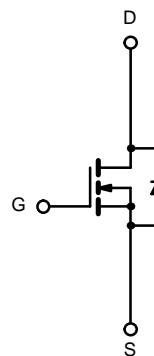
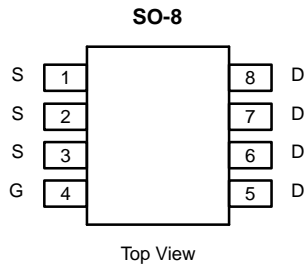




N-Channel 30-V (D-S) MOSFET

PRODUCT SUMMARY		
V _{DS} (V)	R _{DS(ON)} (Ω)	I _D (A)
30	0.0135 @ V _{GS} = 10 V	± 10
	0.020 @ V _{GS} = 4.5 V	± 8



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C UNLESS OTHERWISE NOTED)			
PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V _{DS}	30	V
Gate-Source Voltage	V _{GS}	± 20	
Continuous Drain Current (T _J = 150°C) ^A	I _D	T _A = 25°C	± 10
		T _A = 70°C	± 8
Pulsed Drain Current	I _{DM}	± 50	A
Continuous Source Current (Diode Conduction) ^A	I _S	2.3	
Maximum Power Dissipation ^A	P _D	T _A = 25°C	2.5
		T _A = 70°C	1.6
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150	°C

THERMAL RESISTANCE RATINGS			
PARAMETER	SYMBOL	LIMIT	UNIT
Maximum Junction-to-Ambient ^A	R _{thJA}	50	°C/W

Notes

A. Surface Mounted on FR4 Board, t ≤ 10 sec.

Updates to this data sheet may be obtained via facsimile by calling Siliconix FaxBack, 1-408-970-5600. Please request FaxBack document #70148. For SPICE model information via the Worldwide Web: <http://www.siliconix.com/www/product/spice.htm>


SPECIFICATIONS (T_J = 25°C UNLESS OTHERWISE NOTED)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP ^B	MAX	UNIT
STATIC						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	1.0			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30 V, V _{GS} = 0 V			1	μA
		V _{DS} = 30 V, V _{GS} = 0 V, T _J = 55°C			25	
On-State Drain Current ^A	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 10 V	20			A
Drain-Source On-State Resistance ^A	r _{DS(on)}	V _{GS} = 10 V, I _D = 10 A		0.011	0.0135	Ω
		V _{GS} = 4.5 V, I _D = 5 A		0.015	0.020	
Forward Transconductance ^A	g _{fs}	V _{DS} = 15 V, I _D = 10 A		38		S
Diode Forward Voltage ^A	V _{SD}	I _S = 2.3 A, V _{GS} = 0 V		0.7	1.1	V
DYNAMIC^B						
Gate Charge	Q _g	V _{DS} = 15 V, V _{GS} = 5 V, I _D = 10 A		22.5	34	nC
Total Gate Charge	Q _{gt}	V _{DS} = 15 V, V _{GS} = 10 V, I _D = 10 A		43	60	
Gate-Source Charge	Q _{gs}			9.0		
Gate-Drain Charge	Q _{gd}			7.0		
Turn-On Delay Time	t _{d(on)}	V _{DD} = 25 V, R _L = 25 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω		15	30	ns
Rise Time	t _r			9	20	
Turn-Off Delay Time	t _{d(off)}			70	100	
Fall Time	t _f			20	80	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 2.3 A, di/dt = 100 A/μs		50	80	

