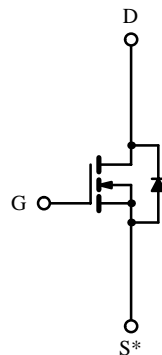
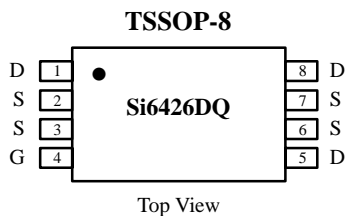


N-Channel 2.5-V (G-S) Rated MOSFET

Product Summary

V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
20	0.035 @ $V_{GS} = 4.5$ V	± 5.4
	0.04 @ $V_{GS} = 2.5$ V	± 4.9



*Source Pins 2, 3, 6, and 7 must be tied common.

N-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	$T_A = 25^\circ\text{C}$	± 5.4
		$T_A = 70^\circ\text{C}$	± 4.2
Pulsed Drain Current	I_{DM}	± 30	A
Continuous Source Current (Diode Conduction) ^a	I_S	1.25	
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	1.5
		$T_A = 70^\circ\text{C}$	1.0
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}	83	$^\circ\text{C}/\text{W}$

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 #70174. A SPICE Model data sheet is available for this product (FaxBack document #70545).

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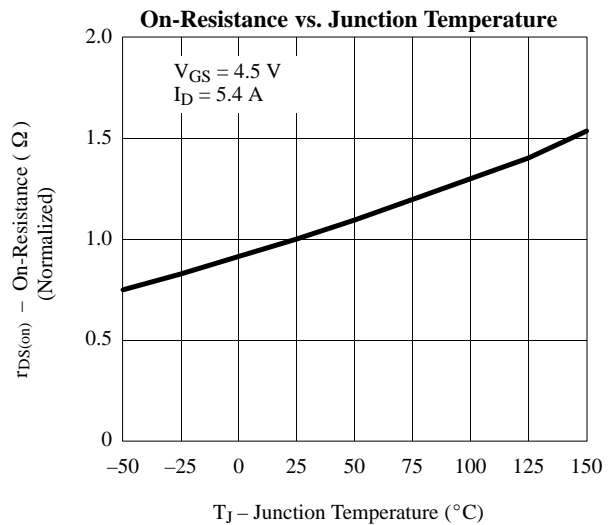
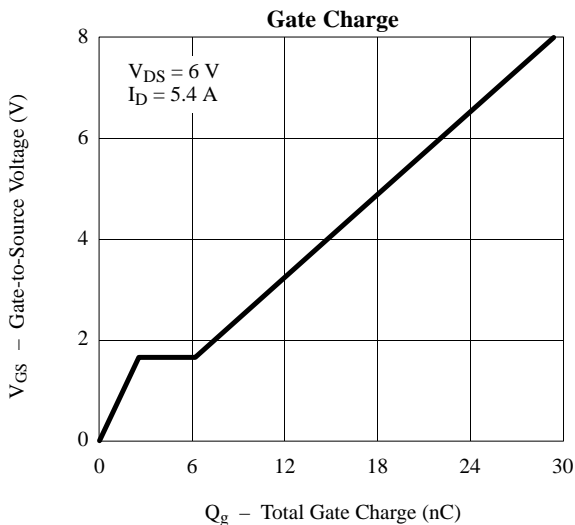
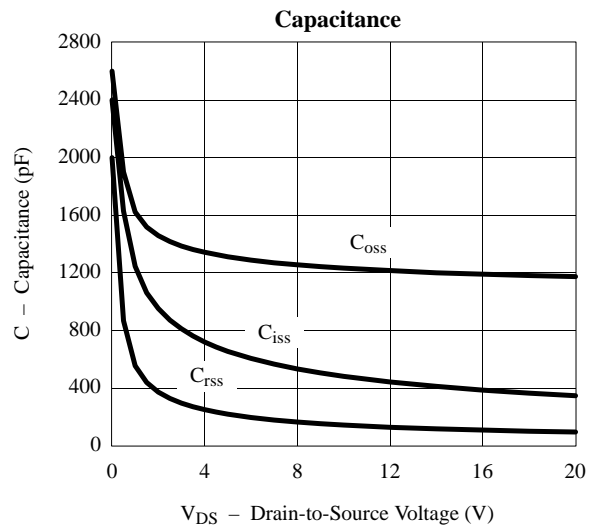
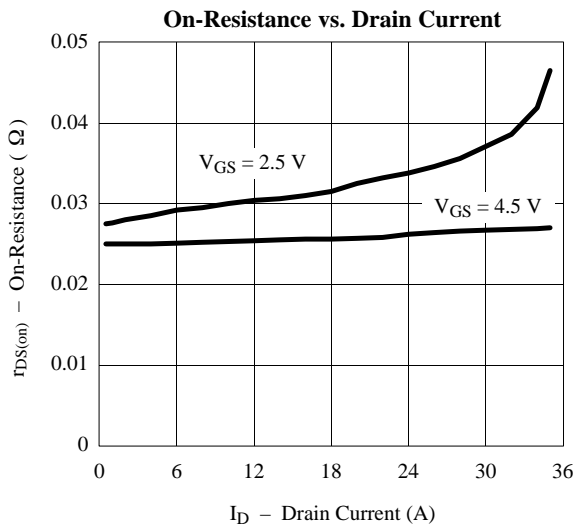
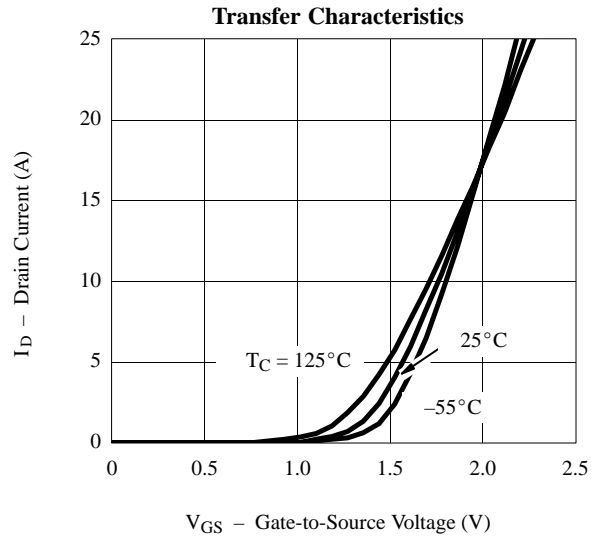
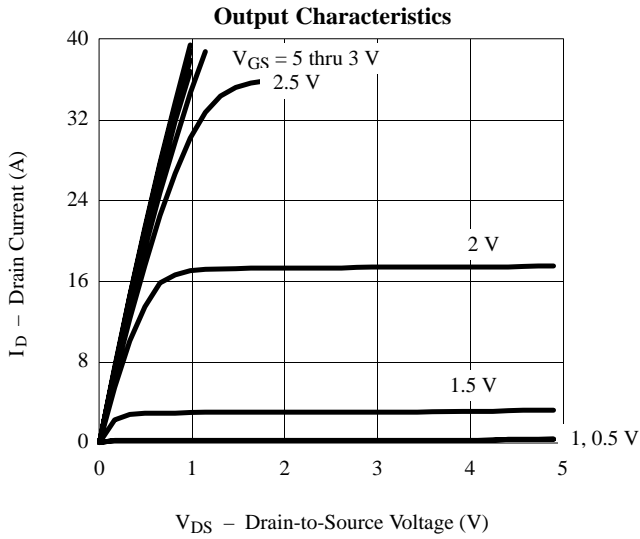
Specifications ($T_J = 25^\circ\text{C}$ Unless Otherwise Noted)

