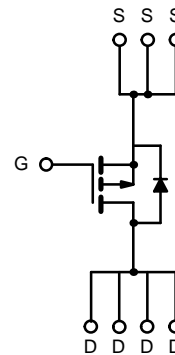
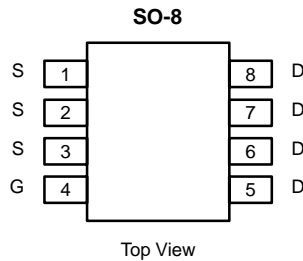




P-Channel Enhancement-Mode MOSFET

PRODUCT SUMMARY		
V <sub>DS</sub> (V)	R <sub>DS(on)</sub> (Ω)	I <sub>D</sub> (A)
-20	0.040 @ V <sub>GS</sub> = -4.5 V	±6.4
	0.060 @ V <sub>GS</sub> = -2.5 V	±5.1

Recommended upgrade: Si9424DY



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS (T <sub>A</sub> = 25 °C UNLESS OTHERWISE NOTED)			
PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V <sub>DS</sub>	-20	V
Gate-Source Voltage	V <sub>GS</sub>	±8	
Continuous Drain Current (T <sub>J</sub> = 150 °C) <sup>A</sup>	I <sub>D</sub>	T <sub>A</sub> = 25 °C	±6.4
		T <sub>A</sub> = 70 °C	±5.1
Pulsed Drain Current	I <sub>DM</sub>	±10	A
Continuous Source Current (Diode Conduction) <sup>A</sup>	I <sub>S</sub>	-2.5	
Maximum Power Dissipation <sup>A</sup>	P <sub>D</sub>	T <sub>A</sub> = 25 °C	2.5
		T <sub>A</sub> = 70 °C	1.6
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C

THERMAL RESISTANCE RATINGS			
PARAMETER	SYMBOL	LIMIT	UNIT
Maximum Junction-to-Ambient <sup>A</sup>	R <sub>thJA</sub>	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 #70147. A SPICE Model data sheet is available for this product (FaxBack document #70528).


