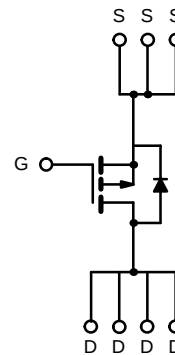
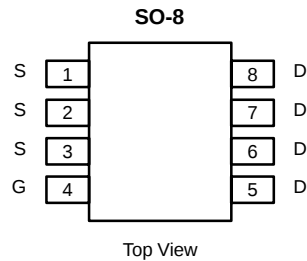


**P-Channel Enhancement-Mode MOSFET****PRODUCT SUMMARY**

V_{DS} (V)	$R_{DS(on)}$ (Ω)	I_D (A)
-20	0.040 @ $V_{GS} = -4.5$ V	± 6.4
	0.060 @ $V_{GS} = -2.5$ V	± 5.1

Recommended upgrade: Si9424DY



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^A	I_D	± 6.4	A
		± 5.1	
Pulsed Drain Current	I_{DM}	± 10	
Continuous Source Current (Diode Conduction) ^A	I_S	-2.5	
Maximum Power Dissipation ^A	P_D	2.5	W
		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.

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 ($T_J = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

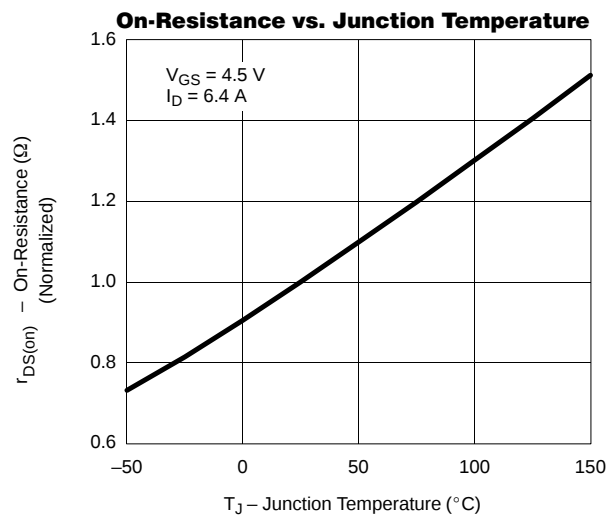
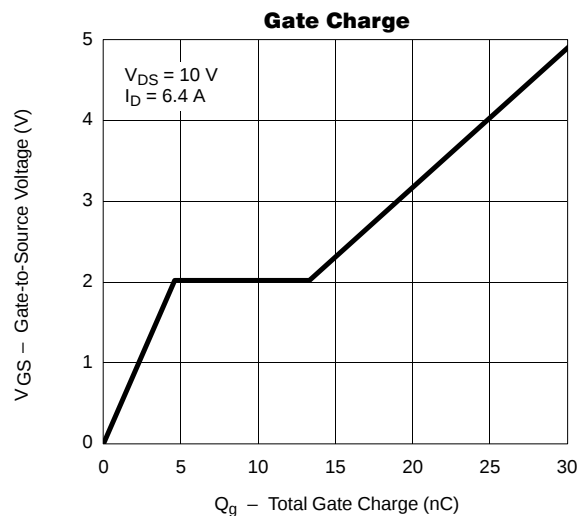
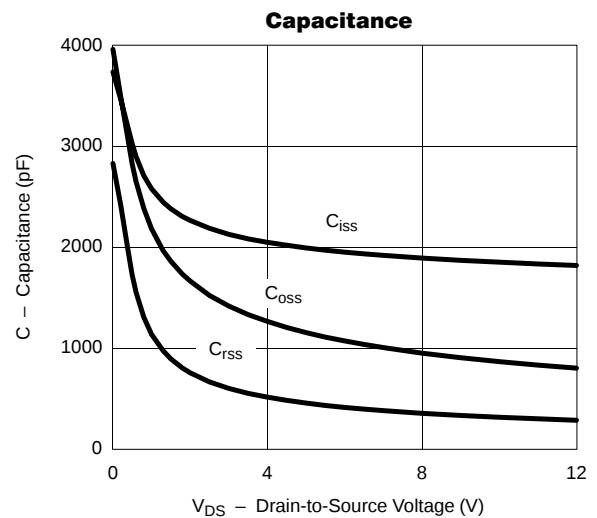
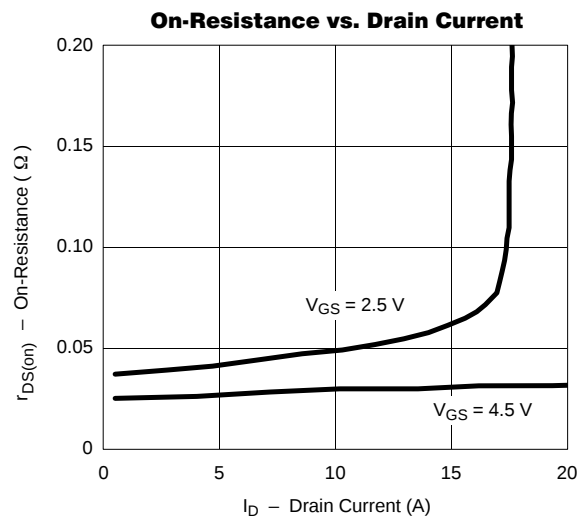
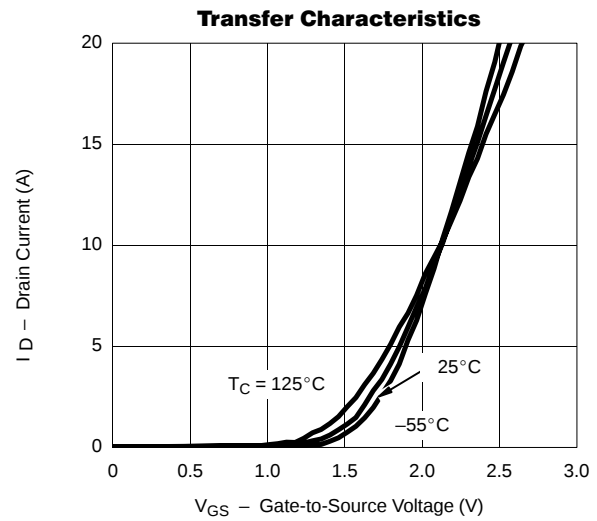
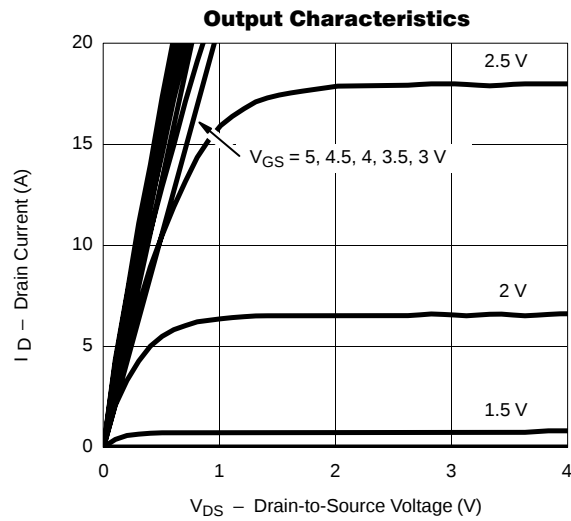
PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
STATIC						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-0.6			V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\ \text{V}, V_{GS} = \pm 8\ \text{V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -16\ \text{V}, V_{GS} = 0\ \text{V}$			-1	μA