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}	$V_{DS} = 20\ \text{V}, V_{GS} = 0\ \text{V}$			1	μA
		$V_{DS} = 20\ \text{V}, V_{GS} = 0\ \text{V}, T_J = 55^\circ\text{C}$			5	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} \geq 5\ \text{V}, V_{GS} = 4.5\ \text{V}$	± 20			A
		$V_{DS} \geq 5\ \text{V}, V_{GS} = 2.5\ \text{V}$	± 8			
Drain-Source On-State Resistance ^a	$r_{DS(on)}$	$V_{GS} = 4.5\ \text{V}, I_D = 5.4\ \text{A}$		0.025	0.035	Ω
		$V_{GS} = 2.5\ \text{V}, I_D = 4.9\ \text{A}$		0.030	0.04	
Forward Transconductance ^a	g_{fs}	$V_{DS} = 10\ \text{V}, I_D = 5.4\ \text{A}$		22		S
Diode Forward Voltage ^a	V_{SD}	$I_S = 1.25\ \text{A}, V_{GS} = 0\ \text{V}$		0.7	1.2	V
Dynamic^b						
Total Gate Charge	Q_g	$V_{DS} = 6\ \text{V}, V_{GS} = 4.5\ \text{V}, I_D = 5.4\ \text{A}$		18	35	nC
Gate-Source Charge	Q_{gs}			2.5		
Gate-Drain Charge	Q_{gd}			4		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 6\ \text{V}, R_L = 6\ \Omega$ $I_D \cong 1\ \text{A}, V_{GEN} = 4.5\ \text{V}, R_G = 6\ \Omega$		35	60	ns
Rise Time	t_r			65	100	
Turn-Off Delay Time	$t_{d(off)}$			100	150	
Fall Time	t_f			33	60	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 1.25\ \text{A}, di/dt = 100\ \text{A}/\mu\text{s}$		50	100	

