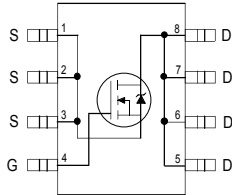
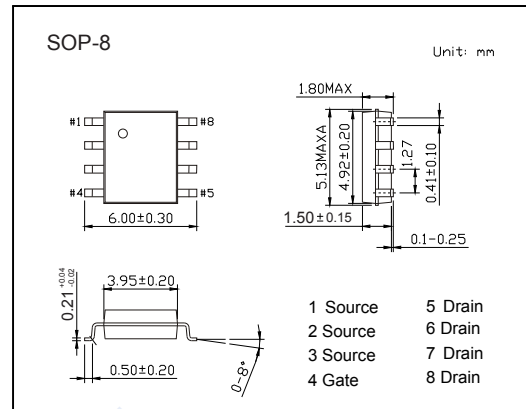


N-Channel MOSFET

IRF7476 (KRF7476)

Features

- $V_{DS} (V) = 12V$
- $I_D = 15 A (V_{GS} = 10V)$
- $R_{DS(ON)} < 8m\ \Omega (V_{GS} = 4.5V)$
- $R_{DS(ON)} < 30m\ \Omega (V_{GS} = 2.8V)$



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	12	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	I_{DM}	120	W
Avalanche Current	I_{AR}	12	
Power Dissipation	P_D	$T_A=25^\circ C$	W
		$T_A=70^\circ C$	
Linear Derating Factor		0.02	$W/^\circ C$
Single Pulse Avalanche Energy	E_{AS}	160	mJ
Thermal Resistance.Junction- to-Ambient	R_{thJA}	50	$^\circ C/W$
Thermal Resistance.Junction- to-Case	R_{thJC}	20	
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

N-Channel MOSFET

IRF7476 (KRF7476)

■ Typical Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DS}	$I_D=250\ \mu\text{A}$, $V_{GS}=0\text{V}$	12			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=9.6\text{V}$, $V_{GS}=0\text{V}$			100	μA
		$V_{DS}=9.6\text{V}$, $V_{GS}=0\text{V}$, $T_J=125^\circ\text{C}$			250	
Gate-Body Leakage Current	I_{GSS}	$V_{DS}=0\text{V}$, $V_{GS}=\pm 12\text{V}$			± 200	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$, $I_D=250\ \mu\text{A}$	0.6		1.9	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=4.5\text{V}$, $I_D=15\text{A}$			8	$\text{m}\Omega$
		$V_{GS}=2.8\text{V}$, $I_D=12\text{A}$			30	
Forward Transconductance	g_{FS}	$V_{DS}=6\text{V}$, $I_D=12\text{A}$	31			S
Input Capacitance	C_{iss}	$V_{GS}=0\text{V}$, $V_{DS}=6\text{V}$, $f=1\text{MHz}$		2550		pF
Output Capacitance	C_{oss}			2190		
Reverse Transfer Capacitance	C_{rss}			450		
Total Gate Charge	Q_g			26	40	
Gate Source Charge	Q_{gs}	$V_{GS}=4.5\text{V}$, $V_{DS}=10\text{V}$, $I_D=12\text{A}$		4.6		
Gate Drain Charge	Q_{gd}			11		
Output Gate Charge	Q_{oss}		$V_{GS}=0\text{V}$, $V_{DS}=5\text{V}$		17	
Turn-On DelayTime	$t_{d(on)}$	$V_{GS}=4.5\text{V}$, $V_{DS}=6\text{V}$, $I_D=12\text{A}$, $R_G=1.8\ \Omega$		11		ns
Turn-On Rise Time	t_r			29		
Turn-Off DelayTime	$t_{d(off)}$			19		
Turn-Off Fall Time	t_f			8.3		
Body Diode Reverse Recovery Time	t_{rr}		$I_F=12\text{A}$, $V_R=12\text{V}$, $di/dt=100\text{A}/\mu\text{s}$, $T_J=25^\circ\text{C}$		55	
Body Diode Reverse Recovery Charge	Q_{rr}			59	89	nC
Body Diode Reverse Recovery Time	t_{rr}	$I_F=12\text{A}$, $V_R=12\text{V}$, $di/dt=100\text{A}/\mu\text{s}$, $T_J=125^\circ\text{C}$		54	81	ns
Body Diode Reverse Recovery Charge	Q_{rr}			60	90	nC
Maximum Body-Diode Continuous Current	I_S				2.5	A
Pulsed Source Current	I_{SM}				120	
Diode Forward Voltage	V_{SD}	$I_S=12\text{A}$, $V_{GS}=0\text{V}$, $T_J=25^\circ\text{C}$		0.87	1.2	V
		$I_S=12\text{A}$, $V_{GS}=0\text{V}$, $T_J=125^\circ\text{C}$		0.73		

