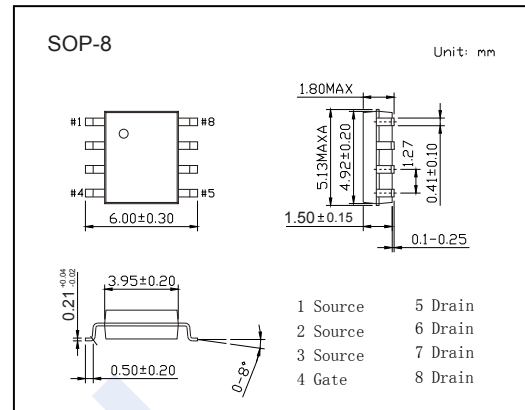
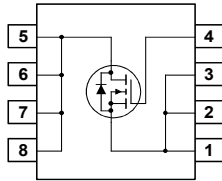


N-Channel MOSFET

FDS2672 (KDS2672)

■ Features

- $V_{DS} (V) = 200V$
- $I_D = 3.9A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 70m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 80m\Omega$ ($V_{GS} = 6V$)



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	200	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current -Continuous	I_D	3.9	A
Pulsed Drain Current	I_{DM}	50	
Single Pulse Avalanche Energy (Note.1)	E_{AS}	37.5	mJ
Power Dissipation (Note.2) (Note.3)	P_D	2.5 1	W
Thermal Resistance.Junction- to-Ambient (Note.2) (Note.3)	R_{thJA}	50 125	
Thermal Resistance.Junction- to-Case	R_{thJC}	25	
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: Starting $T_J = 25^\circ C$, $L = 3mH$, $I_{AS} = 5A$, $V_{DD} = 100V$, $V_{GS} = 10V$

Note.2: $50^\circ C/W$ (10 sec) $62.5^\circ C/W$ steady stat when mounted on a $1in^2$ pad of 2 oz copper

Note.3 : $125^\circ C/W$ when mounted on a minimum pad

N-Channel MOSFET

FDS2672 (KDS2672)

■ 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	200			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =160V, V _{GS} =0V			1	μA
		V _{DS} =160V, V _{GS} =0V, T _J =55°C			10	
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 (Note.1)	2	2.9	4	V
Static Drain-Source On-Resistance (Note.1)	R _{DS(on)}	V _{GS} =10V, I _D =3.9A		59	70	mΩ
		V _{GS} =6V, I _D =3.5A		63	80	
		V _{GS} =10V, I _D =3.9A T _J =125°C		124	148	
Forward Transconductance	g _{FS}	V _{DS} =10V, I _D =3.9A (Note.1)		15		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =100V, f=1MHz		1905	2535	pF
Output Capacitance	C _{oss}			100	135	
Reverse Transfer Capacitance	C _{rss}			30	45	
Gate Resistance	R _g		V _{GS} =0V, V _{DS} =0V, f=1MHz		0.7	
Total Gate Charge	Q _g	V _{DS} =100V, I _D =3.9A		33	46	nC
Gate Source Charge	Q _{gs}			11		
Gate Drain Charge	Q _{gd}			7		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =100V, I _D =3.9A, R _G =6 Ω		22	35	ns
Turn-On Rise Time	t _r			10	20	
Turn-Off DelayTime	t _{d(off)}			35	56	
Turn-Off Fall Time	t _f			10	20	
Body Diode Reverse Recovery Time	t _{rr}	I _F = 3.9A, di/dt= 100A/μs		67	101	ns
Body Diode Reverse Recovery Charge	Q _{rr}			179	269	
Maximum Body-Diode Continuous Current	I _S				3.9	A
Diode Forward Voltage	V _{SD}	I _S =3.9A, V _{GS} =0V		0.75	1.2	V

Note.1: Pulse Test: Pulse Width < 300 us, Duty Cycle < 2.0%.