Notes

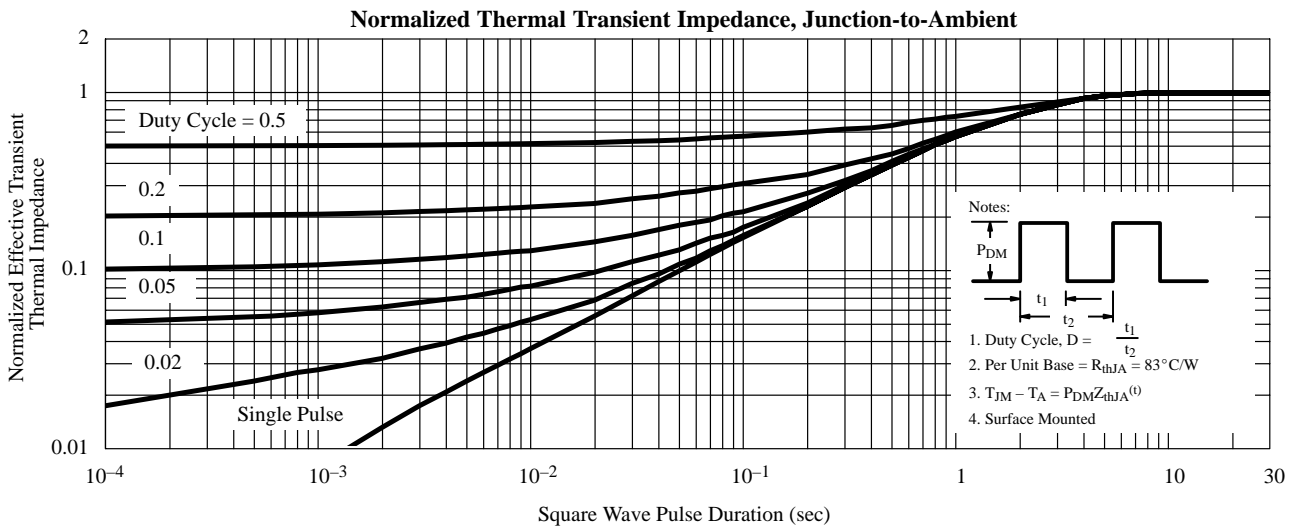
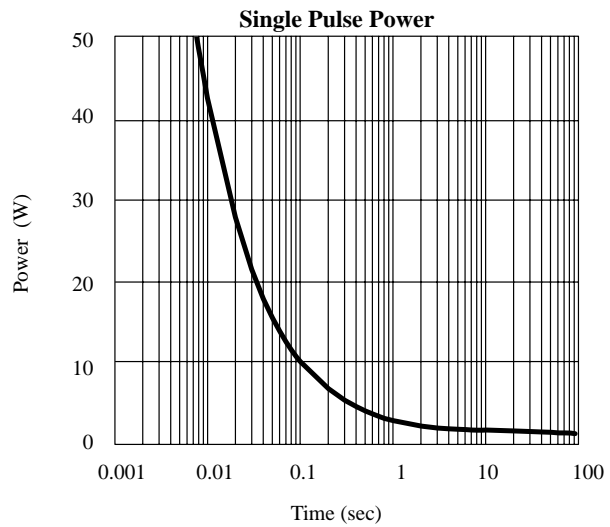
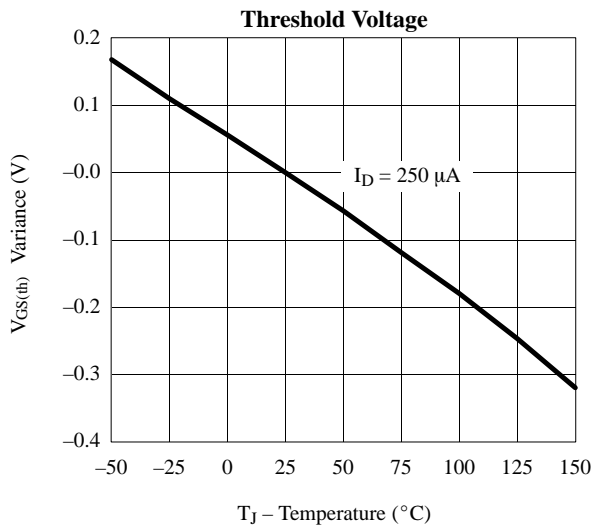
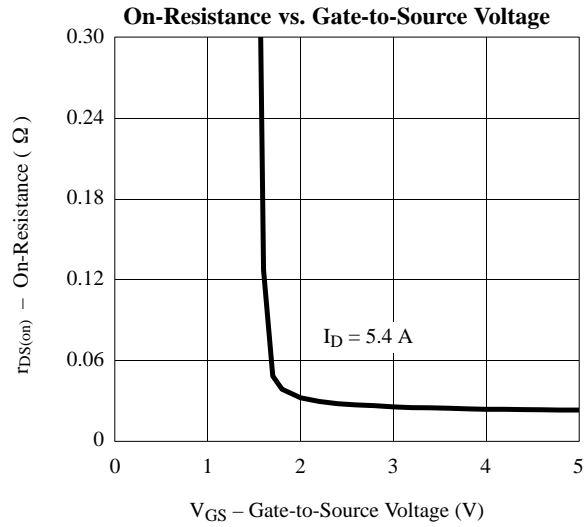
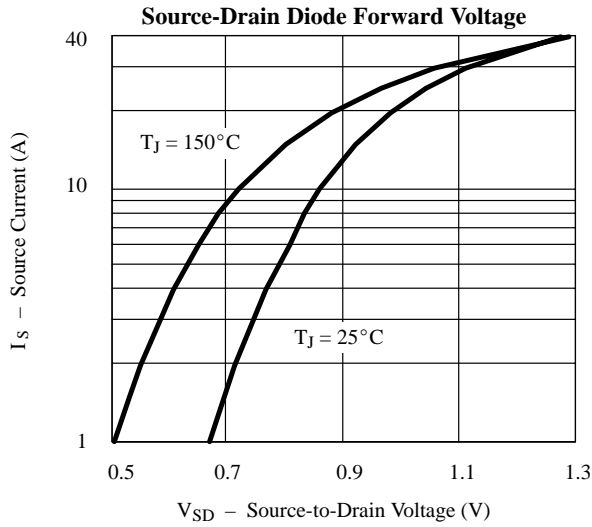
- a. Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.
b. Guaranteed by design, not subject to production testing.

Typical Characteristics (25°C Unless Otherwise Noted)



Si6426DQ

Typical Characteristics (25°C Unless Otherwise Noted)





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