■ Marking

Marking	7476
	KC****

N-Channel MOSFET IRF7476 (KRF7476)

■ Typical Characteristics

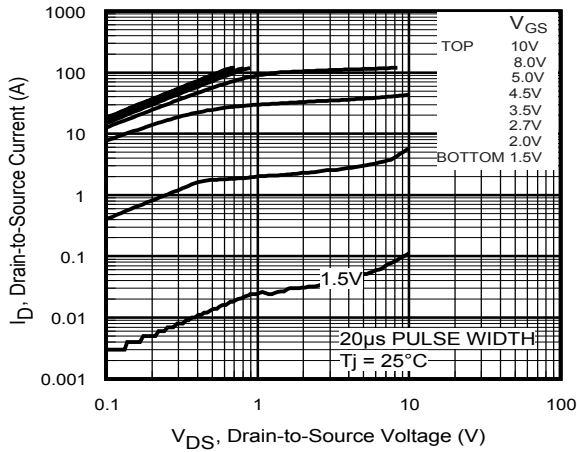


Fig 1. Typical Output Characteristics

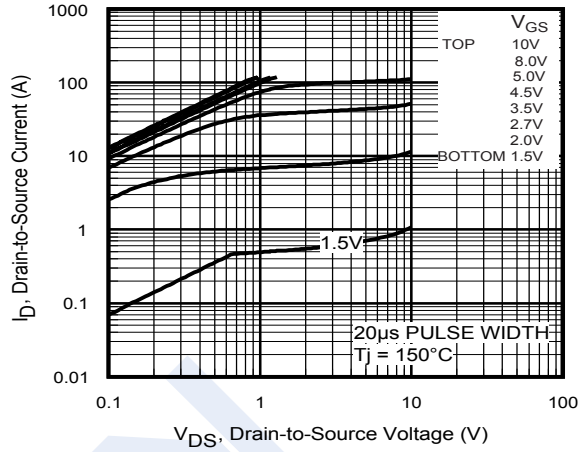


Fig 2. Typical Output Characteristics

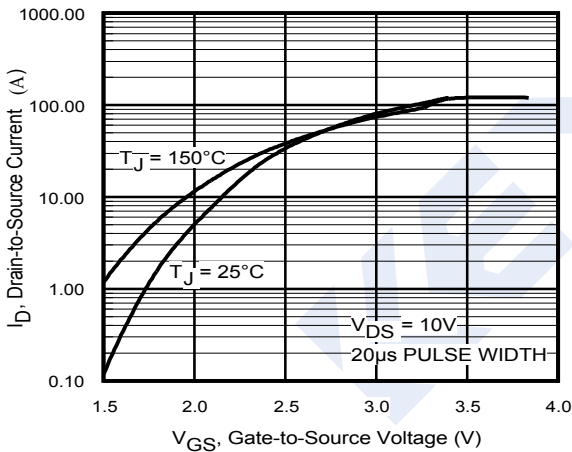


Fig 3. Typical Transfer Characteristics

