

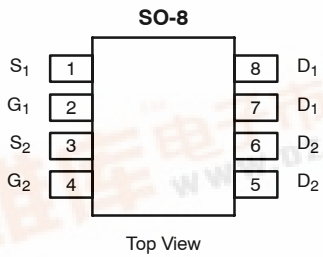


Si4965DY
Vishay Siliconix

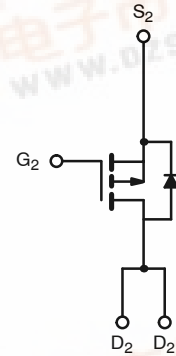
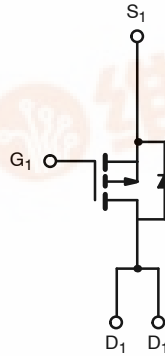
Dual P-Channel 1.8-V (G-S) MOSFET

TrenchFET®
Power MOSFETs
1.8-V Rated

PRODUCT SUMMARY		
V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
-8	0.021 @ V _{GS} = -4.5 V	-8.0
	0.027 @ V _{GS} = -2.5 V	-7.0
	0.040 @ V _{GS} = -1.8 V	-5.8



Ordering Information: Si4965DY
Si4965DY-T1 (with Tape and Reel)



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}	T _A = 25 °C	I _D	-8.0	A
	T _A = 70 °C		-6.4	
Pulsed Drain Current		I _{DM}	-30	
Continuous Source Current (Diode Conduction) ^{a, b}		I _S	-1.7	
Maximum Power Dissipation ^{a, b}	T _A = 25 °C	P _D	2.0	W
	T _A = 70 °C		1.3	
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 ≤ 10 sec	R _{thJA}		62.5	°C/W
	Steady State		93		

Notes:
^a Surface Mounted on FR4 Board.
^b t ≤ 10 sec.



