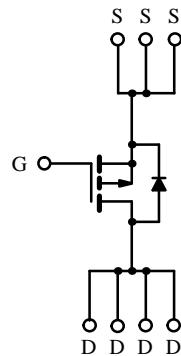
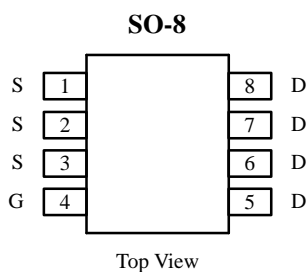


P-Channel Enhancement-Mode MOSFET

Product Summary

V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
-30	0.040 @ V _{GS} = -10 V	±5.8
	0.070 @ V _{GS} = -4.5 V	±4.5



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	±5.8	A
		T _A = 70°C	±4.6	
Pulsed Drain Current	I _{DM}	±30		
Continuous Source Current (Diode Conduction) ^a	I _S	-2.3		
Maximum Power Dissipation ^a	P _D	T _A = 25°C	2.5	W
		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 #70151. A SPICE Model data sheet is available for this product (FaxBack document #70553).

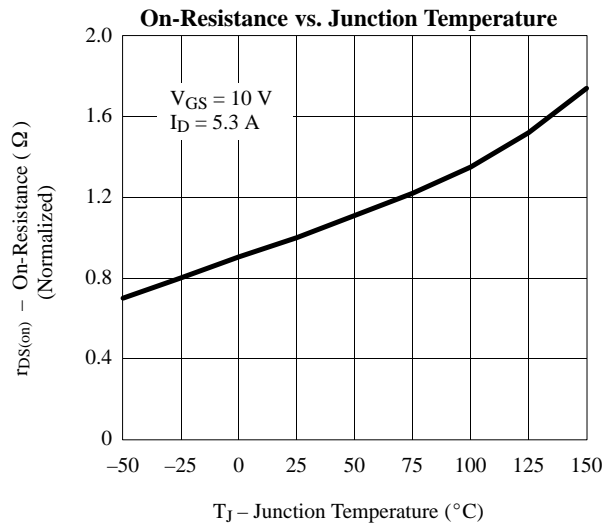
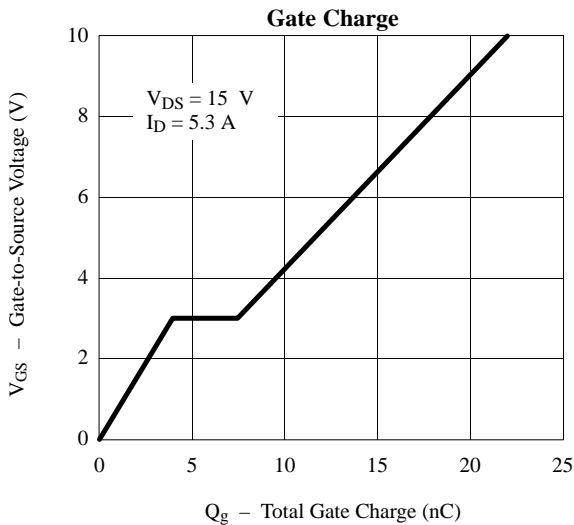
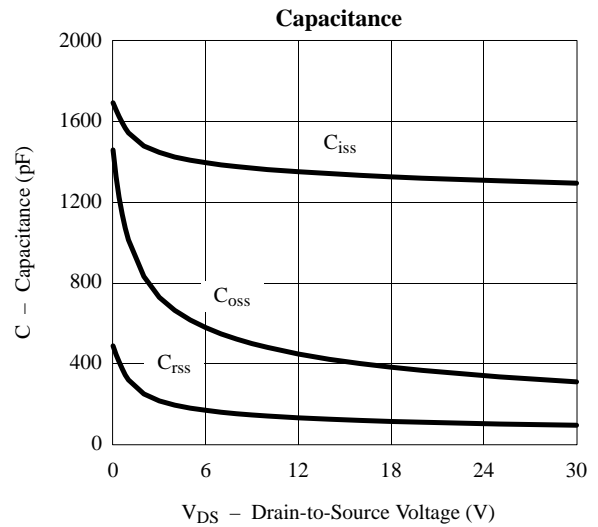
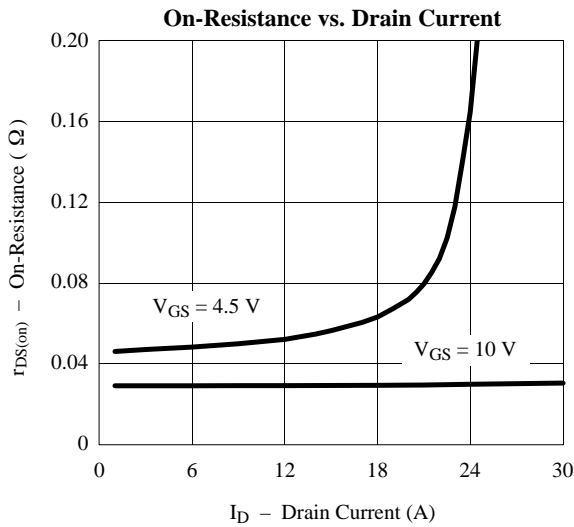
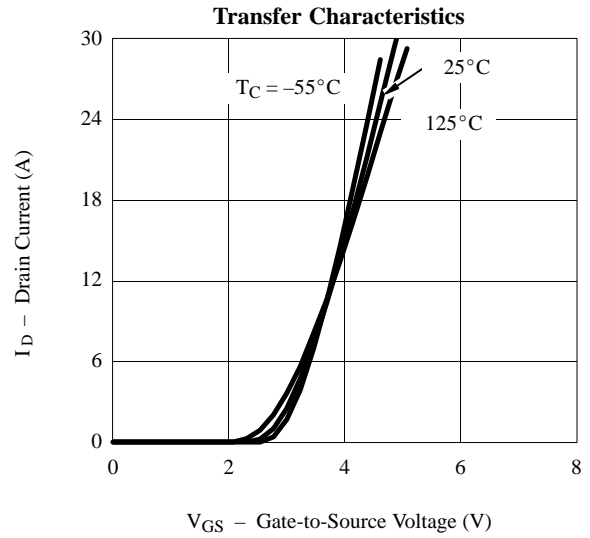
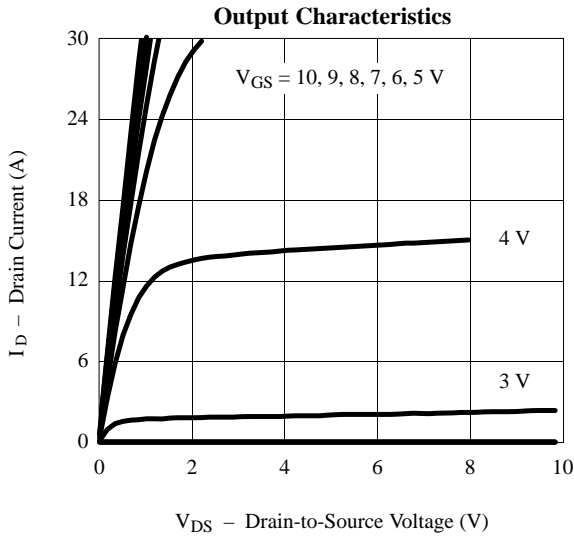
Specifications ($T_J = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ ^a	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250 \mu\text{A}$	-1.0			V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0 \text{ V}, V_{GS} = \pm 20 \text{ V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30 \text{ V}, V_{GS} = 0 \text{ V}$			-1	μA
		$V_{DS} = -30 \text{ V}, V_{GS} = 0 \text{ V}, T_J = 70^\circ\text{C}$			-25	