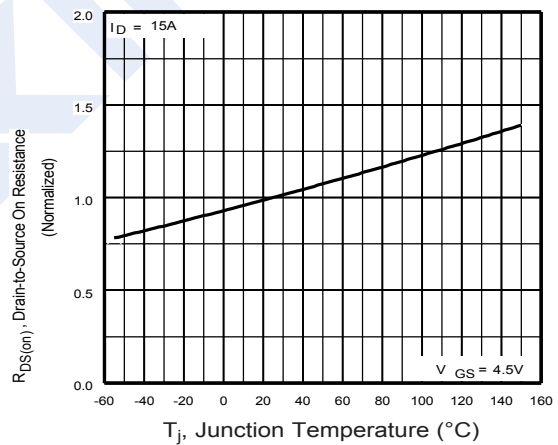


Fig 4. Normalized On-Resistance Vs. Temperature

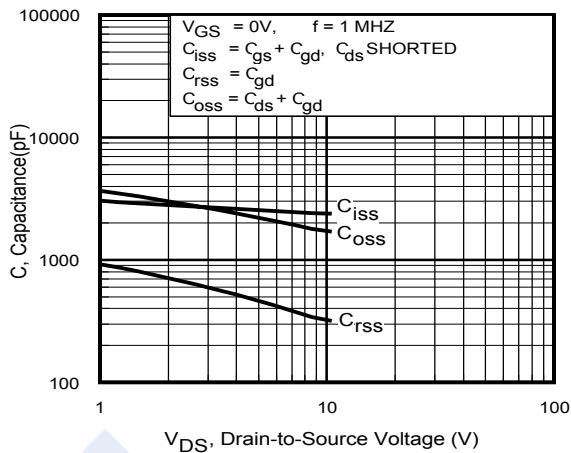


Fig 5. Typical Capacitance Vs. Drain-to-Source Voltage

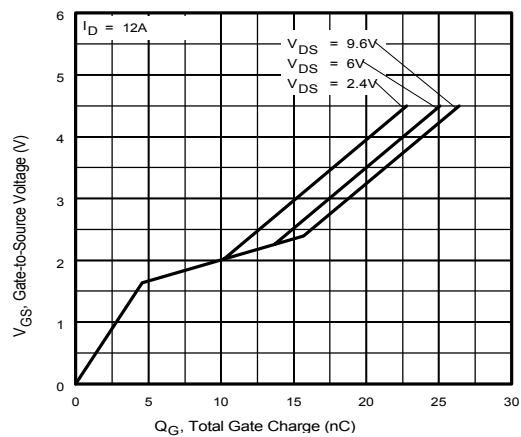


Fig 6. Typical Gate Charge Vs. Gate-to-Source Voltage

N-Channel MOSFET IRF7476 (KRF7476)

