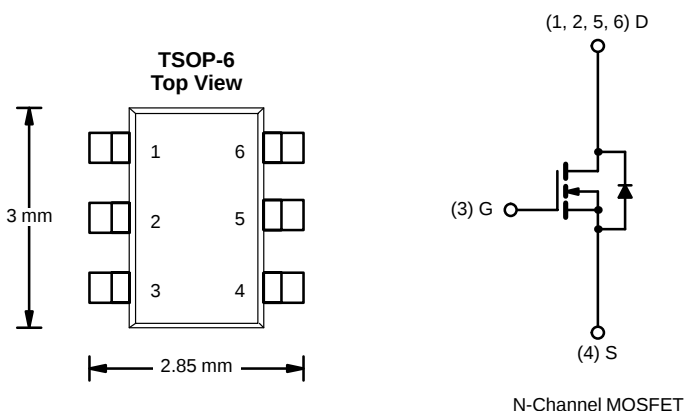




N-Channel 30-V (D-S) MOSFET

PRODUCT SUMMARY		
V _{DS} (V)	R _{DS(ON)} (Ω)	I _D (A)
30	0.065 @ V _{GS} = 10 V	± 4.2
	0.095 @ V _{GS} = 4.5 V	± 3.4

TrenchFET®
Power MOSFETs



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	T _A = 25 °C	I _D	± 4.2	A
	T _A = 70 °C		± 3.4	
Pulsed Drain Current		I _{DM}	± 20	
Continuous Source Current (Diode Conduction) ^A		I _S	± 1.7	
Maximum Power Dissipation ^A	T _A = 25 °C	P _D	2.0	W
	T _A = 70 °C		1.3	
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}	62.5	°C/W

Notes

A. Surface Mounted on FR4 Board, t ≤ 5 sec.

Updates to this data sheet may be obtained via facsimile by calling Siliconix FaxBack, 1-408-970-5600. Please request FaxBack document #70193.
For SPICE model information via the Worldwide Web: <http://www.siliconix.com/www/product/spice.htm>

SPECIFICATIONS (T_J = 25°C UNLESS OTHERWISE NOTED)

