

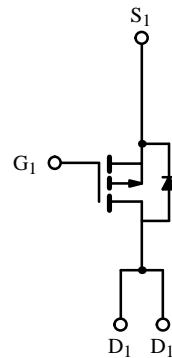
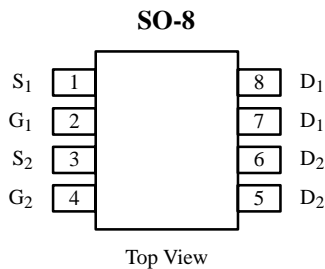
Dual P-Channel 60-V (D-S), 175°C MOSFET

New Product

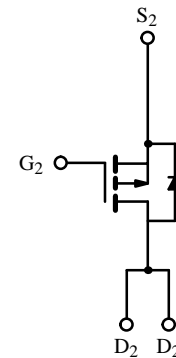
Product Summary

V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-60	0.17 @ $V_{GS} = -10$ V	± 2.6
	0.26 @ $V_{GS} = -4.5$ V	± 2.1

175°C Rated
Maximum Junction Temperature
TrenchFET™
Power MOSFETs



P-Channel MOSFET



P-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 ($T_J = 175^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	± 2.6
		$T_A = 70^\circ\text{C}$	± 2.2
Pulsed Drain Current	I_{DM}	± 15	A
Continuous Source Current (Diode Conduction) ^a	I_S	-2	
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	2.4
		$T_A = 70^\circ\text{C}$	1.7
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 175	$^\circ\text{C}$

Thermal Resistance Ratings

Parameter	Symbol	Typ	Max	Unit
Junction-to-Ambient ^a Junction-to-Ambient ^a	R_{thJA} R_{thJA}		62.5	$^\circ\text{C/W}$ $^\circ\text{C/W}$
		$t \leq 10$ sec		
		Steady State	93	

Notes

a. Surface Mounted on 1" x 1" FR4 Board

Updates to this data sheet may be obtained via facsimile by calling Siliconix FaxBack, 1-408-970-5600. Please request FaxBack document #70759.