■ Typical Characteristics

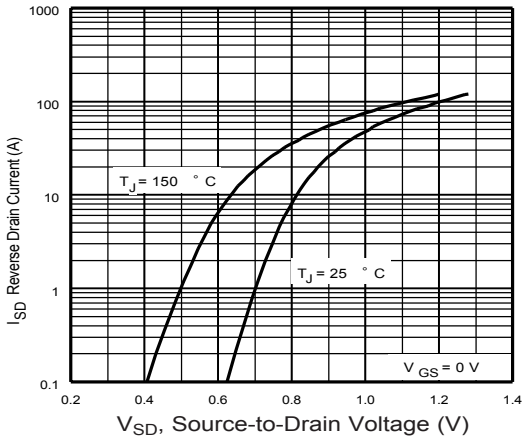


Fig 7. Typical Source-Drain Diode Forward Voltage

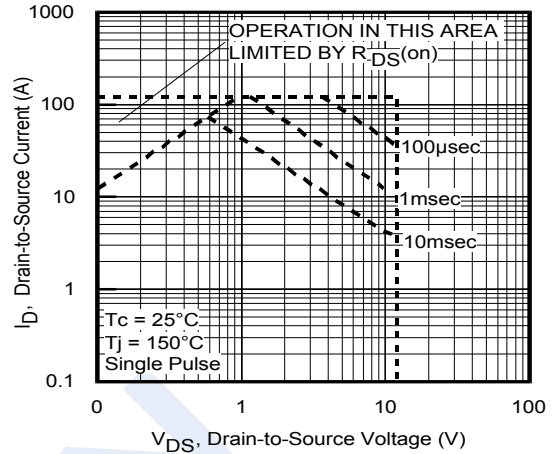


Fig 8. Maximum Safe Operating Area

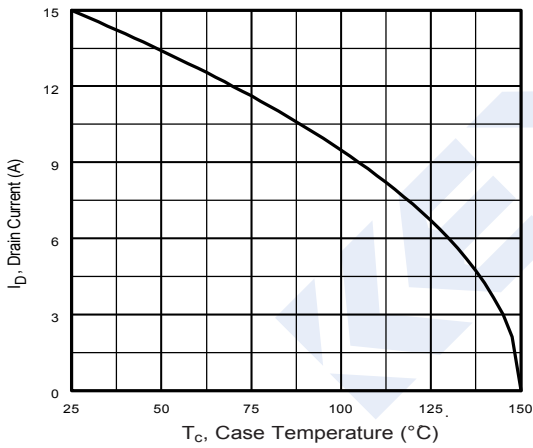


Fig 9. Maximum Drain Current Vs. Case Temperature

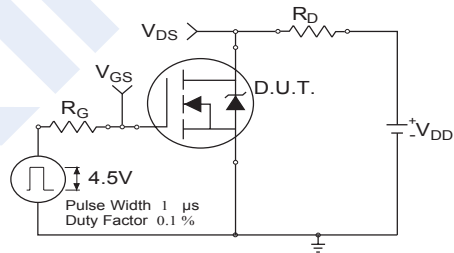


Fig 10a. Switching Time Test Circuit

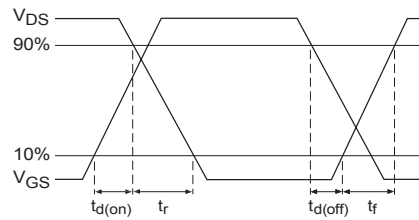


Fig 10b. Switching Time Waveforms

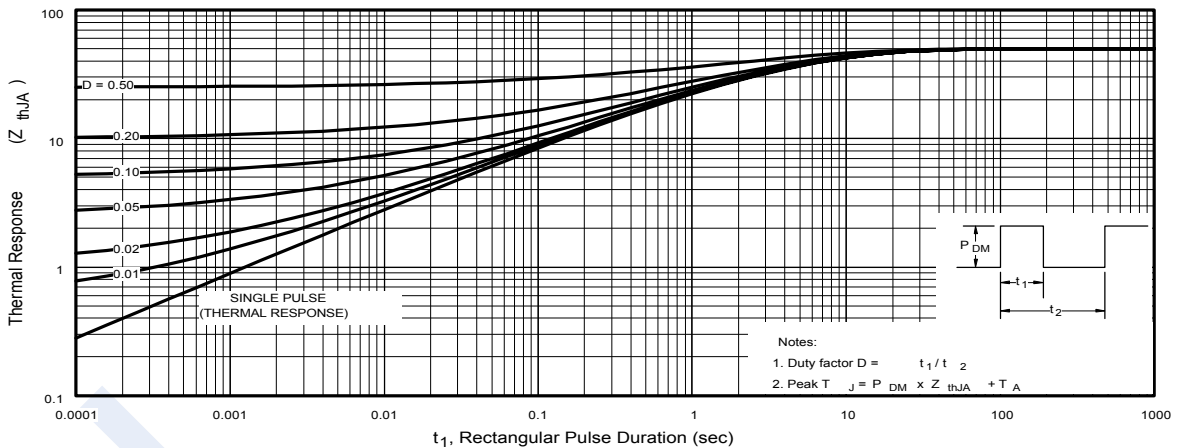


Fig 10. Maximum Effective Transient Thermal Impedance, Junction-to-Case

N-Channel MOSFET IRF7476 (KRF7476)

