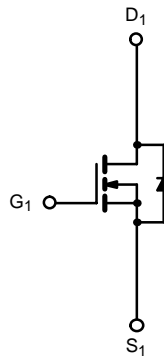
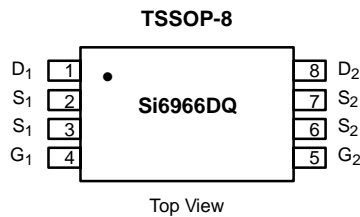




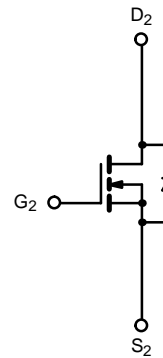
Dual N-Channel 2.5-V (G-S) MOSFET

TrenchFET[®]
Power MOSFETs
2.5-V Rated

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
20	0.030 @ $V_{GS} = 4.5$ V	4.5
	0.040 @ $V_{GS} = 2.5$ V	3.9



N-Channel MOSFET



N-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter	Symbol	10 sec	Steady State	Unit	
Drain-Source Voltage	V_{DS}	20		V	
Gate-Source Voltage	V_{GS}	± 12			
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^A	I_D	$T_A = 25^\circ\text{C}$	4.5	4.0	A
		$T_A = 70^\circ\text{C}$	3.6	3.0	
Pulsed Drain Current	I_{DM}	30			
Continuous Source Current (Diode Conduction) ^A	I_S	1.25	0.75		
Maximum Power Dissipation ^A	P_D	$T_A = 25^\circ\text{C}$	1.14	0.83	W
		$T_A = 70^\circ\text{C}$	0.73	0.53	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150		$^\circ\text{C}$	

THERMAL RESISTANCE RATINGS					
Parameter	Symbol	Typical	Maximum	Unit	
Maximum Junction-to-Ambient ^A	R_{thJA}	$t \leq 10$ sec	86	110	$^\circ\text{C/W}$
		Steady State	124	150	
Maximum Junction-to-Foot (Drain)	R_{thJF}	52	65		

Notes

a. Surface Mounted on FR4 Board.

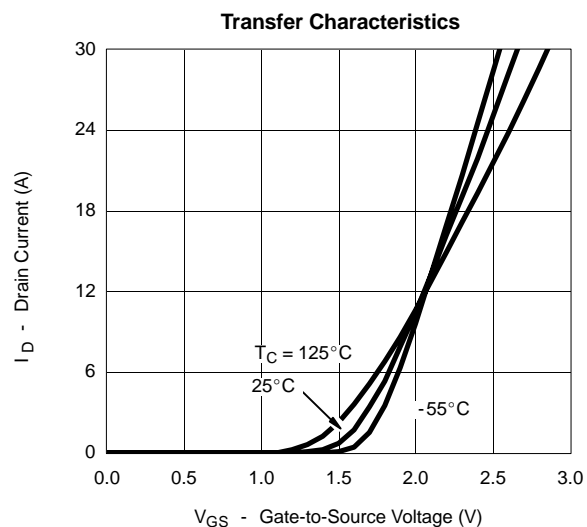
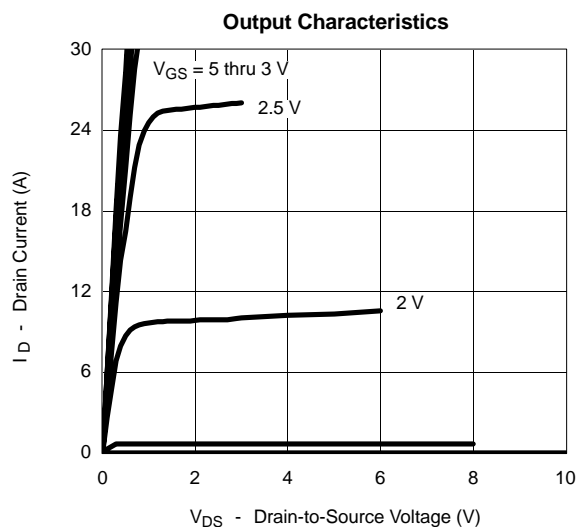
For SPICE model information via the Worldwide Web: <http://www.vishay.com/www/product/spice.htm>

