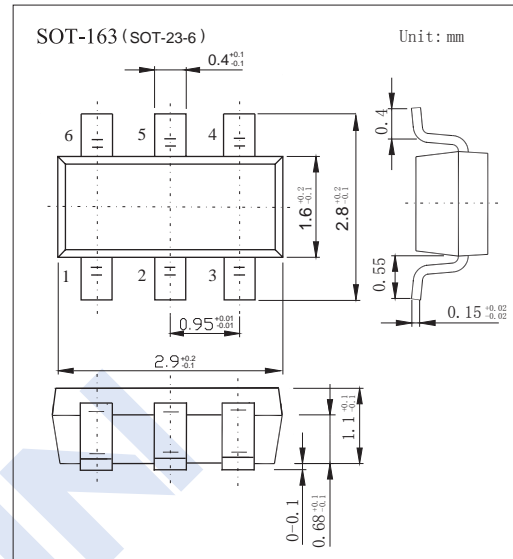
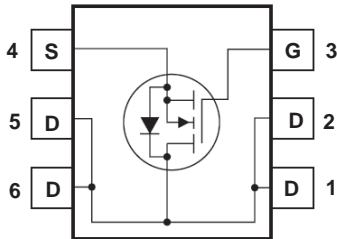


N-Channel MOSFET

FDC86244 (KDC86244)

■ Features

- $V_{DS} = 150V$
- $I_D = 2.3 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 144m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 188m\Omega$ ($V_{GS} = 6V$)
- Fast switching speed



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	150	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	2.3	A
Pulsed Drain Current	I_{DM}	10	
Power Dissipation	(Note.1)	1.6	W
	(Note.2)	0.8	
Single Pulse Avalanche Energy	(Note.3)	12	mJ
Thermal Resistance.Junction- to-Ambient	(Note.1)	78	$^\circ C/W$
Thermal Resistance.Junction- to-Case	R_{thJC}	30	
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: 78 $^\circ C/W$ when mounted on a 1 in² pad of 2 oz copper

Note.2: 175 $^\circ C/W$ when mounted on a minimum pad of 2 oz copper

Note.3: Starting $T_J = 25^\circ C$, $L = 1.0 mH$, $I_{AS} = 5.0 A$, $V_{DD} = 135 V$, $V_{GS} = 10 V$.

N-Channel MOSFET

FDC86244 (KDC86244)

■ 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	150			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =120V, V _{GS} =0V			1	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 =250 μA	2		4	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =2.3A			144	mΩ
		V _{GS} =10V, I _D =2.3A T _J =125°C			273	
		V _{GS} =6V, I _D =1.9A			188	
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =2.3A		6		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =75V, f=1MHz		260	345	pF
Output Capacitance	C _{oss}			32	45	
Reverse Transfer Capacitance	C _{rss}			1.7	5	
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		1.3		Ω
Total Gate Charge	Q _g	V _{GS} =0 to 10V, V _{DS} =75V, I _D =2.3A		4.2	6	
				2.4	4	
Gate Source Charge	Q _{gs}	V _{GS} =0 to 5V, V _{DS} =75V, I _D =2.3A		1		nC
Gate Drain Charge	Q _{gd}			1		
Turn-On DelayTime	t _{d(on)}	V _{DD} = 75 V, I _D = 2.3 A, V _{GS} = 10 V, R _{GEN} = 6 Ω		4.7	10	ns
Turn-On Rise Time	t _r			1.4	10	
Turn-Off DelayTime	t _{d(off)}			10	20	
Turn-Off Fall Time	t _f			3.1	10	
Body Diode Reverse Recovery Time	t _{rr}			45	73	
Body Diode Reverse Recovery Charge	Q _{rr}	I _F = 2.3A, di/dt= 100A/μs		33	53	nC
Maximum Body-Diode Continuous Current	I _S				2.3	A
Diode Forward Voltage	V _{SD}	I _S =2.3A, V _{GS} =0V			1.3	V

Note : Pulse Test: Pulse Width < 300 μs, Duty cycle < 2.0 %.

■ Marking

Marking	86244
---------	-------

N-Channel MOSFET FDC86244 (KDC86244)