N-Channel MOSFET FDS2672 (KDS2672)

■ Typical Characteristics

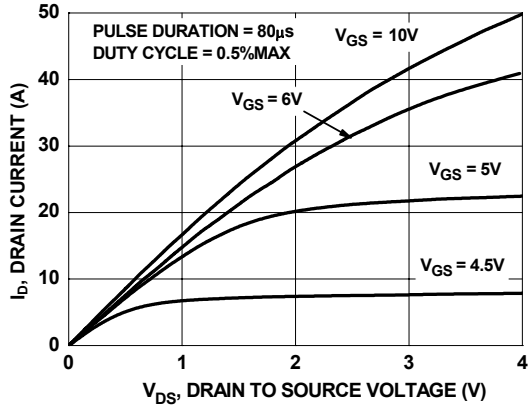


Figure 1. On Region Characteristics

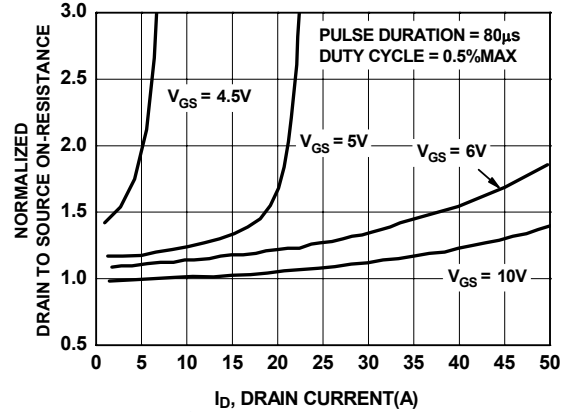


Figure 2. Normalized On-Resistance vs Drain Current and Gate Voltage

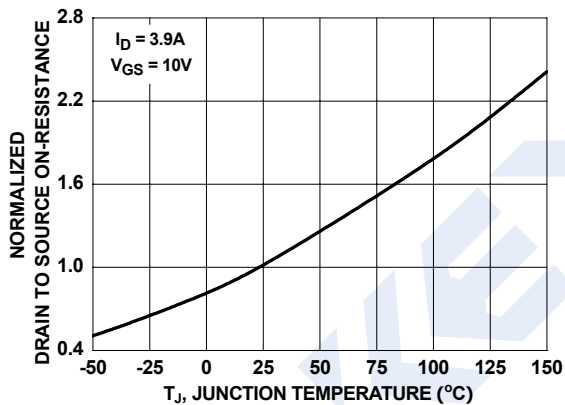


Figure 3. Normalized On Resistance vs Junction Temperature

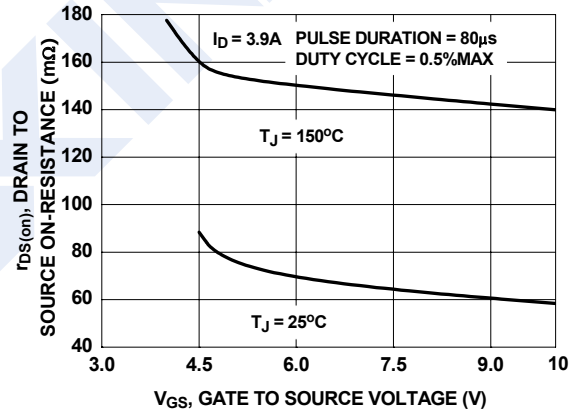


Figure 4. On-Resistance vs Gate to Source Voltage

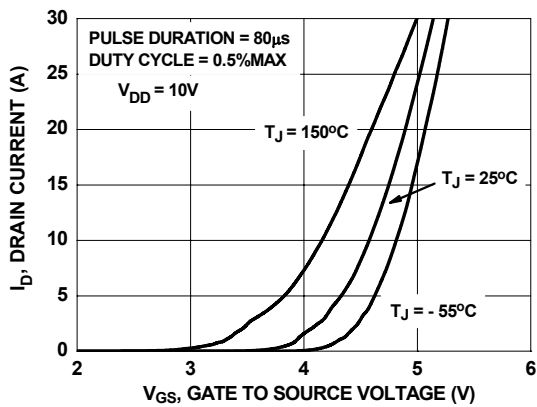


Figure 5. Transfer Characteristics

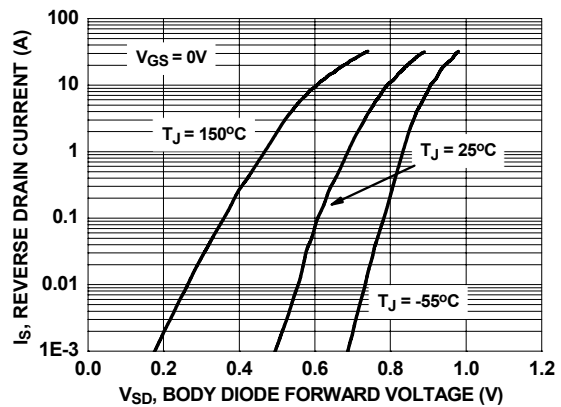


Figure 6. Source to Drain Diode Forward Voltage vs Source Current

N-Channel MOSFET FDS2672 (KDS2672)

