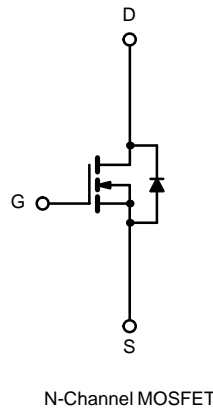
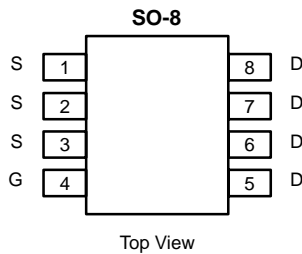




N-Channel 2.5-V (D-S) MOSFET

TrenchFET[®]
Power MOSFETs
2.5-V Rated

PRODUCT SUMMARY		
V _{DS} (V)	R _{DS(ON)} (Ω)	I _D (A)
20	0.009 @ V _{GS} = 4.5 V	± 13.2
	0.013 @ V _{GS} = 2.5 V	± 11



ABSOLUTE MAXIMUM RATINGS (T _A = 25° C UNLESS OTHERWISE NOTED)			
PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V _{DS}	20	V
Gate-Source Voltage	V _{GS}	± 12	
Continuous Drain Current (T _J = 150°C) ^A	I _D	T _A = 25°C	± 13.2
		T _A = 70°C	± 10.5
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 #70716.



