

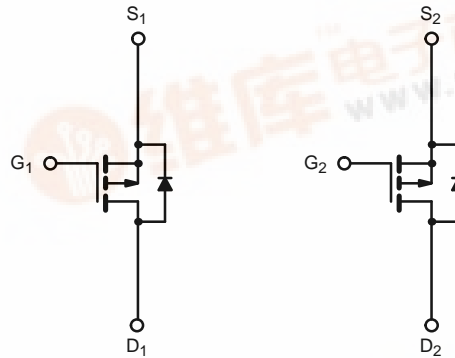
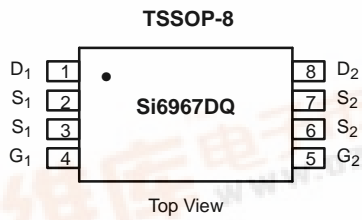


Si6967DQ
Vishay Siliconix

Dual P-Channel 1.8-V (G-S) MOSFET

TrenchFET®
Power MOSFETs
1.8-V Rated

PRODUCT SUMMARY		
V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
-8	0.030 @ V _{GS} = -4.5 V	±5.0
	0.045 @ V _{GS} = -2.5 V	±4.0
	0.070 @ V _{GS} = -1.8 V	±3.0



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	-8	V
Gate-Source Voltage	V _{GS}	±8	
Continuous Drain Current (T _J = 150°C) ^{a, b}	I _D	T _A = 25°C	±5.0
		T _A = 70°C	±4.0
Pulsed Drain Current	I _{DM}	±30	A
Continuous Source Current (Diode Conduction) ^{a, b}	I _S	-1.25	
Maximum Power Dissipation ^{a, b}	P _D	T _A = 25°C	1.1
		T _A = 70°C	0.72
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	R _{thJA}	t ≤ 10 sec	110	°C/W	
		Steady State	115		

Notes:
 a. Surface Mounted on FR4 Board.
 b. t ≤ 10 sec.
 For SPICE model information via the Worldwide Web: <http://www.vishay.com/www/product/spice.htm>