■ Typical Characteristics

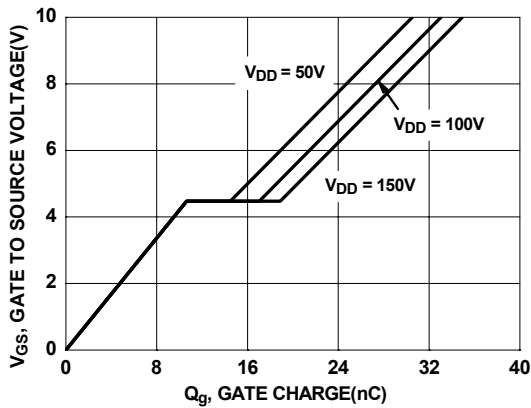


Figure 7. Gate Charge Characteristics

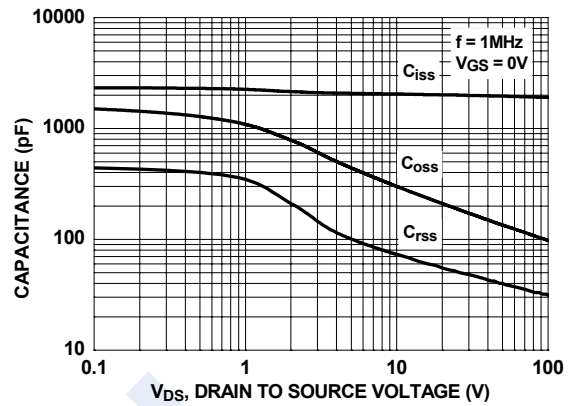


Figure 8. Capacitance vs Drain to Source Voltage

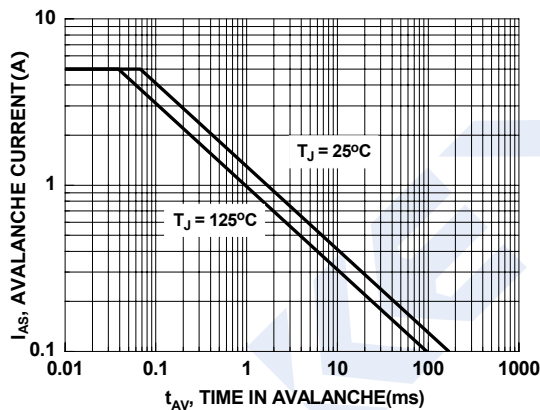


Figure 9. Unclamped Inductive Switching Capability

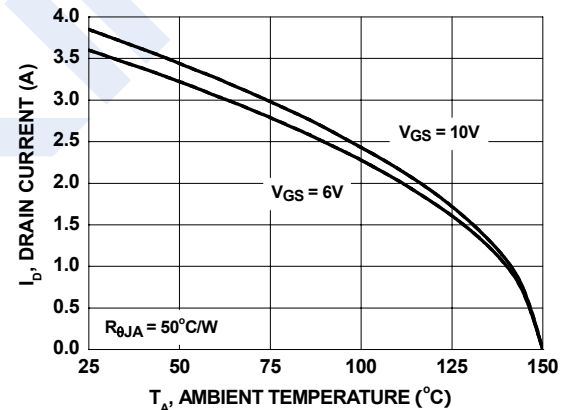


Figure 10. Ambient Continuous Drain Current vs Case Temperature

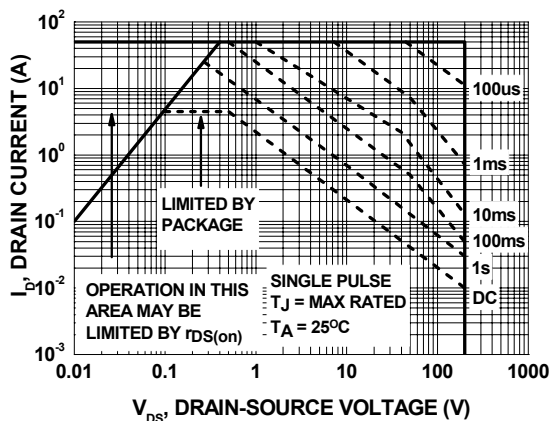


