

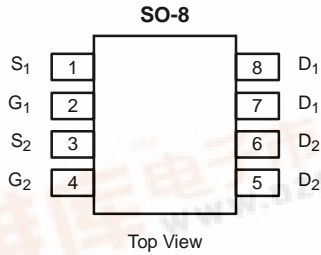


Si4980DY
Vishay Siliconix

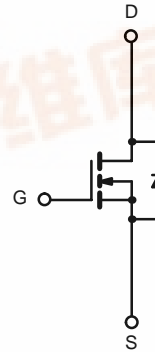
Dual N-Channel 80-V (D-S) MOSFET

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
80	0.075 @ $V_{GS} = 10$ V	3.7
	0.095 @ $V_{GS} = 6.0$ V	3.2

TrenchFET[®]
Power MOSFETs



Ordering Information: Si4980DY
Si4980DY-T1 (with Tape and Reel)



N-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	80	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	3.7
		$T_A = 70^\circ\text{C}$	2.9
Pulsed Drain Current	I_{DM}	30	A
Continuous Source Current (Diode Conduction) ^a	I_S	1.7	
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	2.0
		$T_A = 70^\circ\text{C}$	1.3
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}	62.5	$^\circ\text{C/W}$

Notes:
a. Surface Mounted on FR4 Board, $t \leq 10$ sec.



