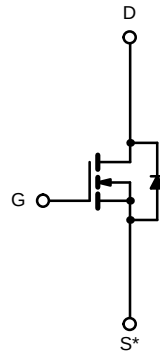
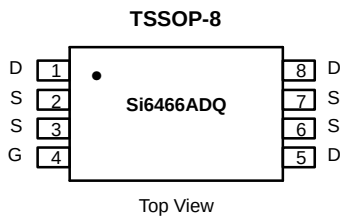




N-Channel 2.5-V (G-S) MOSFET

PRODUCT SUMMARY

V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
20	0.014 @ $V_{GS} = 4.5$ V	8.1
	0.020 @ $V_{GS} = 2.5$ V	6.6

TrenchFET[®]
Power MOSFETs
2.5-V Rated

* 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	10 secs	Steady State	Unit
Drain-Source Voltage		V _{DS}	20		V
Gate-Source Voltage		V _{GS}	± 8		
Continuous Drain Current (T _J = 150°C) ^a	T _A = 25°C	I _D	8.1	6.8	A
	T _A = 70°C		6.6	5.4	
Pulsed Drain Current (10 μs Pulse Width)		I _{DM}	± 30		
Continuous Source Current (Diode Conduction) ^a		I _S	1.35	0.95	W
Maximum Power Dissipation ^a	T _A = 25°C	P _D	1.5	1.05	
	T _A = 70°C		1.0	0.67	
Operating Junction and Storage Temperature Range		T _J , T _{stg}	-55 to 150		°C

THERMAL RESISTANCE RATINGS

Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient ^a	$t \leq 10$ sec	R_{thJA}	65	83	$^\circ\text{C/W}$
	Steady State		100	120	
Maximum Junction-to-Foot	Steady State	R_{thJF}	43	52	

Notes

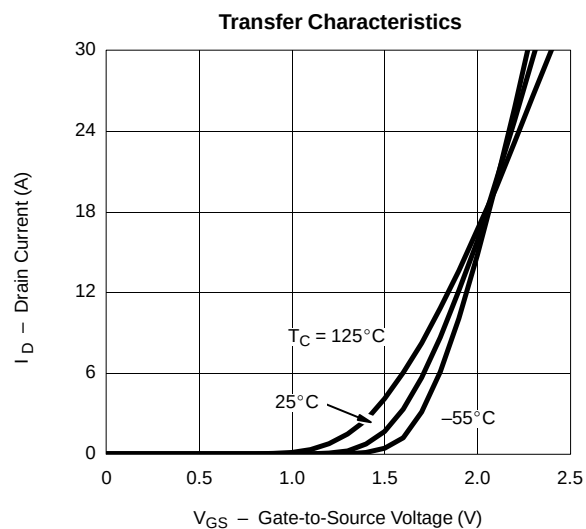
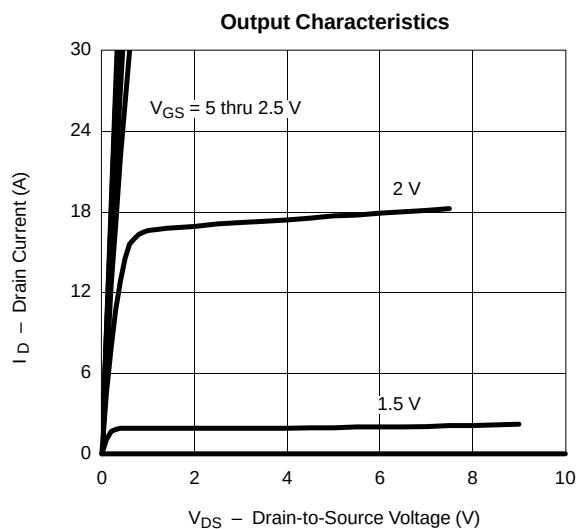
a. Surface Mounted on 1" x 1" FR4 Board.