Figure 11. Forward Bias Safe Operating Area

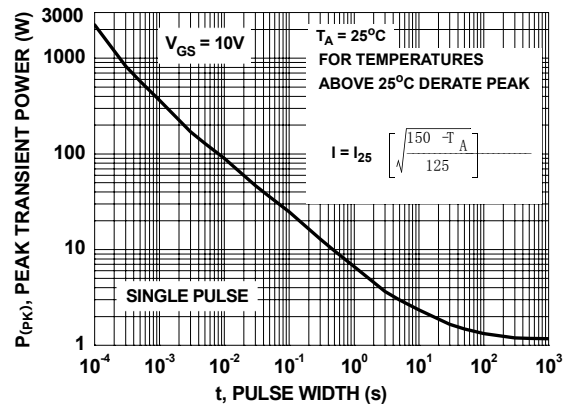


Figure 12. Single Pulse Maximum Power Dissipation

N-Channel MOSFET

FDS2672 (KDS2672)

■ Typical Characteristics

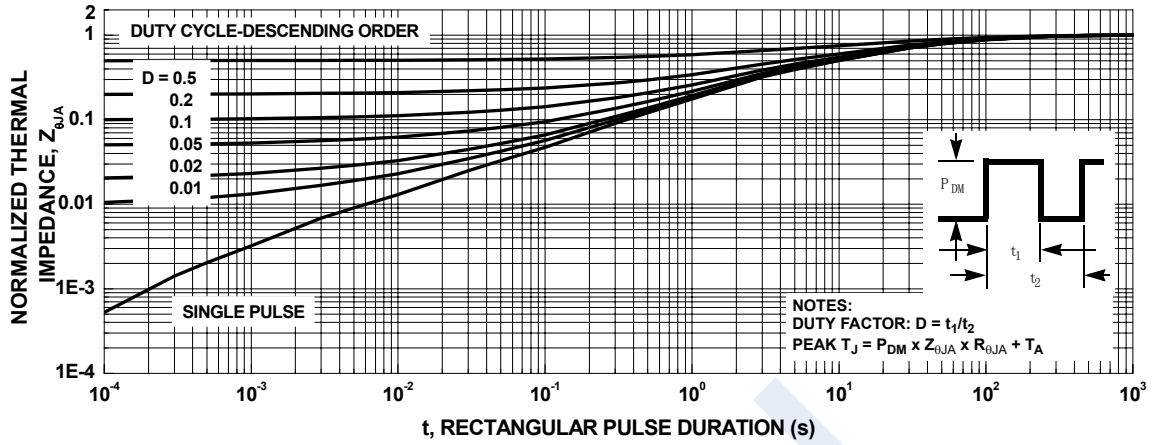


Figure 13. Transient Thermal Response Curve

Thermal characterization performed using the conditions described in Note 1b
 Transient thermal response will change depending on the circuit board design