**SPECIFICATIONS (T<sub>J</sub> = 25° C UNLESS OTHERWISE NOTED)**

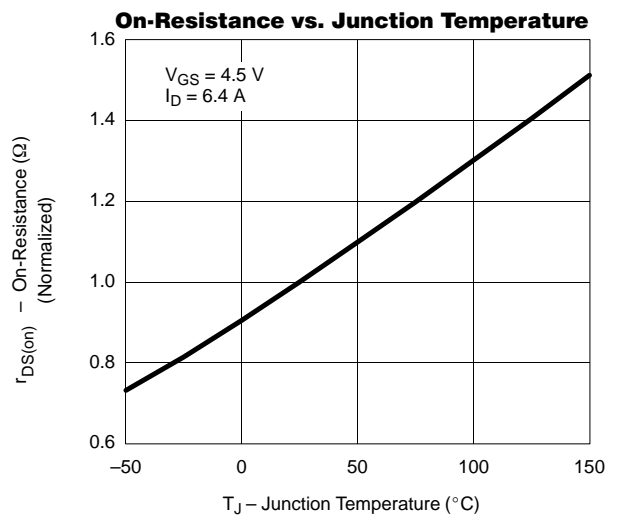
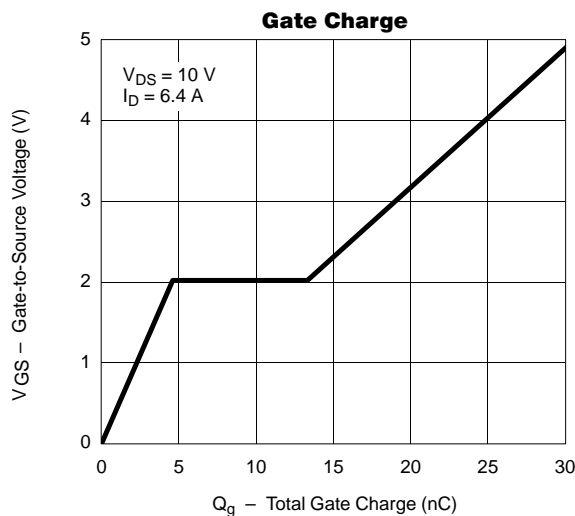
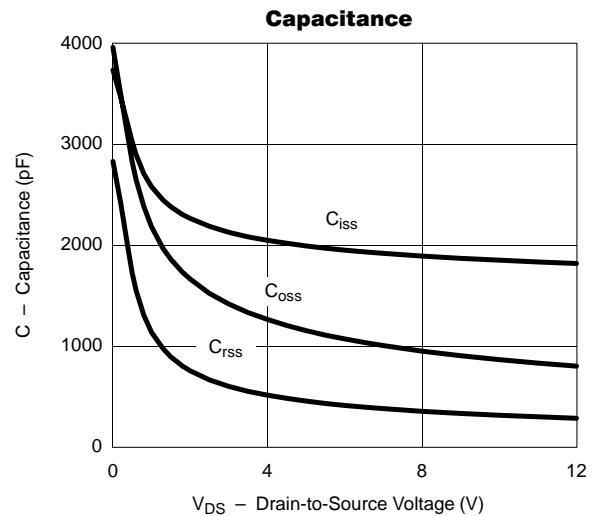
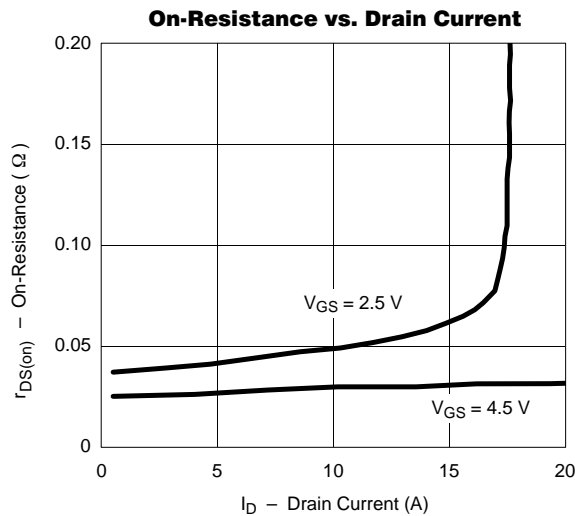
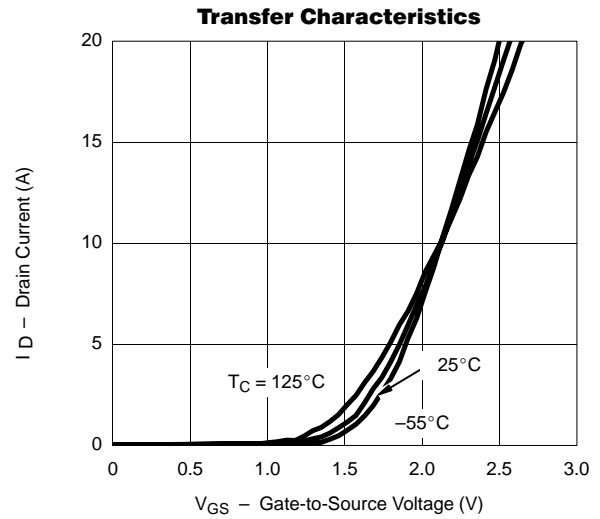
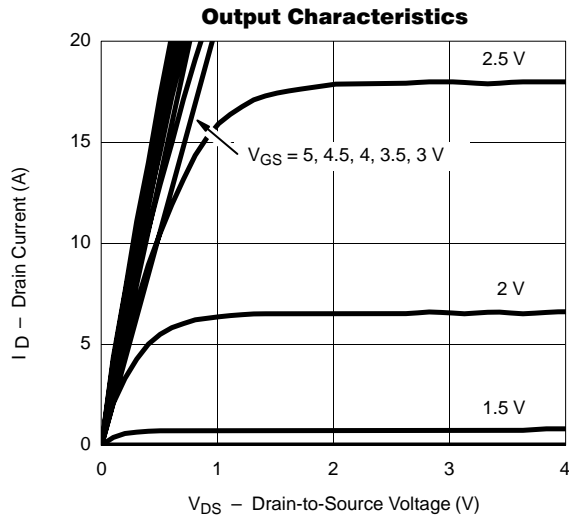
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
<b>STATIC</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250 μA	-0.6			V
Gate-Body Leakage	I <sub>GSS</sub>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±8 V			±100	nA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -16 V, V <sub>GS</sub> = 0 V			-1	μA
		V <sub>DS</sub> = -16 V, V <sub>GS</sub> = 0 V, T <sub>J</sub> = 70° C			-5	
On-State Drain Current <sup>A</sup>	I <sub>D(on)</sub>	V <sub>DS</sub> ≤ -5 V, V <sub>GS</sub> = -4.5 V	-10			A
		V <sub>DS</sub> ≤ -5 V, V <sub>GS</sub> = -2.5 V	-5			
Drain-Source On-State Resistance <sup>A</sup>	r <sub>DS(on)</sub>	V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -6.4 A		0.031	0.040	Ω
		V <sub>GS</sub> = -2.5 V, I <sub>D</sub> = -5.1 A		0.045	0.060	
Forward Transconductance <sup>A</sup>	g <sub>fs</sub>	V <sub>DS</sub> = -9 V, I <sub>D</sub> = -6.4 A		14		S
Diode Forward Voltage <sup>A</sup>	V <sub>SD</sub>	I <sub>S</sub> = -2.5 A, V <sub>GS</sub> = 0 V		-0.9	-1.2	V
<b>Dynamic<sup>B</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = -10 V, V <sub>GS</sub> = -4.5 V, I <sub>D</sub> = -6.4 A		30	50	nC
Gate-Source Charge	Q <sub>gs</sub>			5		
Gate-Drain Charge	Q <sub>gd</sub>			9		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> = -10 V, R <sub>L</sub> = 6 Ω I <sub>D</sub> ≅ -1 A, V <sub>GEN</sub> = -4.5 V, R <sub>G</sub> = 6 Ω		25	50	ns
Rise Time	t <sub>r</sub>			42	80	
Turn-Off Delay Time	t <sub>d(off)</sub>			160	200	
Fall Time	t <sub>f</sub>			75	120	
Source-Drain Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = -2.5 A, di/dt = 100 A/μs		50	100	

## 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)