On-State Drain Current ^b	$I_{D(on)}$	$V_{DS} \leq -5 \text{ V}, V_{GS} = -10 \text{ V}$	-30			A
		$V_{DS} \leq -5 \text{ V}, V_{GS} = -4.5 \text{ V}$	-7			
Drain-Source On-State Resistance ^b	$r_{DS(on)}$	$V_{GS} = -10 \text{ V}, I_D = -5.3 \text{ A}$		0.029	0.040	Ω
		$V_{GS} = -4.5 \text{ V}, I_D = -2.0 \text{ A}$		0.047	0.070	
Forward Transconductance ^b	g_{fs}	$V_{DS} = -15 \text{ V}, I_D = -5.3 \text{ A}$		9.3		S
Diode Forward Voltage ^b	V_{SD}	$I_S = -2.3 \text{ A}, V_{GS} = 0 \text{ V}$		-0.78	-1.2	V
Dynamic^a						
Total Gate Charge	Q_g	$V_{DS} = -15 \text{ V}, V_{GS} = -10 \text{ V}, I_D = -5.3 \text{ A}$		22	35	nC
Gate-Source Charge	Q_{gs}			3.95		
Gate-Drain Charge	Q_{gd}			3.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -15 \text{ V}, R_L = 15 \Omega$ $I_D \cong -1 \text{ A}, V_{GEN} = -10 \text{ V}, R_G = 6 \Omega$		11.5	20	ns
Rise Time	t_r			12	20	
Turn-Off Delay Time	$t_{d(off)}$			38	55	
Fall Time	t_f			15	25	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = -2.3 \text{ A}, di/dt = 100 \text{ A}/\mu\text{s}$		50	80	

Notes

- a. Guaranteed by design, not subject to production testing.
 b. Pulse test; pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$.

Typical Characteristics (25°C Unless Otherwise Noted)



Typical Characteristics (25°C Unless Otherwise Noted)