■ Typical Characteristics

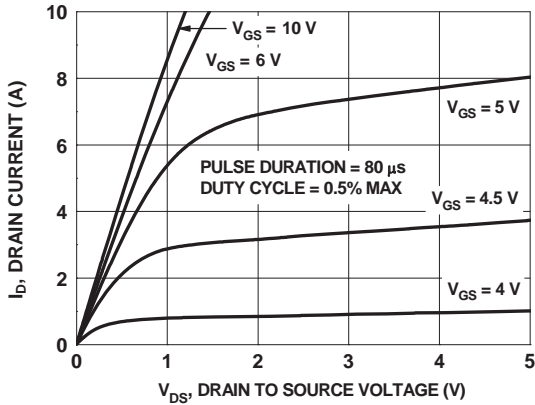


Figure 1. On-Region Characteristics

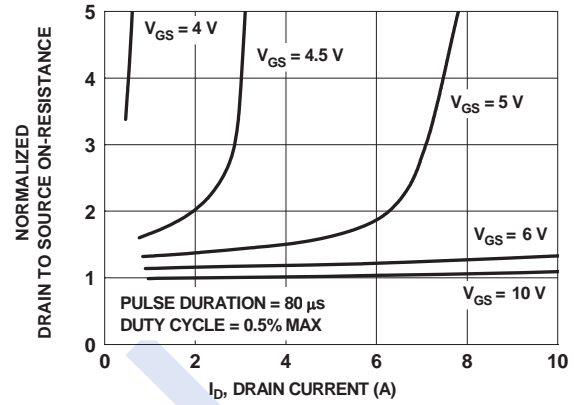
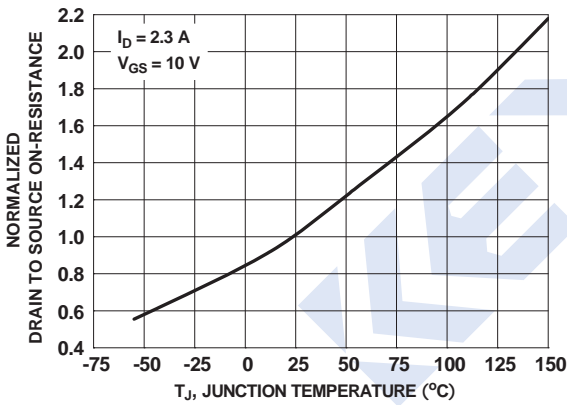


Figure 2. Normalized On-Resistance vs Drain Current and Gate Voltage



vs Junction Temperature

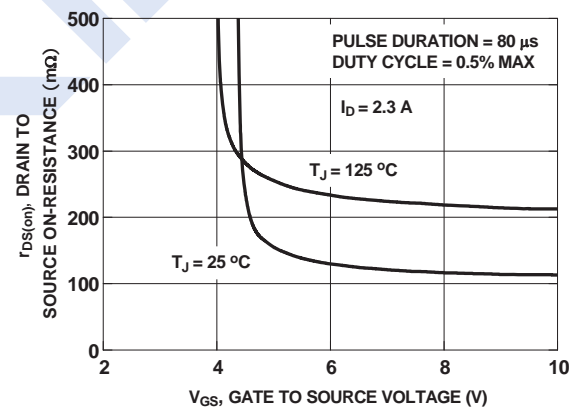


Figure 4. On-Resistance vs Gate to Source Voltage

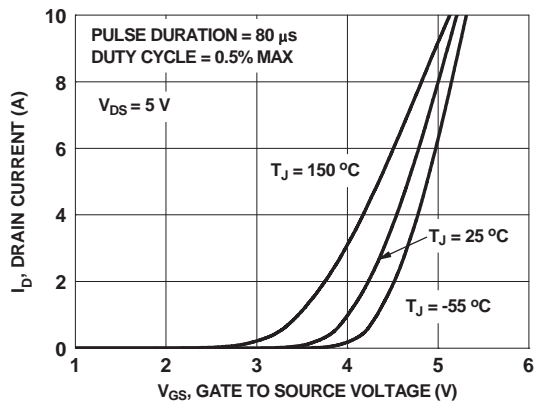


Figure 5. Transfer Characteristics

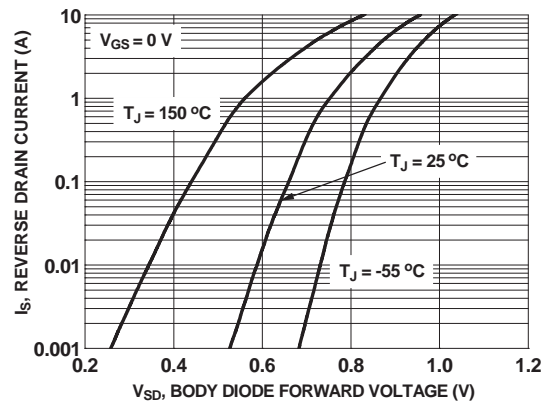


Figure 6. Source to Drain Diode Forward Voltage vs Source Current

N-Channel MOSFET FDC86244 (KDC86244)