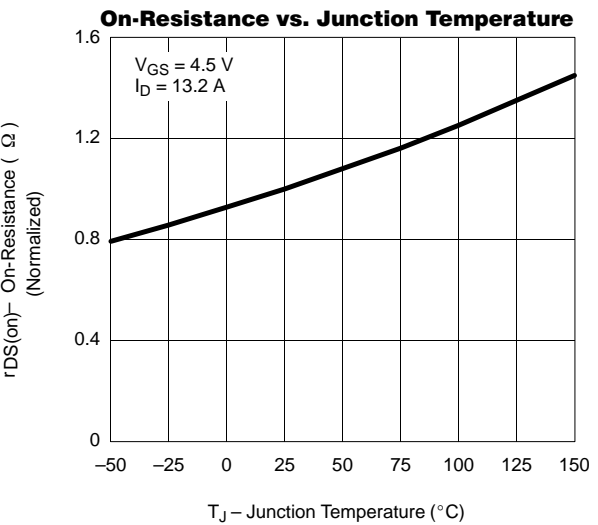
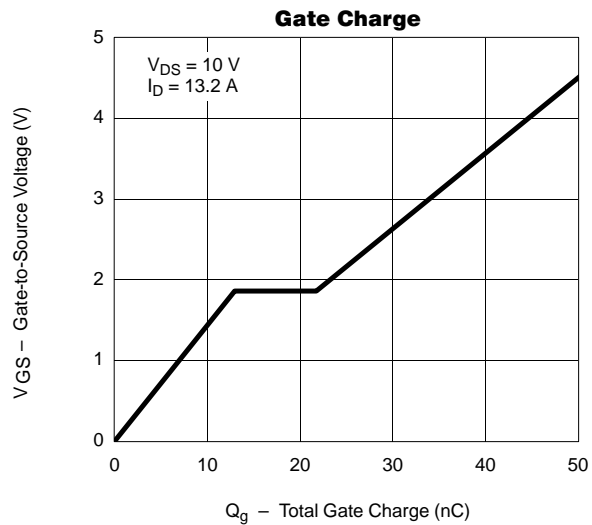
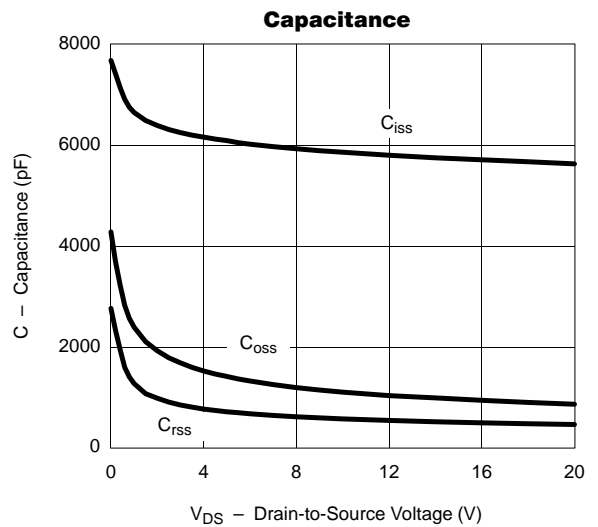
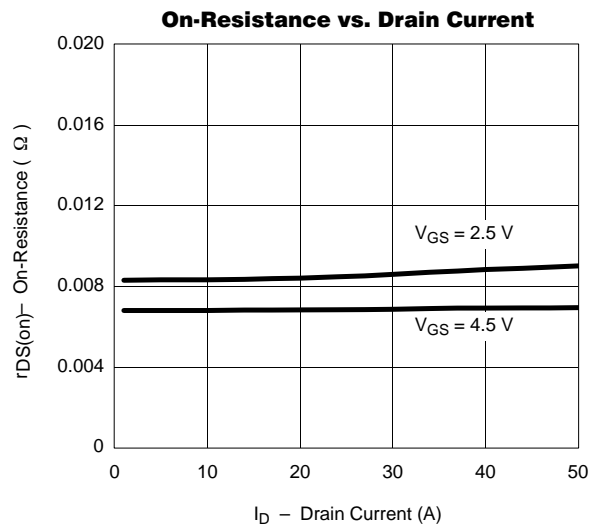
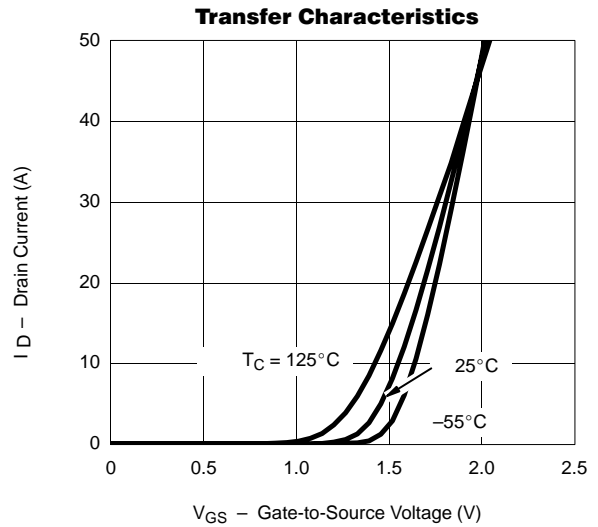
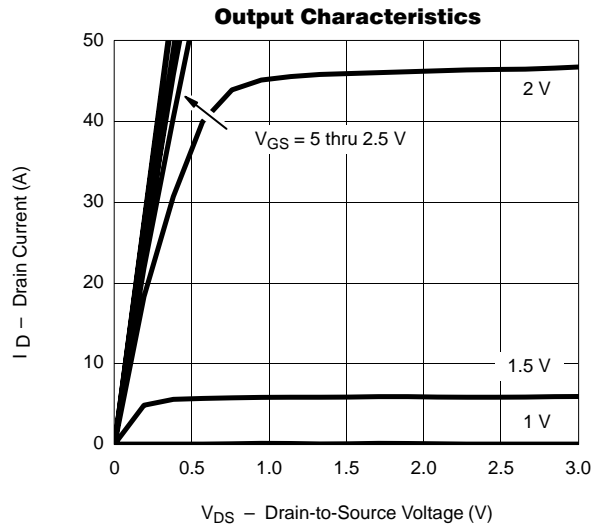
SPECIFICATIONS (T _J = 25°C UNLESS OTHERWISE NOTED)						
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP ^A	MAX	UNIT
STATIC						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	0.6			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±12 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 20 V, V _{GS} = 0 V			1	μA
		V _{DS} = 20 V, V _{GS} = 0 V, T _J = 55°C			5	
On-State Drain Current ^B	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 4.5 V	30			A
Drain-Source On-State Resistance ^B	r _{DS(on)}	V _{GS} = 4.5 V, I _D = 13.2 A		0.007	0.009	Ω
		V _{GS} = 2.5 V, I _D = 11 A		0.0085	0.013	
Forward Transconductance ^B	g _{fs}	V _{DS} = 10 V, I _D = 13.2 A		60		S
Diode Forward Voltage ^B	V _{SD}	I _S = 2.3 A, V _{GS} = 0 V			1.1	V
DYNAMICA						
Total Gate Charge	Q _g	V _{DS} = 10 V, V _{GS} = 4.5 V, I _D = 13.2 A		50	80	nC
Gate-Source Charge	Q _{gs}			13		
Gate-Drain Charge	Q _{gd}			9		
Turn-On Delay Time	t _{d(on)}	V _{DD} = 10 V, R _L = 10 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω		40	60	ns
Rise Time	t _r			50	75	
Turn-Off Delay Time	t _{d(off)}			210	280	
Fall Time	t _f			85	140	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 2.3 A, di/dt = 100 A/μs		55	90	

Notes

- A. Guaranteed by design, not subject to production testing.
- B. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.



TYPICAL CHARACTERISTICS (25°C UNLESS OTHERWISE NOTED)



TYPICAL CHARACTERISTICS (25°C UNLESS OTHERWISE NOTED)