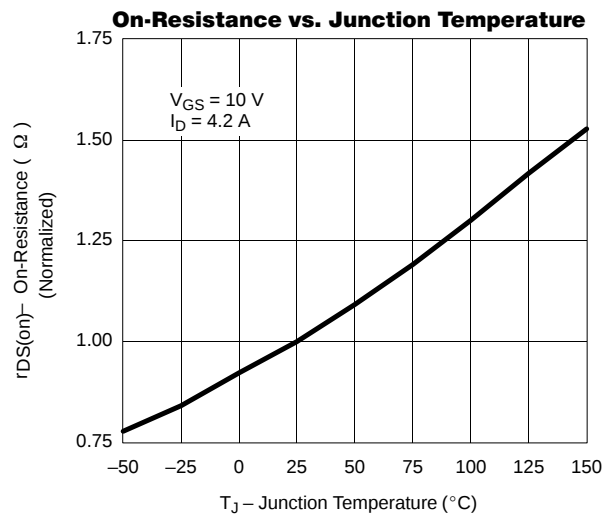
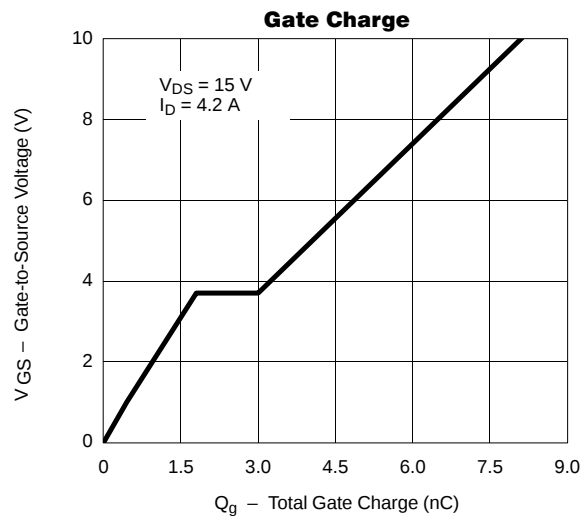
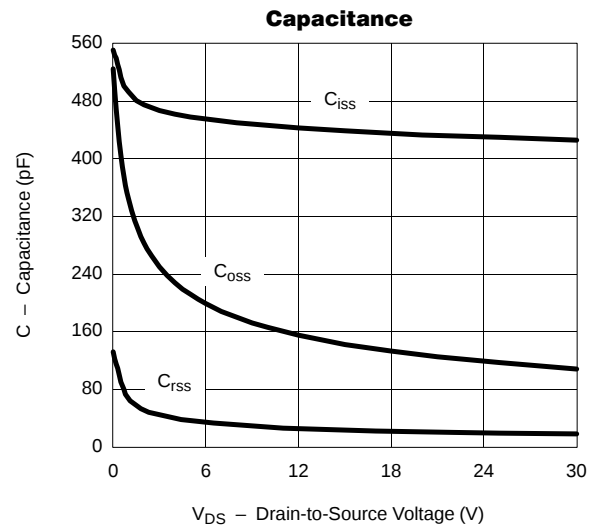
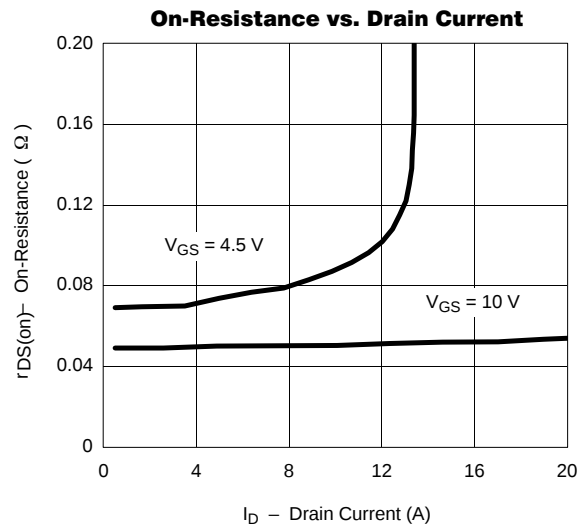
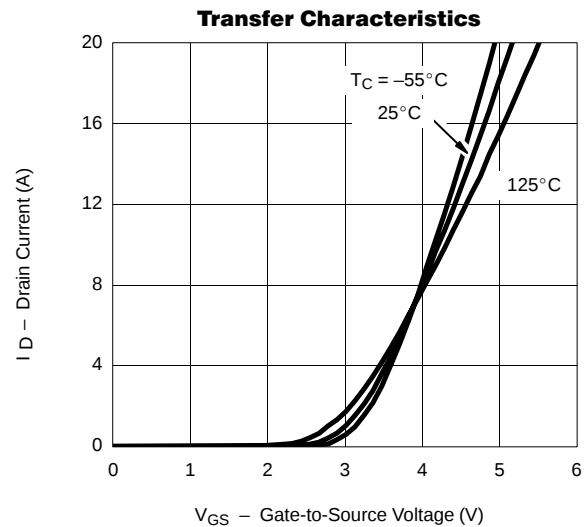
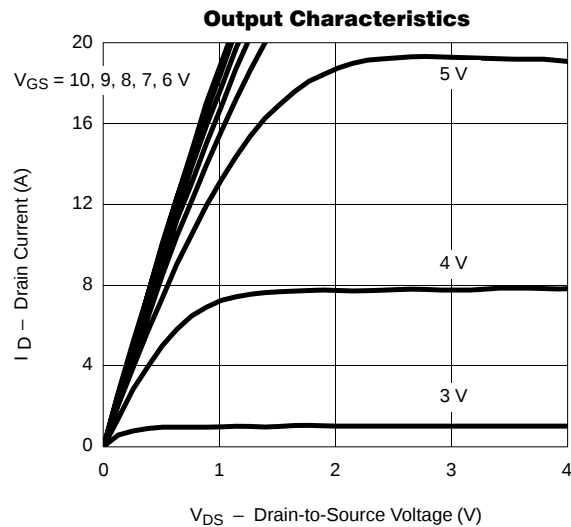
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
STATIC						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	1.0			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30 V, V _{GS} = 0 V			1	μA
		V _{DS} = 30 V, V _{GS} = 0 V, T _J = 70°C			25	
On-State Drain Current ^A	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	15			A
Drain-Source On-State Resistance ^A	r _{DS(on)}	V _{GS} = 10 V, I _D = 4.2 A		0.050	0.065	Ω
		V _{GS} = 4.5 V, I _D = 3.4 A		0.070	0.095	
Forward Transconductance ^A	g _{fs}	V _{DS} = 10 V, I _D = 4.2 A		7		S
Diode Forward Voltage ^A	V _{SD}	I _S = 1.7 A, V _{GS} = 0 V			1.2	V
DYNAMIC^B						
Total Gate Charge	Q _g	V _{DS} = 10 V, V _{GS} = 10 V, I _D = 4.2 A		8	15	nC
Gate-Source Charge	Q _{gs}			1.8		
Gate-Drain Charge	Q _{gd}			1.3		
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		10	20	ns
Rise Time	t _r			15	30	
Turn-Off Delay Time	t _{d(off)}			20	35	
Fall Time	t _f			10	20	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1.7 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.



TYPICAL CHARACTERISTICS (25°C UNLESS OTHERWISE NOTED)



TYPICAL CHARACTERISTICS (25°C UNLESS OTHERWISE NOTED)