■ Typical Characteristics

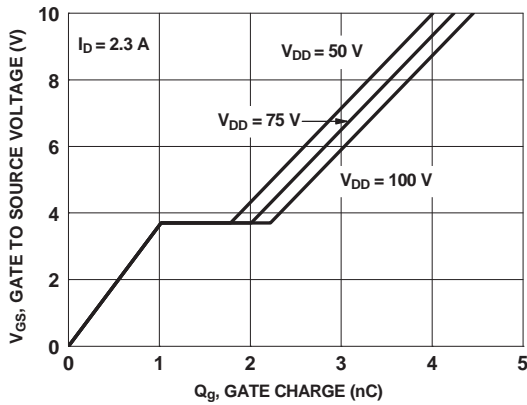


Figure 7. Gate Charge Characteristics

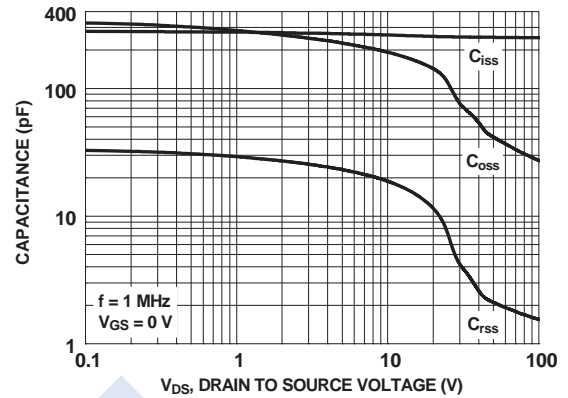


Figure 8. Capacitance vs Drain to Source Voltage

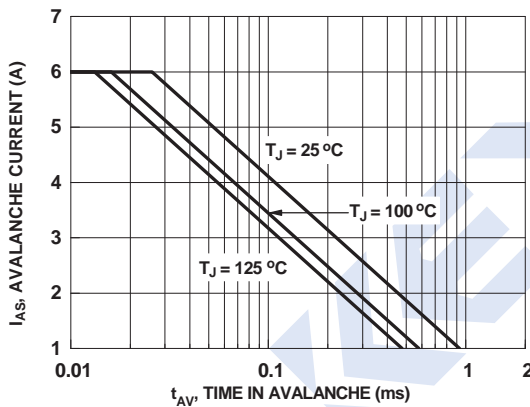


Figure 9. Unclamped Inductive Switching Capability

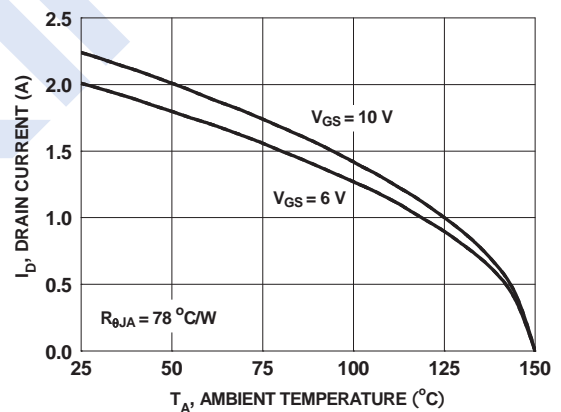


Figure 10. Maximum Continuous Drain Current vs Ambient Temperature

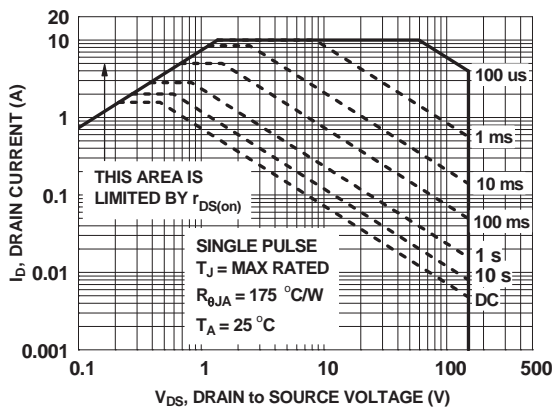


Figure 11. Forward Bias Safe Operating Area

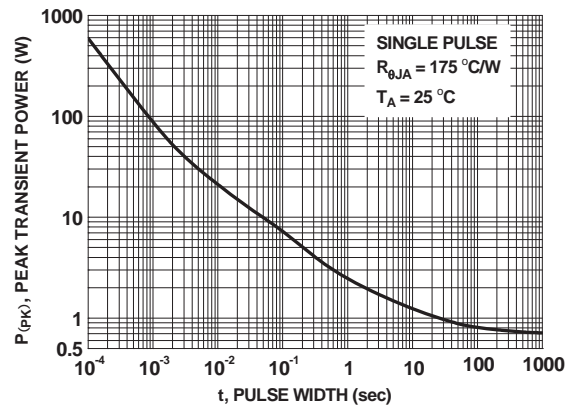


Figure 12. Single Pulse Maximum Power Dissipation

N-Channel MOSFET FDC86244 (KDC86244)

■ Typical Characteristics