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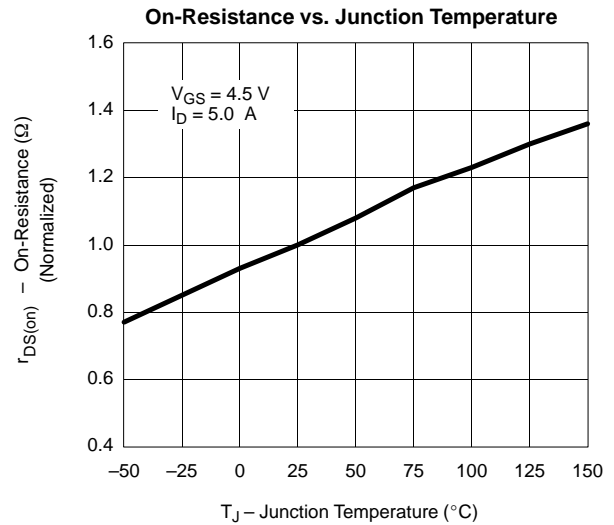
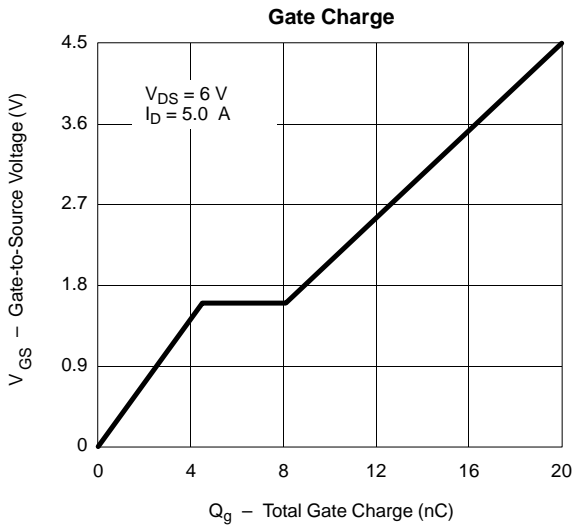
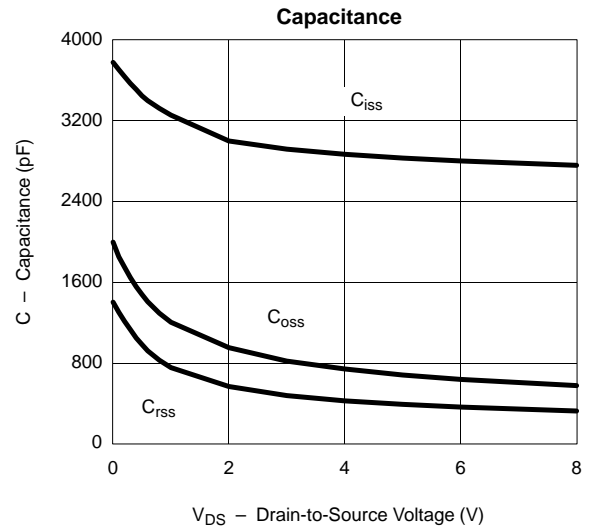
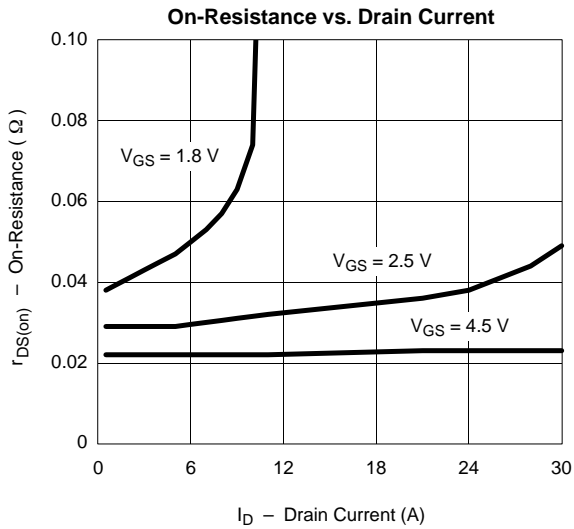
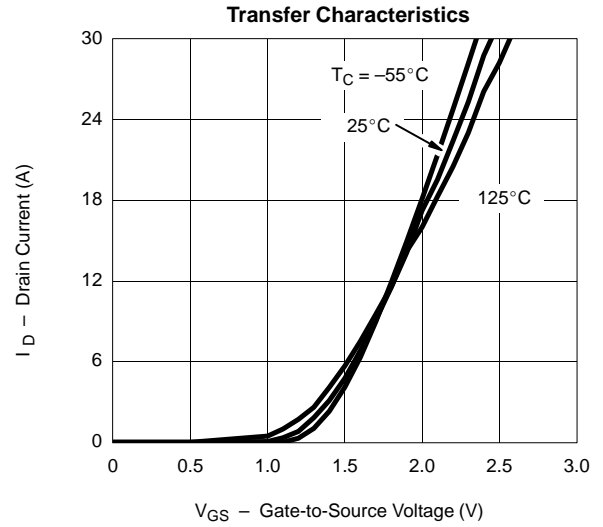
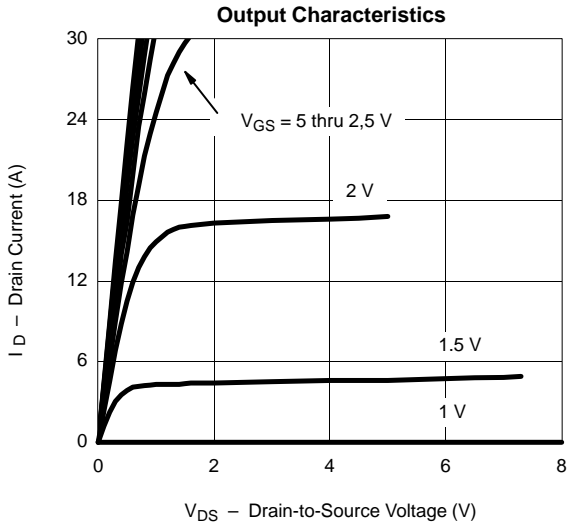
SPECIFICATIONS (T _J = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-0.45			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±8 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -6.4 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -6.4 V, V _{GS} = 0 V, T _J = 70 °C			-25	
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≥ -8 V, V _{GS} = -4.5 V	-30			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = -4.5 V, I _D = -5.0 A		0.024	0.030	Ω
		V _{GS} = -2.5 V, I _D = -4.0 A		0.033	0.045	
		V _{GS} = -1.8 V, I _D = -3.0 A		0.048	0.070	
Forward Transconductance ^a	g _{fs}	V _{DS} = -8 V, I _D = -5.0 A		18		S
Diode Forward Voltage ^a	V _{SD}	I _S = -1.25 A, V _{GS} = 0 V		-0.68	-1.1	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = -6 V, V _{GS} = -4.5 V, I _D = -5.0 A		20	40	nC
Gate-Source Charge	Q _{gs}			4.5		
Gate-Drain Charge	Q _{gd}			3.6		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -6 V, R _L = 6 Ω I _D ≅ -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω		20	50	ns
Rise Time	t _r			30	60	
Turn-Off Delay Time	t _{d(off)}			85	150	
Fall Time	t _f			50	90	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -1.25 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 NOTED)





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