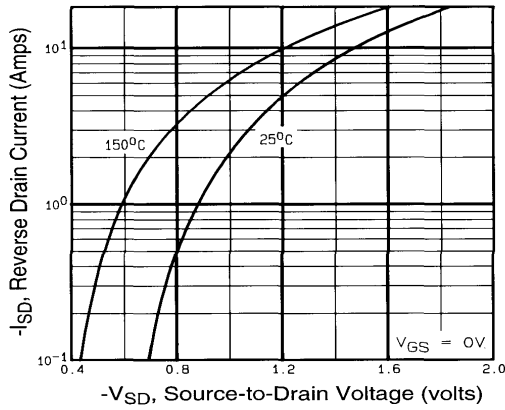


Fig 7. Typical Source-Drain Diode Forward Voltage

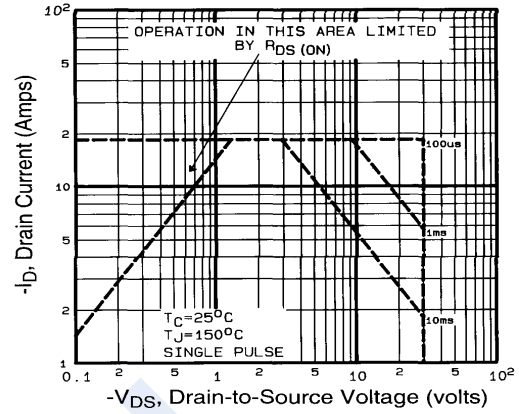


Fig 8. Maximum Safe Operating Area

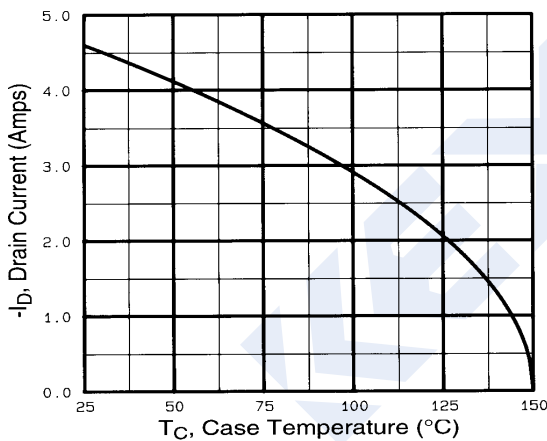


Fig 9. Maximum Drain Current Vs. Case Temperature

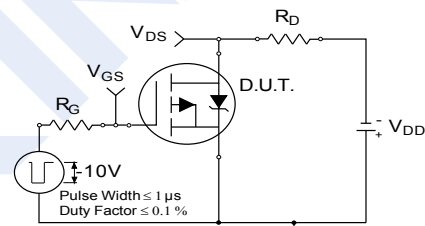


Fig 10a. Switching Time Test Circuit

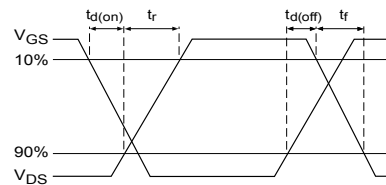


Fig 10b. Switching Time Waveforms

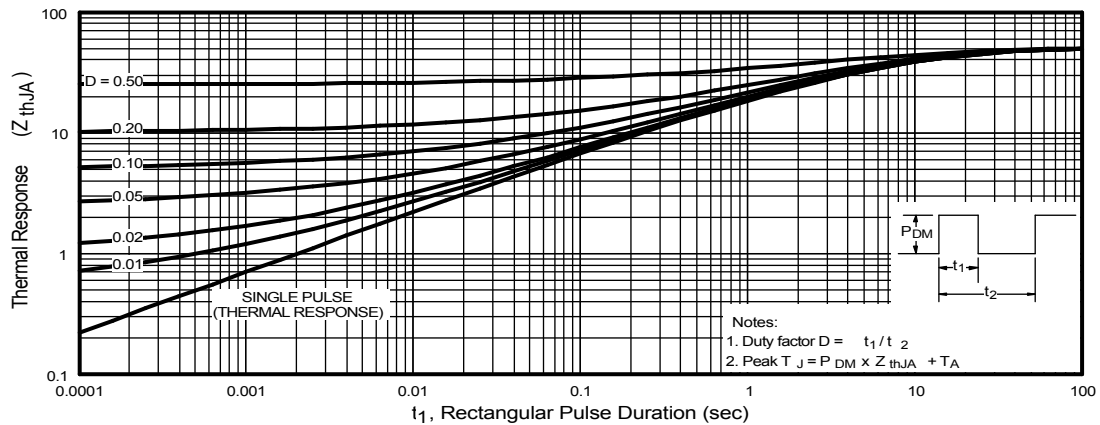


Fig 11. Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

P-Channel MOSFET IRF7205 (KRF7205)