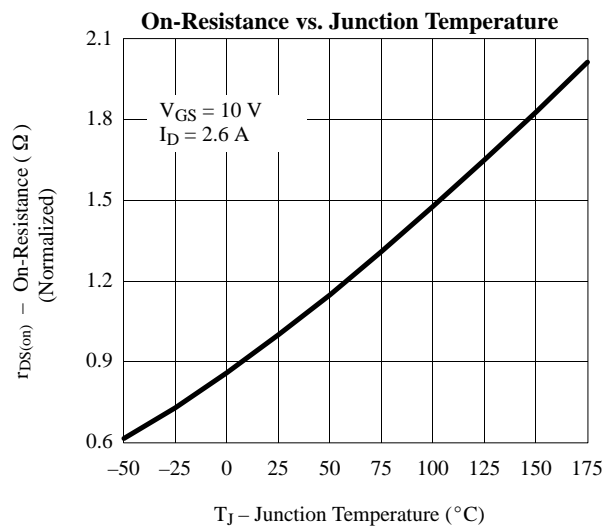
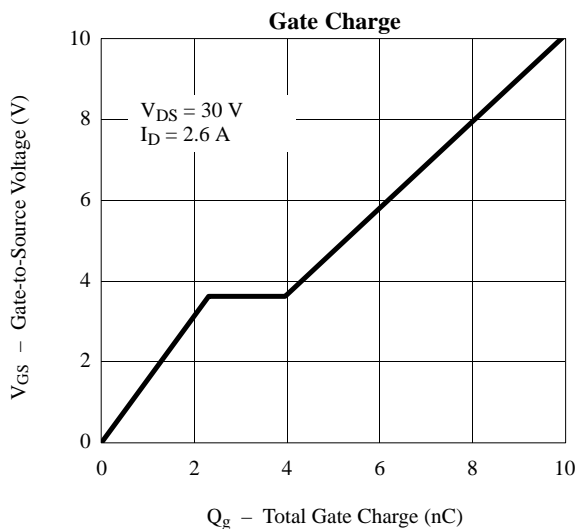
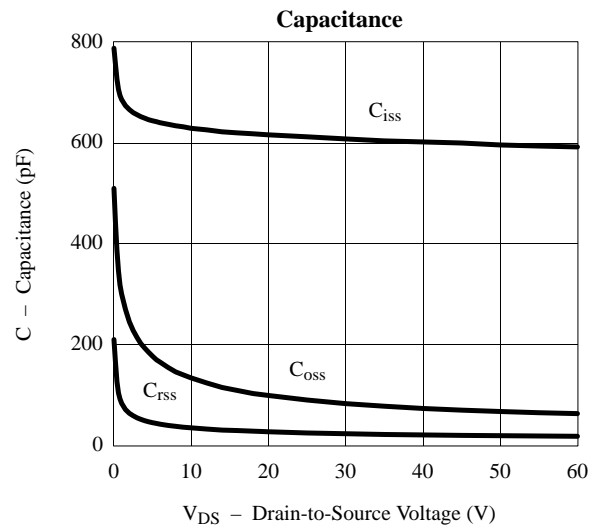
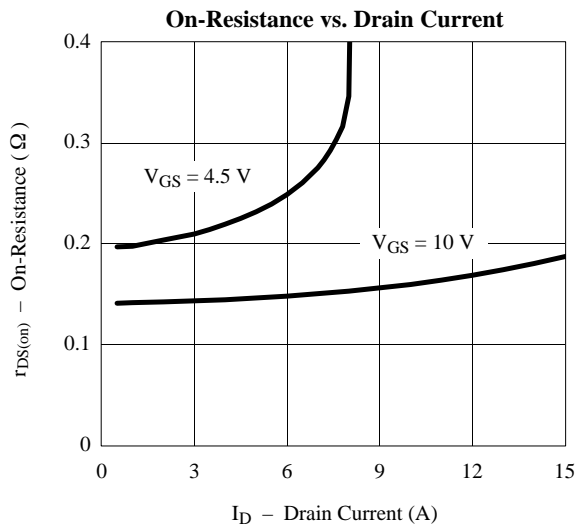
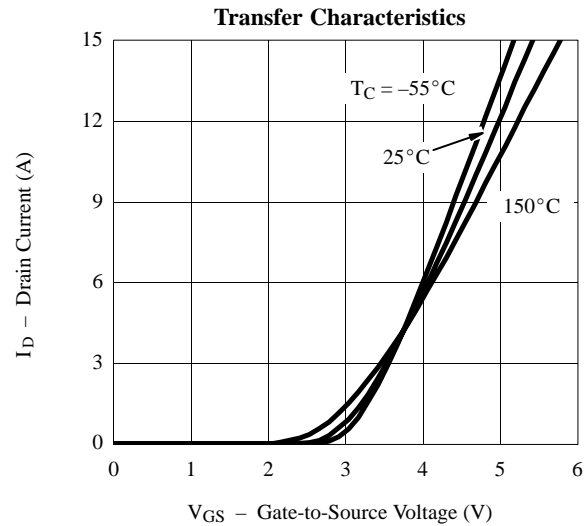
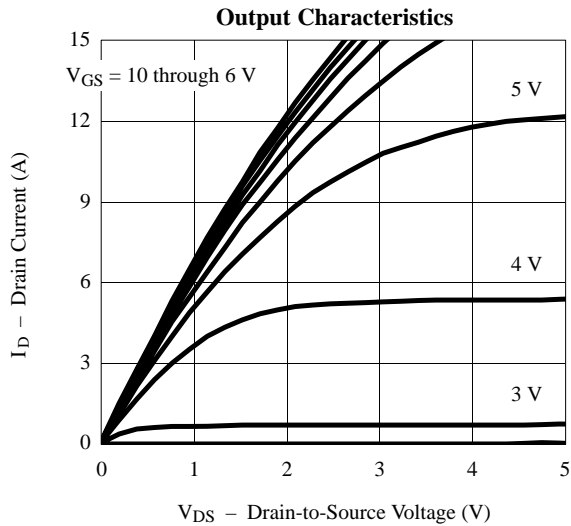
Specifications ($T_J = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-1			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
		$V_{DS} = -60\ \text{V}, V_{GS} = 0\ \text{V}, T_J = 55^\circ\text{C}$			-10	
On-State Drain Current ^b	$I_{D(on)}$	$V_{DS} \leq -5\ \text{V}, V_{GS} = -10\ \text{V}$	-15			A
Drain-Source On-State Resistance ^b	$r_{DS(on)}$	$V_{GS} = -10\ \text{V}, I_D = -2.6\ \text{A}$		0.14	0.17	Ω
		$V_{GS} = -4.5\ \text{V}, I_D = -2.1\ \text{A}$		0.20	0.26	
Forward Transconductance ^b	g_{fs}	$V_{DS} = -15\ \text{V}, I_D = -2.6\ \text{A}$		5.0		S
Diode Forward Voltage ^b	V_{SD}	$I_S = -2.0\ \text{A}, V_{GS} = 0\ \text{V}$			-1.2	V
Dynamic^a						
Total Gate Charge	Q_g	$V_{DS} = -30\ \text{V}, V_{GS} = -10\ \text{V}, I_D = -2.6\ \text{A}$		10	20	nC
Gate-Source Charge	Q_{gs}			2.5		
Gate-Drain Charge	Q_{gd}			1.8		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -30\ \text{V}, R_L = 30\ \Omega$ $I_D \cong -1\ \text{A}, V_{GEN} = -10\ \text{V}, R_G = 6\ \Omega$		8	20	ns
Rise Time	t_r			10	20	
Turn-Off Delay Time	$t_{d(off)}$			23	40	
Fall Time	t_f			12	20	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = -2.0\ \text{A}, di/dt = 100\ \text{A}/\mu\text{s}$		50	90	

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)





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