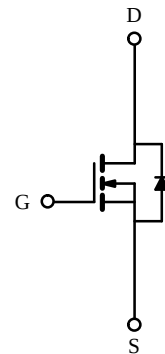
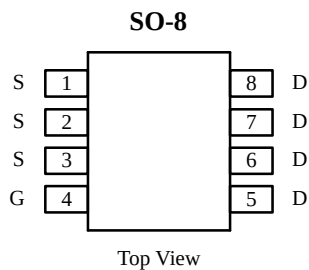


N-Channel Enhancement-Mode MOSFET

Product Summary

V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
60	0.024 @ $V_{GS} = 10$ V	± 7.5
	0.03 @ $V_{GS} = 6.0$ V	± 6.5



N-Channel MOSFET

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	$T_A = 25^\circ\text{C}$	I_D	± 7.5	A
	$T_A = 70^\circ\text{C}$		± 5.5	
Pulsed Drain Current		I_{DM}	± 50	
Continuous Source Current (Diode Conduction) ^a		I_S	2.1	
Maximum Power Dissipation ^a	$T_A = 25^\circ\text{C}$	P_D	2.5	W
	$T_A = 70^\circ\text{C}$		1.6	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

Thermal Resistance Ratings

Parameter	Symbol	Limit	Unit
Maximum Junction-to-Ambient ^a	R_{thJA}	50	$^\circ\text{C/W}$

Notes

a. Surface Mounted on FR4 Board, $t \leq 10$ sec.

Subsequent updates to this data sheet may be obtained via facsimile by calling Siliconix FaxBack, 1-408-970-5600. Please request FaxBack document #1226.