SPECIFICATIONS (T_J = 25 °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 μA	0.6		1.4	V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 12 V			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 20 V, V _{GS} = 0 V			1	μA
		V _{DS} = 20 V, V _{GS} = 0 V, T _J = 55 °C			25	
On-State Drain Current ^A	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 4.5 V	30			A
Drain-Source On-State Resistance ^A	r _{DS(on)}	V _{GS} = 4.5 V, I _D = 4.5 A		0.021	0.030	Ω
		V _{GS} = 2.5 V, I _D = 3.9 A		0.030	0.040	
Forward Transconductance ^A	g _{fs}	V _{DS} = 10 V, I _D = 4.5 A		20		S
Diode Forward Voltage ^A	V _{SD}	I _S = 1.25 A, V _{GS} = 0 V		0.65	1.2	V
Dynamic^B						
Total Gate Charge	Q _g	V _{DS} = 10 V, V _{GS} = 4.5 V, I _D = 4.5 A		11.5	20	nC
Gate-Source Charge	Q _{gs}			1.9		
Gate-Drain Charge	Q _{gd}			3.6		
Turn-On Delay Time	t _{d(on)}	V _{DD} = 10 V, R _L = 10 Ω I _D = 1 A, V _{GEN} = 10 V, R _G = 6 Ω		11	20	ns
Rise Time	t _r			9	15	
Turn-Off Delay Time	t _{d(off)}			36	55	
Fall Time	t _f			11	20	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1.25 A, di/dt = 100 A/μs		30	60	