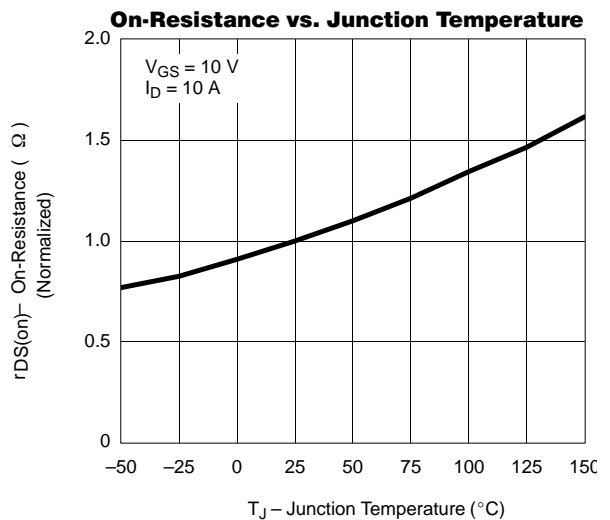
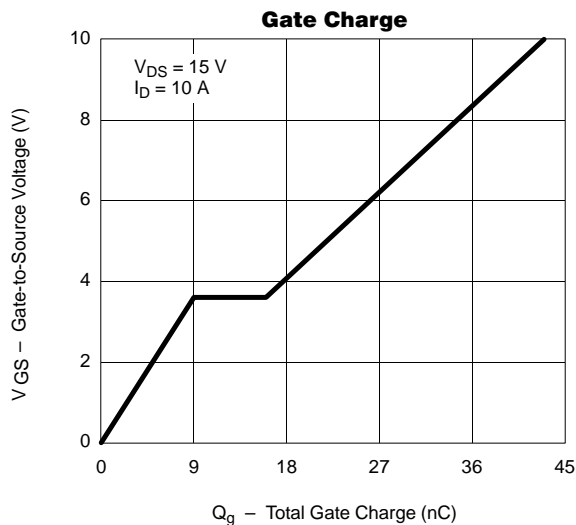
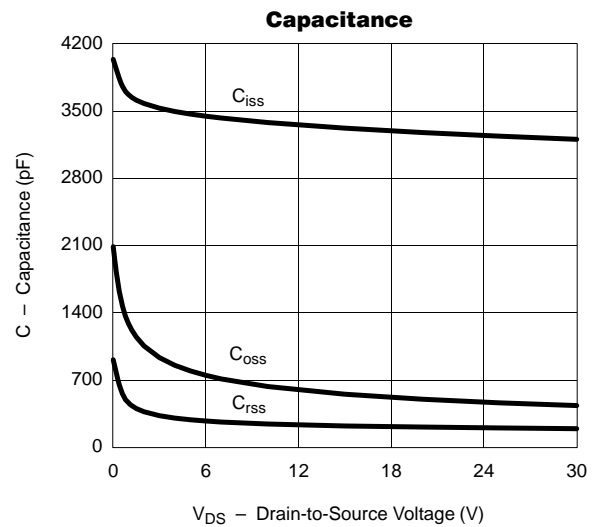
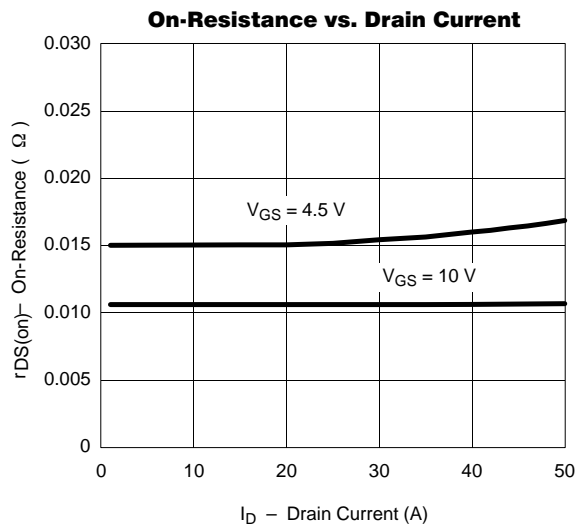
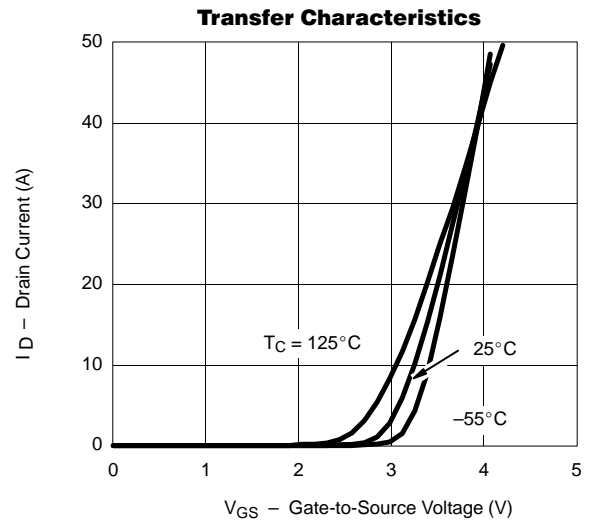
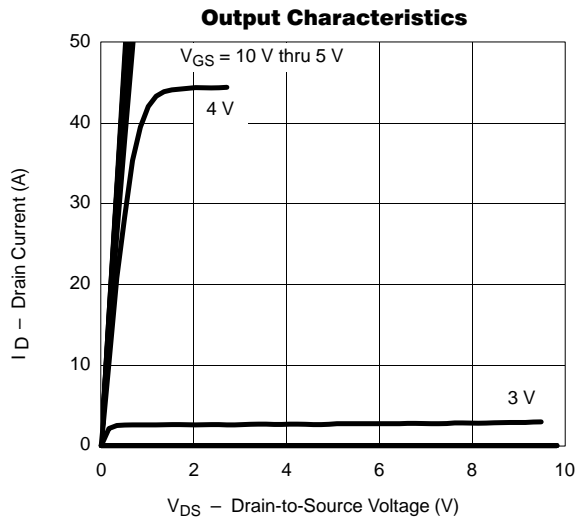
Notes

A. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.

B. Guaranteed by design, not subject to production testing. Values shown are for product revision A.



TYPICAL CHARACTERISTICS, PRODUCT REVISION A (25°C UNLESS NOTED)



TYPICAL CHARACTERISTICS, PRODUCT REVISION A (25°C UNLESS NOTED)