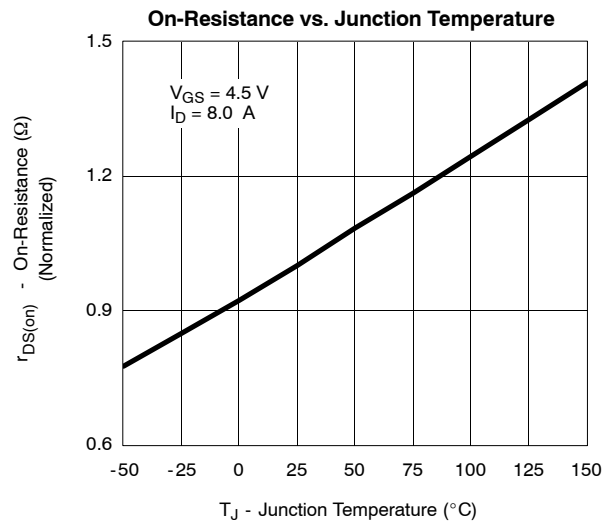
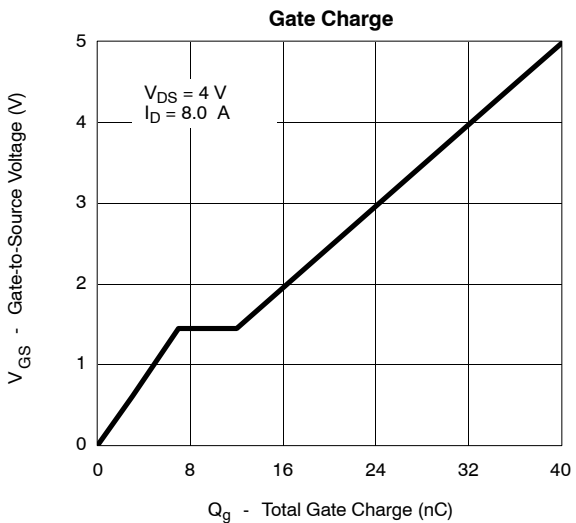
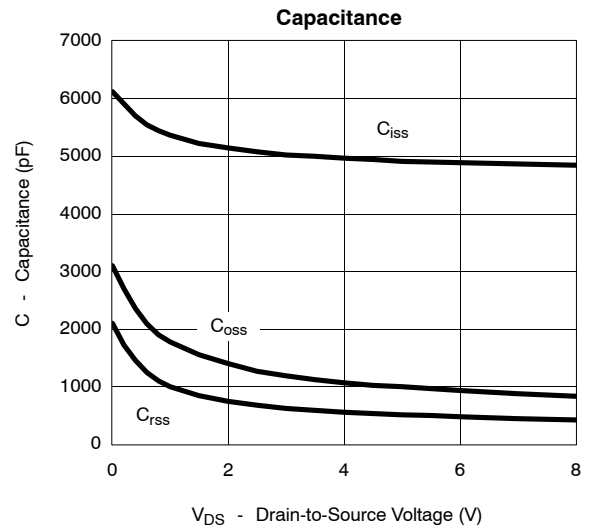
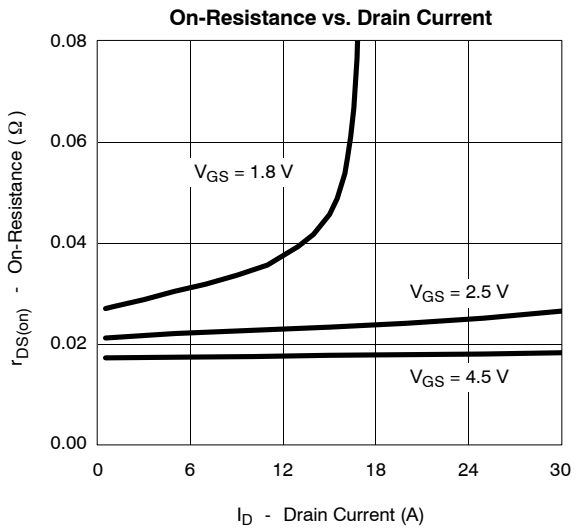
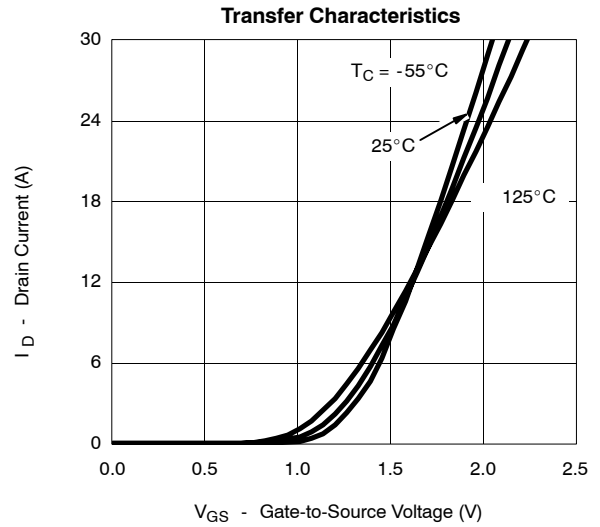
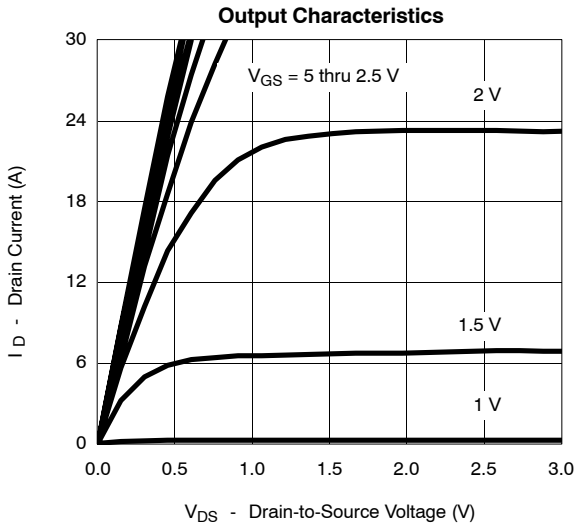
SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 μA	-0.45			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±8 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -8 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -8 V, V _{GS} = 0 V, T _J = 70 °C			-5	
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≥ -5 V, V _{GS} = -4.5 V	-20			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = -4.5 V, I _D = -8.0 A		0.0175	0.021	Ω
		V _{GS} = -2.5 V, I _D = -7.0 A		0.022	0.027	
		V _{GS} = -1.8 V, I _D = -5.8 A		0.031	0.040	
Forward Transconductance ^a	g _{fs}	V _{DS} = -5 V, I _D = -8.0 A		27		S
Diode Forward Voltage ^a	V _{SD}	I _S = -1.7 A, V _{GS} = 0 V			-1.2	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = -4 V, V _{GS} = -4.5 V, I _D = -8.0 A		36	55	nC
Gate-Source Charge	Q _{gs}			7.5		
Gate-Drain Charge	Q _{gd}			5.0		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -4 V, R _L = 4 Ω I _D ≅ -1 A, V _{GEN} = -4.5 V, R _G = 6 Ω		35	70	ns
Rise Time	t _r			45	90	
Turn-Off Delay Time	t _{d(off)}			170	340	
Fall Time	t _f			90	180	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = -1.7 A, di/dt = 100 A/μs		60	90	

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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