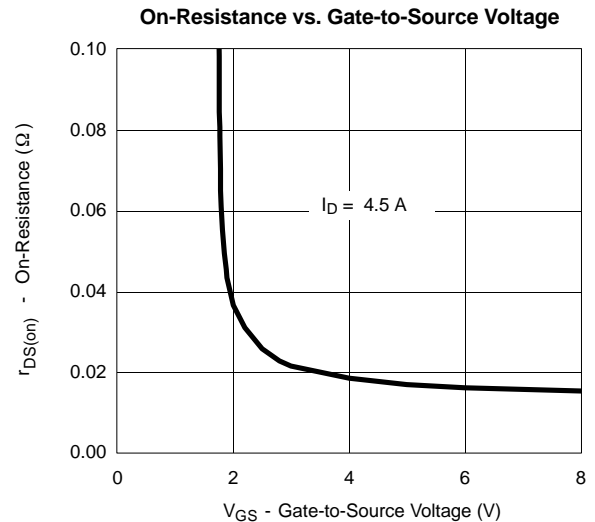
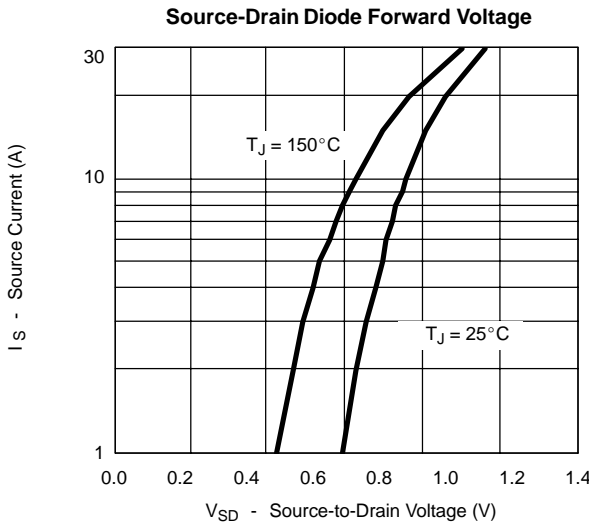
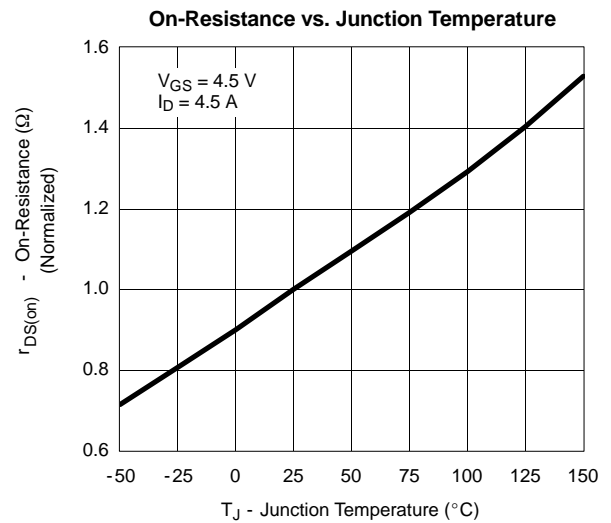
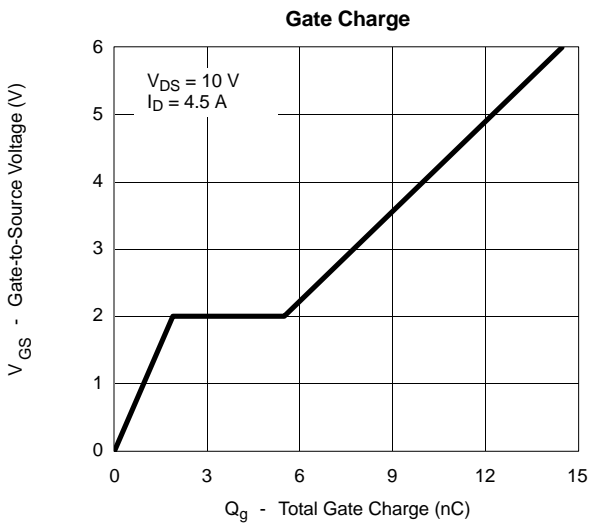
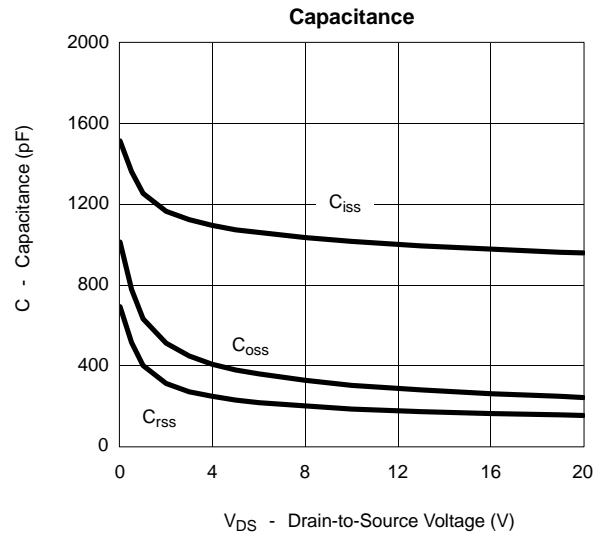
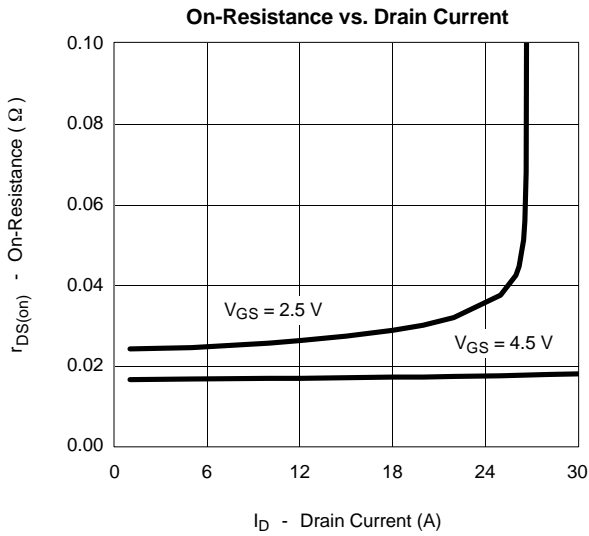
Notes

- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
b. Guaranteed by design, not subject to production testing.

TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)