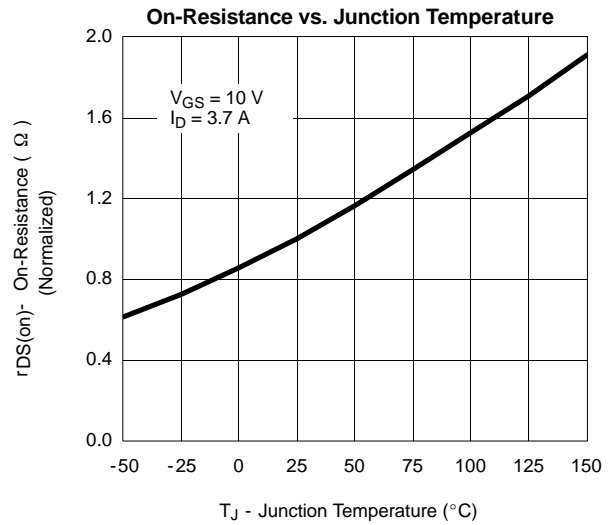
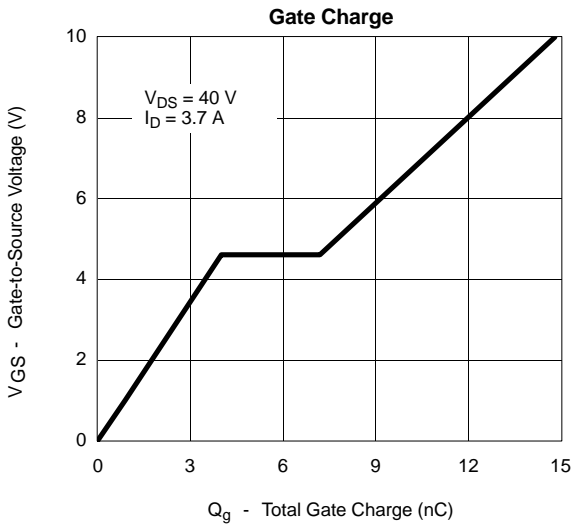
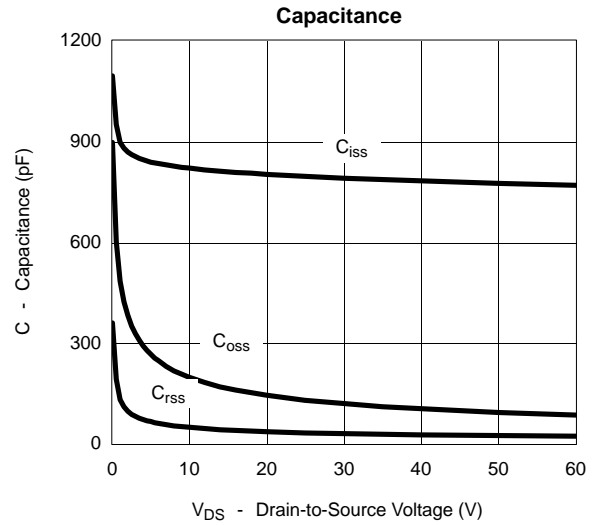
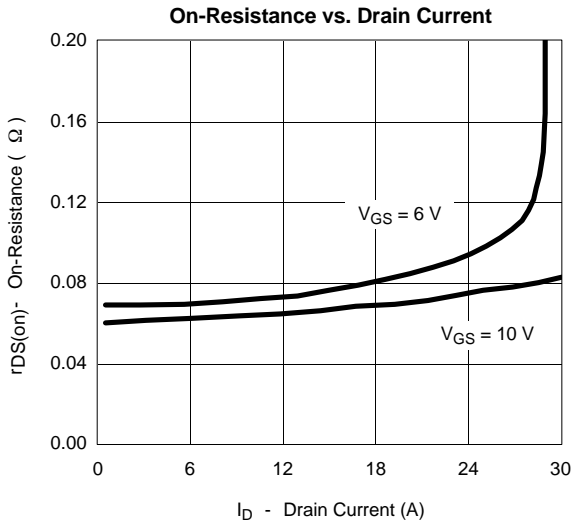
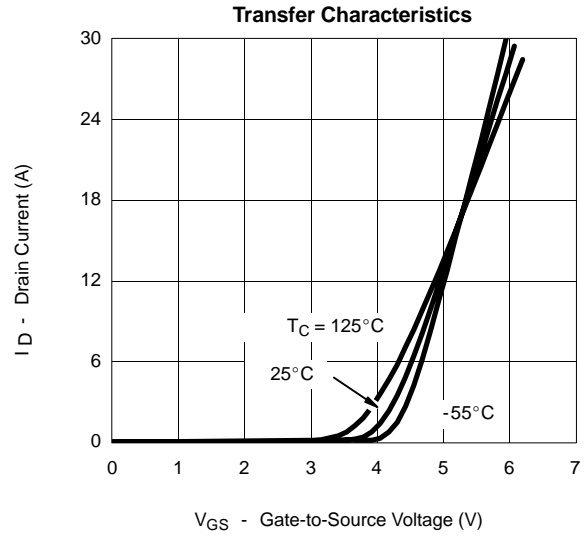
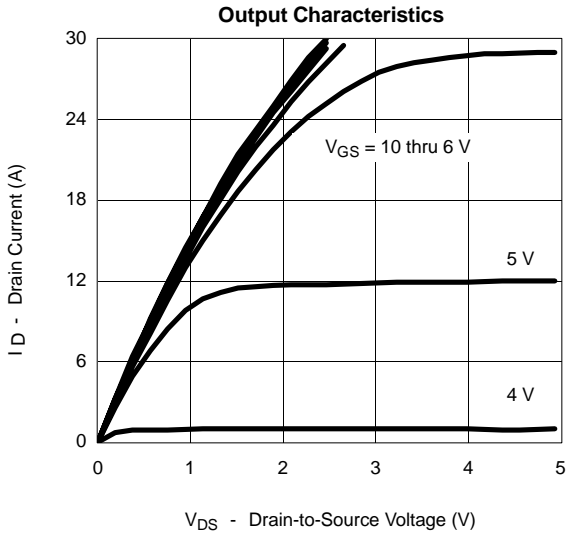
SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	2			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 20 V			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 80 V, V _{GS} = 0 V			1	μA
		V _{DS} = 80 V, V _{GS} = 0 V, T _J = 55 °C			20	
On-State Drain Current ^a	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	20			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = 10 V, I _D = 3.7 A		0.062	0.075	Ω
		V _{GS} = 6.0 V, I _D = 3.2 A		0.071	0.095	
Forward Transconductance ^a	g _{fs}	V _{DS} = 15 V, I _D = 3.7 A		12		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} = 40 V, V _{GS} = 10 V, I _D = 3.7 A		15	30	nC
Gate-Source Charge	Q _{gs}			4		
Gate-Drain Charge	Q _{gd}			3.2		
Gate Resistance	R _g		1		5.1	Ω
Turn-On Delay Time	t _{d(on)}	V _{DD} = 40 V, R _L = 40 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω		10	20	ns
Rise Time	t _r			10	20	
Turn-Off Delay Time	t _{d(off)}			30	60	
Fall Time	t _f			10	20	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1.7 A, di/dt = 100 A/μs		75	110	

Notes

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



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)





TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)