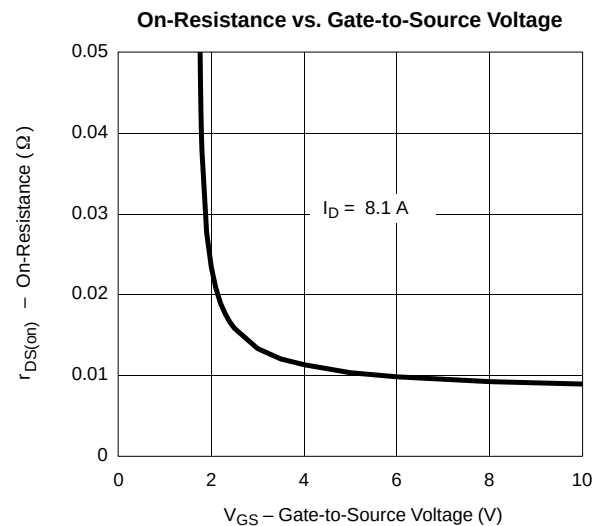
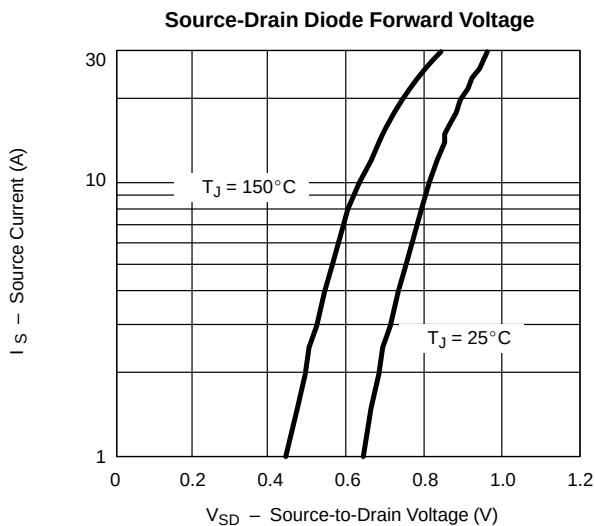
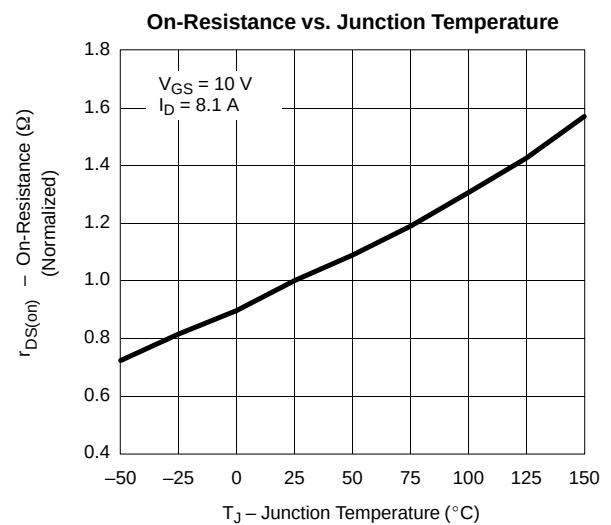
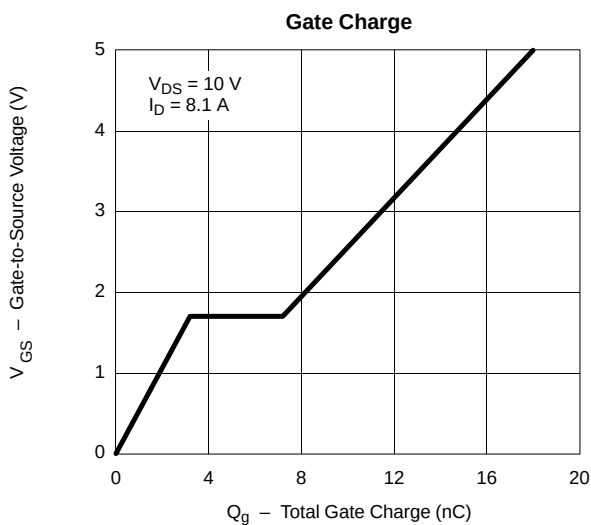
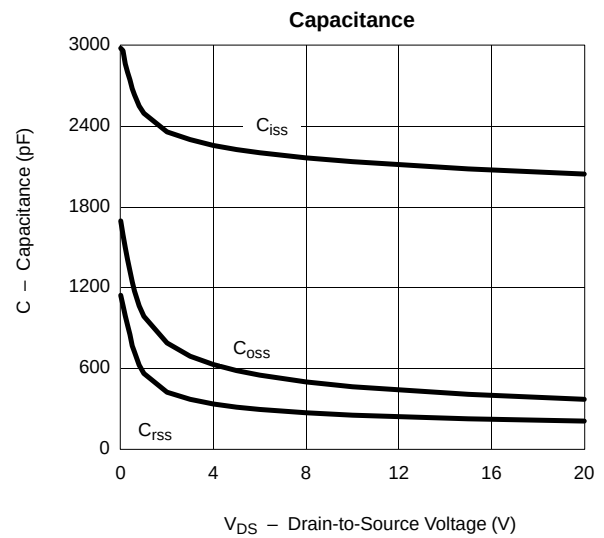
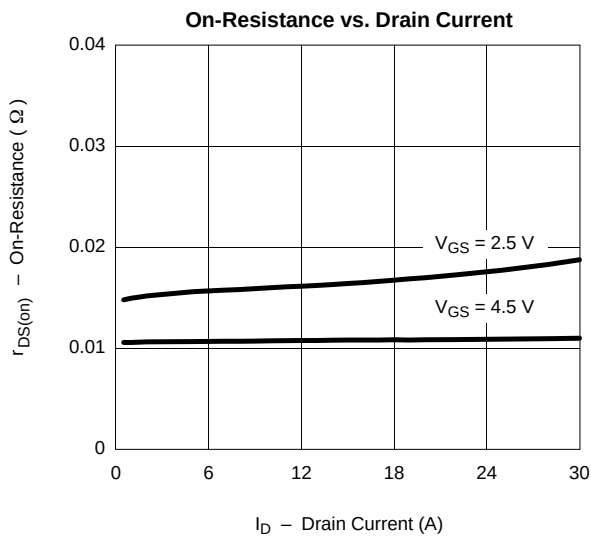
SPECIFICATIONS ($T_J = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	0.45			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
		$V_{DS} = 16\ \text{V}, V_{GS} = 0\ \text{V}, T_J = 70^\circ\text{C}$			10	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} = 5\ \text{V}, V_{GS} = 4.5\ \text{V}$	20			A
Drain-Source On-State Resistance ^a	$r_{DS(on)}$	$V_{GS} = 4.5\ \text{V}, I_D = 8.1\ \text{A}$		0.011	0.014	Ω
		$V_{GS} = 2.5\ \text{V}, I_D = 6.6\ \text{A}$		0.017	0.020	
Forward Transconductance ^a	g_{fs}	$V_{DS} = 10\ \text{V}, I_D = 8.1\ \text{A}$		30		S
Diode Forward Voltage ^a	V_{SD}	$I_S = 1.35\ \text{A}, V_{GS} = 0\ \text{V}$		0.65	1.1	V
Dynamic^b						
Total Gate Charge	Q_g	$V_{DS} = 10\ \text{V}, V_{GS} = 5\ \text{V}, I_D = 8.1\ \text{A}$		18	27	nC
Gate-Source Charge	Q_{gs}			3.2		
Gate-Drain Charge	Q_{gd}			4		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 10\ \text{V}, R_L = 10\ \Omega$ $I_D \cong 1\ \text{A}, V_{GEN} = 4.5\ \text{V}, R_G = 6\ \Omega$		27	45	ns
Rise Time	t_r			34	50	
Turn-Off Delay Time	$t_{d(off)}$			76	120	
Fall Time	t_f			30	50	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = 1.5\ \text{A}, di/dt = 100\ \text{A}/\mu\text{s}$		35	70	

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 NOTED)

**TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)**

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