■ Typical Characteristics

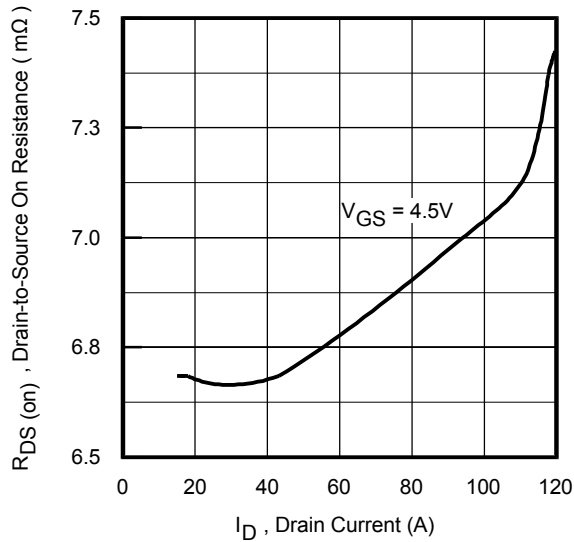


Fig 12. On-Resistance Vs. Drain Current

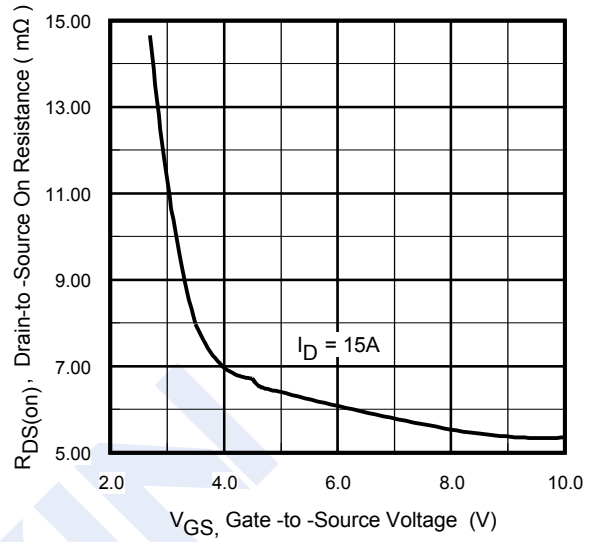


Fig 13. On-Resistance Vs. Gate Voltage

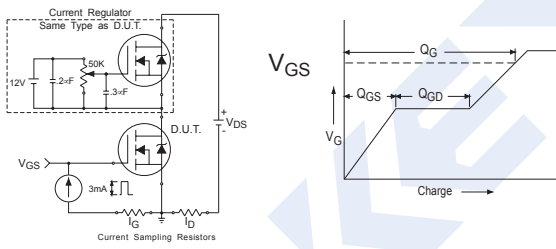


Fig 13a&b. Basic Gate Charge Test Circuit and Waveform

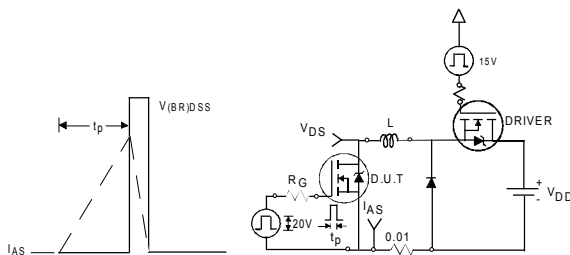


Fig 14a&b. Unclamped Inductive Test circuit and Waveforms

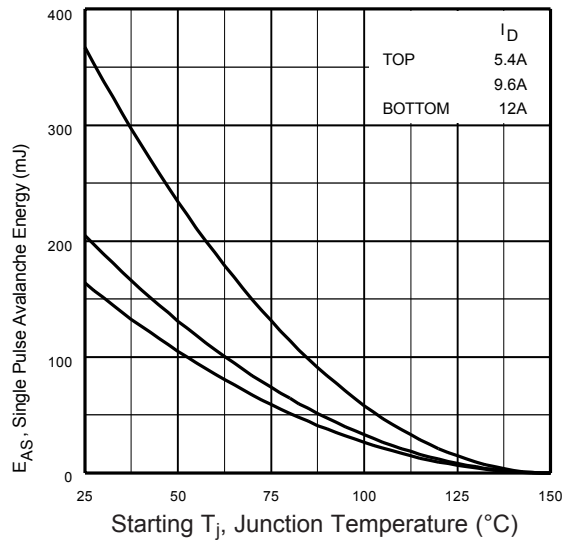


Fig 14c. Maximum Avalanche Energy Vs. Drain Current