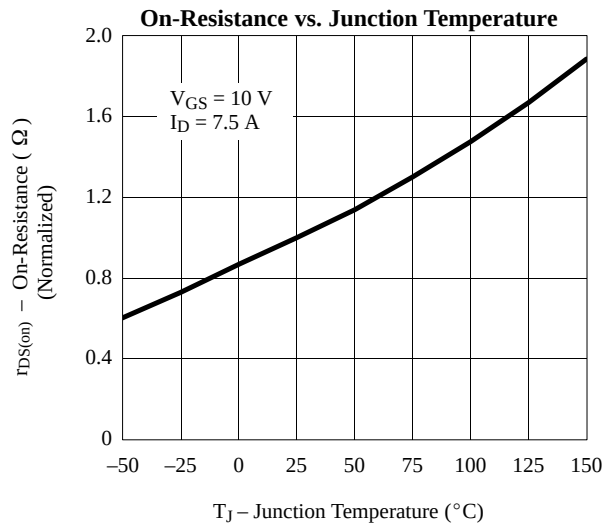
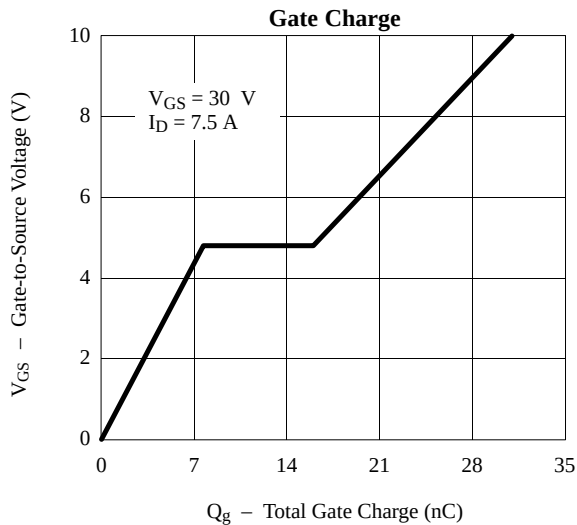
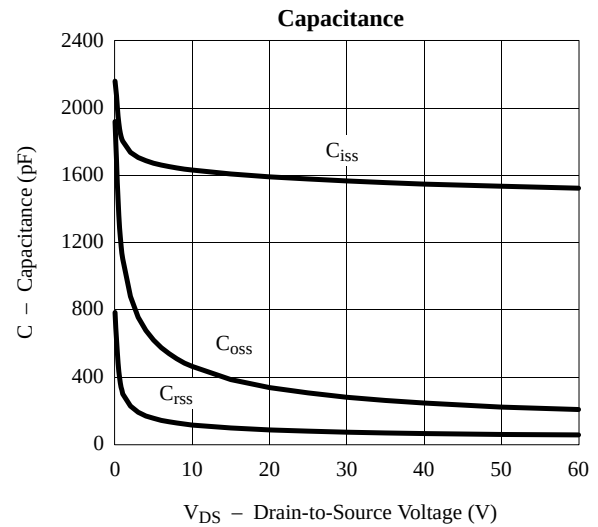
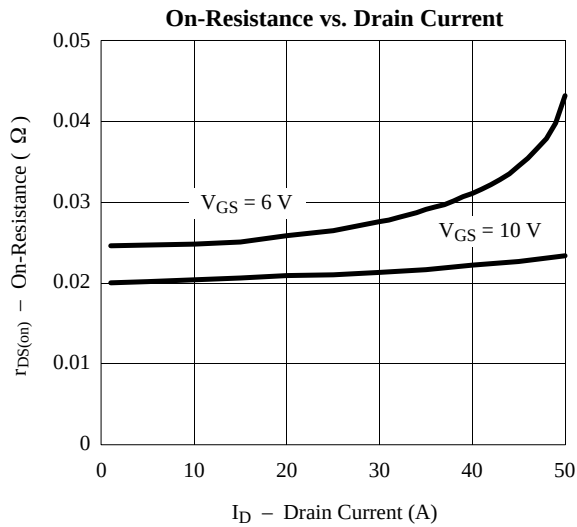
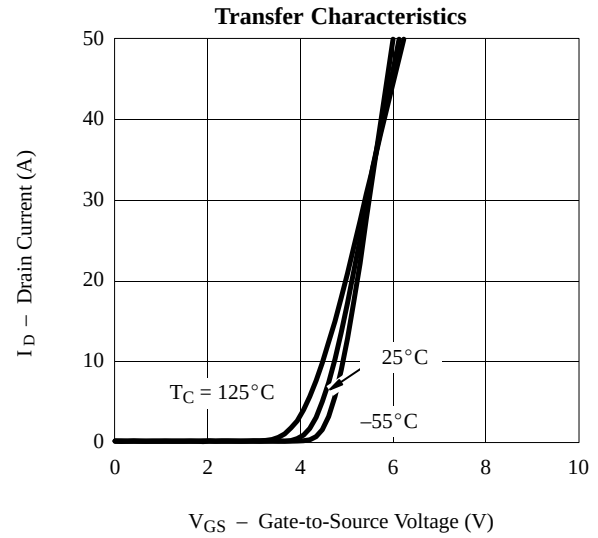
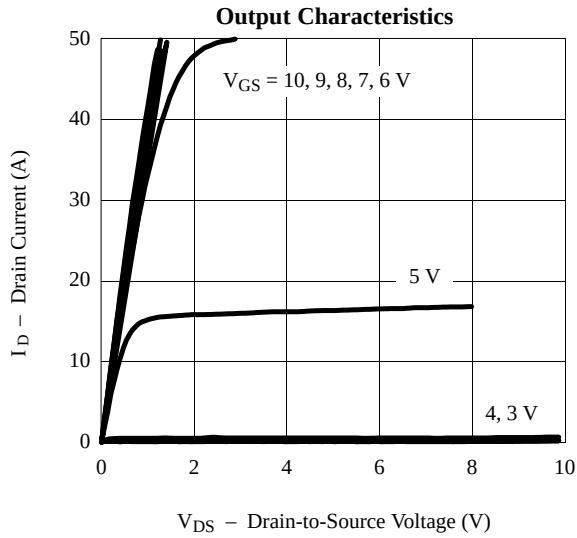
Specifications ($T_J = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ ^a	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	2			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}	$V_{DS} = 60\ \text{V}, V_{GS} = 0\ \text{V}$			1	μA
		$V_{DS} = 60\ \text{V}, V_{GS} = 0\ \text{V}, T_J = 55^\circ\text{C}$			20	
On-State Drain Current ^b	$I_{D(on)}$	$V_{DS} = 5\ \text{V}, V_{GS} = 10\ \text{V}$	20			A
Drain-Source On-State Resistance ^b	$r_{DS(on)}$	$V_{GS} = 10\ \text{V}, I_D = 7.5\ \text{A}$		0.020	0.024	Ω
		$V_{GS} = 6.0\ \text{V}, I_D = 6.5\ \text{A}$		0.025	0.03	
Forward Transconductance ^b	g_{fs}	$V_{DS} = 15\ \text{V}, I_D = 7.5\ \text{A}$		18.5		S
Diode Forward Voltage ^b	V_{SD}	$I_S = 2.1\ \text{A}, V_{GS} = 0\ \text{V}$		0.75	1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS} = 30\ \text{V}, V_{GS} = 10\ \text{V}, I_D = 7.5\ \text{A}$		31	50	nC
Gate-Source Charge	Q_{gs}			7.7		
Gate-Drain Charge	Q_{gd}			8.3		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 30\ \text{V}, R_L = 30\ \Omega$ $I_D \cong 1\ \text{A}, V_{GEN} = 10\ \text{V}, R_G = 6\ \Omega$		16	30	ns
Rise Time	t_r			11	20	
Turn-Off Delay Time	$t_{d(off)}$			41	80	
Fall Time	t_f			21	40	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 2.1\ \text{A}, di/dt = 100\ \text{A}/\mu\text{s}$		46	80	

Notes

- a. For design aid only; 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)