		$V_{DS} = -16\ \text{V}, V_{GS} = 0\ \text{V}, T_J = 70^\circ\text{C}$			-5	
On-State Drain Current ^A	$I_{D(on)}$	$V_{DS} \leq -5\ \text{V}, V_{GS} = -4.5\ \text{V}$	-10			A
		$V_{DS} \leq -5\ \text{V}, V_{GS} = -2.5\ \text{V}$	-5			
Drain-Source On-State Resistance ^A	$r_{DS(on)}$	$V_{GS} = -4.5\ \text{V}, I_D = -6.4\ \text{A}$		0.031	0.040	Ω
		$V_{GS} = -2.5\ \text{V}, I_D = -5.1\ \text{A}$		0.045	0.060	
Forward Transconductance ^A	g_{fs}	$V_{DS} = -9\ \text{V}, I_D = -6.4\ \text{A}$		14		S
Diode Forward Voltage ^A	V_{SD}	$I_S = -2.5\ \text{A}, V_{GS} = 0\ \text{V}$		-0.9	-1.2	V
Dynamic^B						
Total Gate Charge	Q_g	$V_{DS} = -10\ \text{V}, V_{GS} = -4.5\ \text{V}, I_D = -6.4\ \text{A}$		30	50	nC
Gate-Source Charge	Q_{gs}			5		
Gate-Drain Charge	Q_{gd}			9		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -10\ \text{V}, R_L = 6\ \Omega$ $I_D \cong -1\ \text{A}, V_{GEN} = -4.5\ \text{V}, R_G = 6\ \Omega$		25	50	ns
Rise Time	t_r			42	80	
Turn-Off Delay Time	$t_{d(off)}$			160	200	
Fall Time	t_f			75	120	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = -2.5\ \text{A}, di/dt = 100\ \text{A}/\mu\text{s}$		50	100	