■ Typical Characteristics

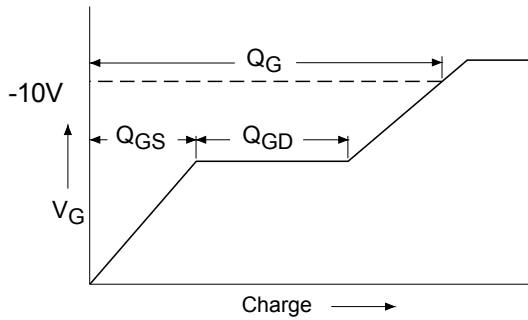


Fig 12a. Basic Gate Charge Waveform

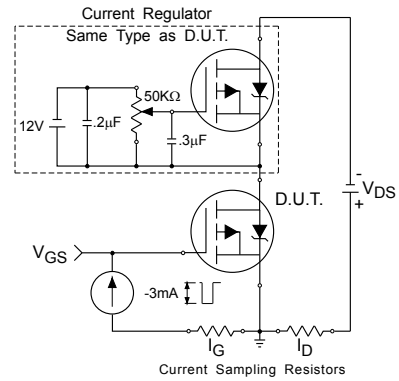
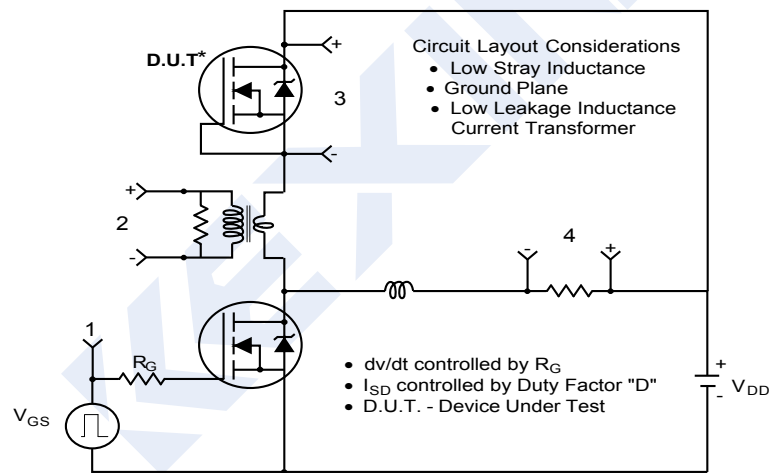
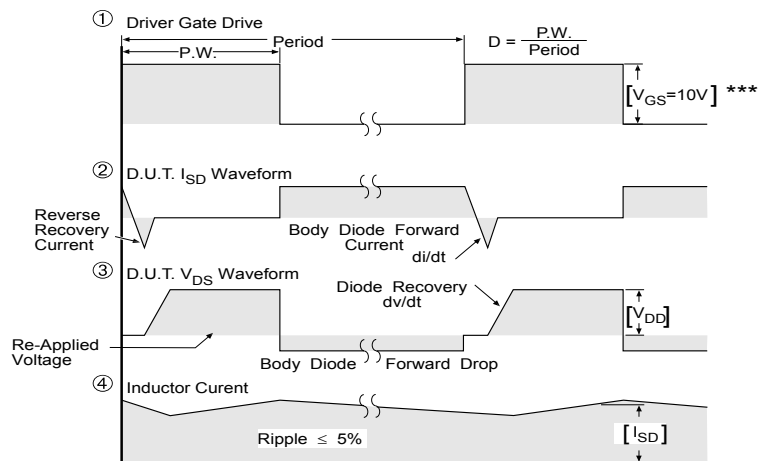


Fig 12b. Gate Charge Test Circuit



* Reverse Polarity of D.U.T. for P-Channel



*** $V_{GS} = 5.0V$ for Logic Level and $3V$ Drive Devices

Fig 13. For P-Channel HEXFETS