Notes

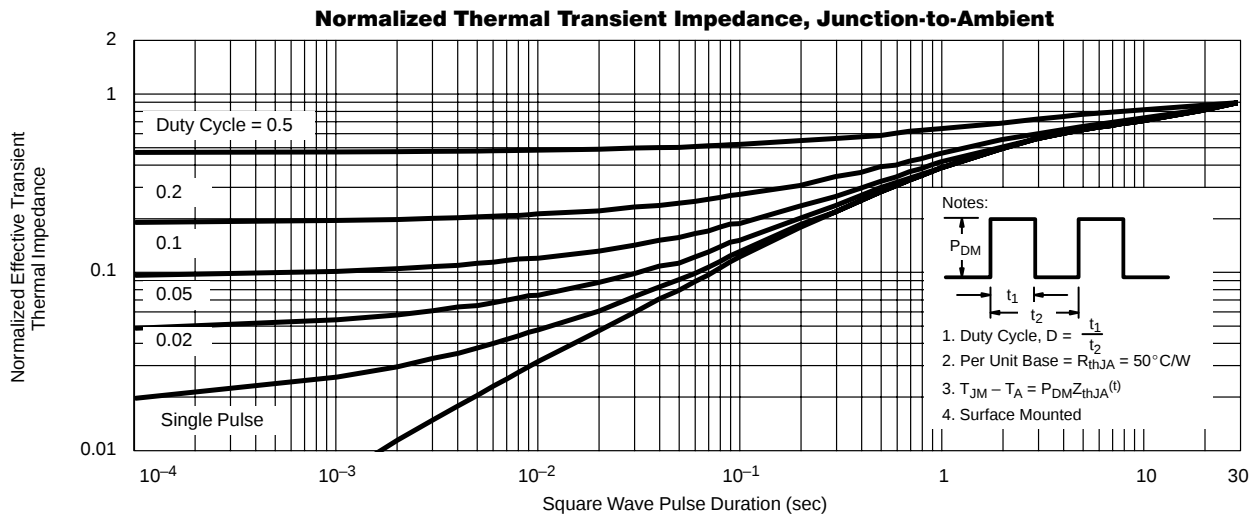
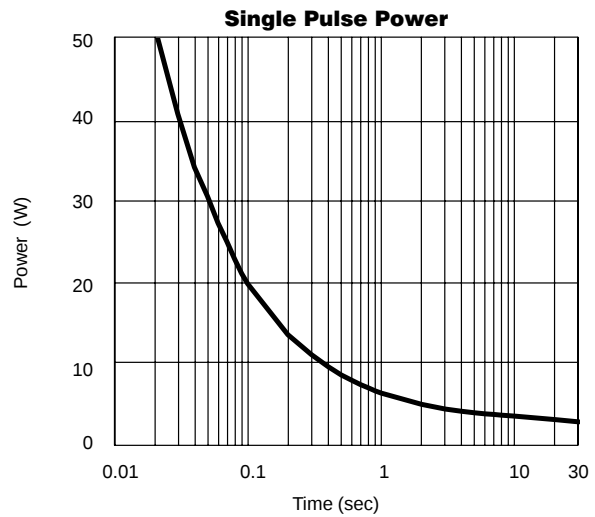
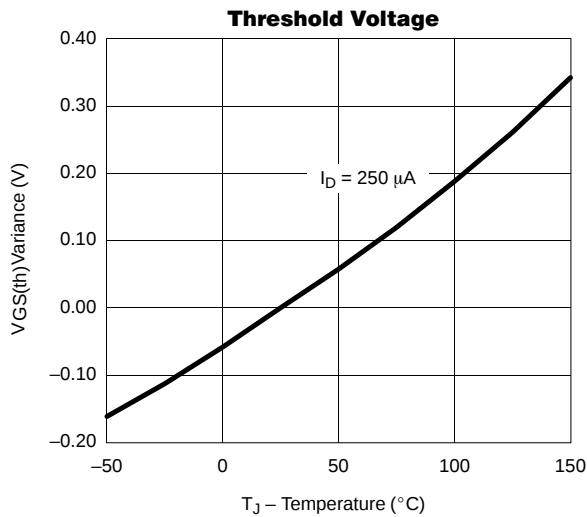
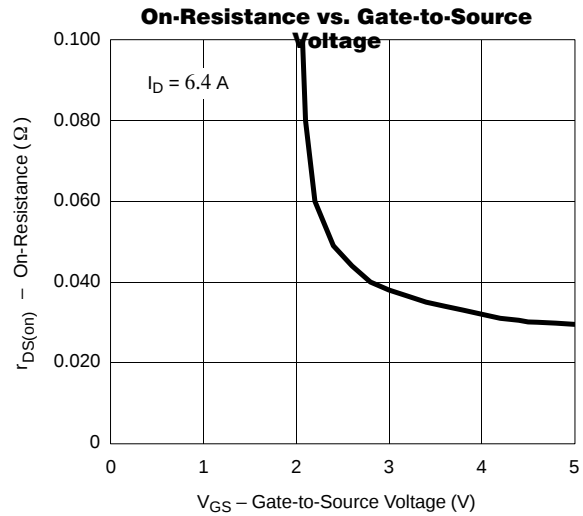
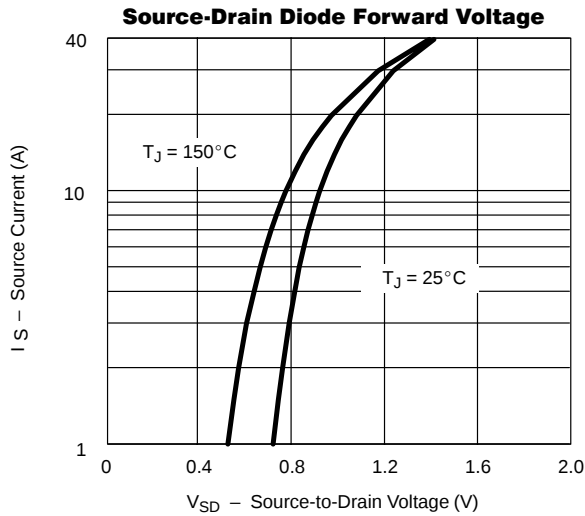
- A. Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.
 B. Guaranteed by design, not subject to production testing.



Typical Characteristics (25°C Unless Otherwise Noted)



Typical Characteristics (25°C Unless Otherwise Noted)





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