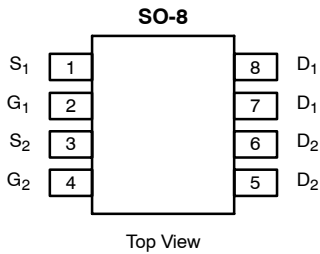




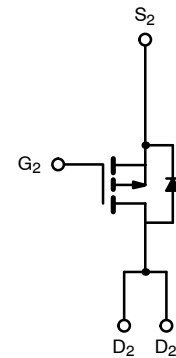
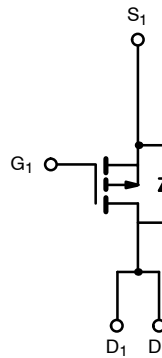
Dual P-Channel 1.8-V (G-S) MOSFET

TrenchFET[®]
Power MOSFETs
1.8-V Rated

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-12	0.023 @ $V_{GS} = -4.5$ V	-7.5
	0.030 @ $V_{GS} = -2.5$ V	-6.7
	0.045 @ $V_{GS} = -1.8$ V	-5.4



Ordering Information: Si4967DY
Si4967DY-T1 (with Tape and Reel)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Voltage	V_{GS}	± 8	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^{a, b}	$T_A = 25^\circ\text{C}$	-7.5	A
	$T_A = 70^\circ\text{C}$	-6.1	
Pulsed Drain Current	I_{DM}	-30	
Continuous Source Current (Diode Conduction) ^{a, b}	I_S	-1.7	
Maximum Power Dissipation ^{a, b}	$T_A = 25^\circ\text{C}$	2.0	W
	$T_A = 70^\circ\text{C}$	1.3	
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS					
Parameter	Symbol	Typical	Maximum	Unit	
Maximum Junction-to-Ambient ^a	R_{thJA}	93	62.5	$^\circ\text{C/W}$	
				Steady State	

Notes
a. Surface Mounted on FR4 Board.
b. $t \leq 10$ 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	-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} = -12 V, V _{GS} = 0 V			-1	μA
		V _{DS} = -12 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 = -7.5 A		0.019	0.023	Ω
		V _{GS} = -2.5 V, I _D = -6.7 A		0.024	0.030	
		V _{GS} = -1.8 V, I _D = -5.4 A		0.033	0.045	
Forward Transconductance ^a	g _{fs}	V _{DS} = -10 V, I _D = -7.5 A		27		S
Diode Forward Voltage ^a	V _{SD}	I _S = -1.7 A, V _{GS} = 0 V		0.7	-1.2	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = -6 V, V _{GS} = -10 V, I _D = -7.5 A		35	55	nC
Gate-Source Charge	Q _{gs}			7		
Gate-Drain Charge	Q _{gd}			7		
Turn-On Delay Time	t _{d(on)}	V _{DD} = -6 V, R _L = 10 Ω I _D ≅ -1 A, V _{GEN} = -10 V, R _G = 6 Ω		25	50	ns
Rise Time	t _r			40	80	
Turn-Off Delay Time	t _{d(off)}			210	350	
Fall Time	t _f			95	150	
Source-Drain Reverse Recovery Time	t _{rr}		I _F = -1.7 A, di/dt = 100 A/μs		50	

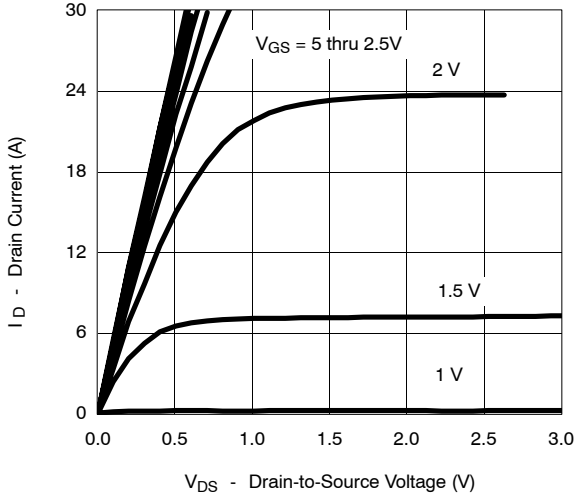
Notes

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

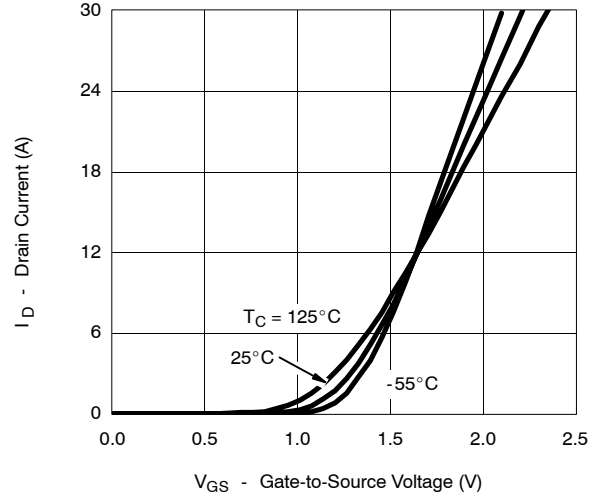


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

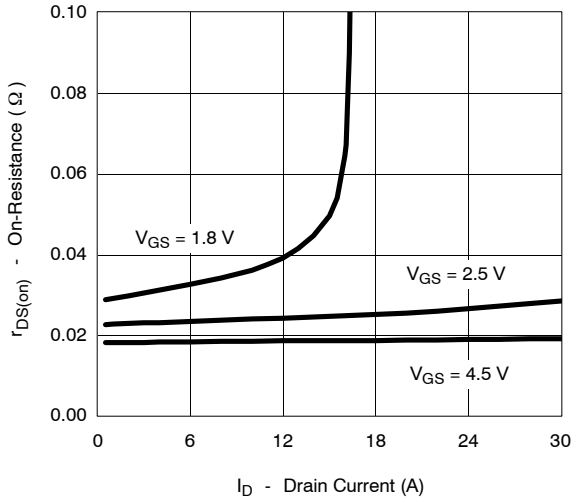
Output Characteristics



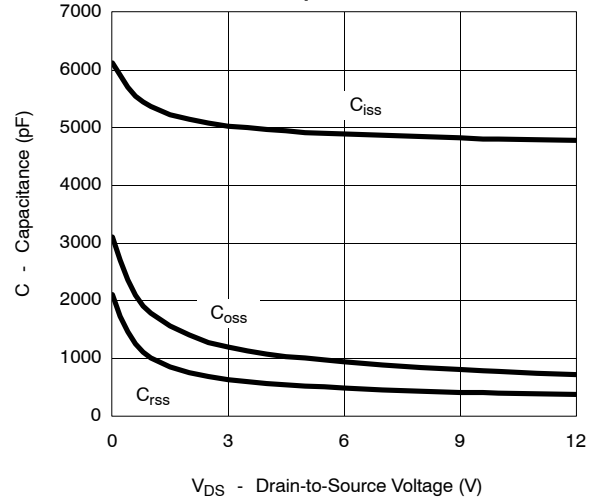
Transfer Characteristics



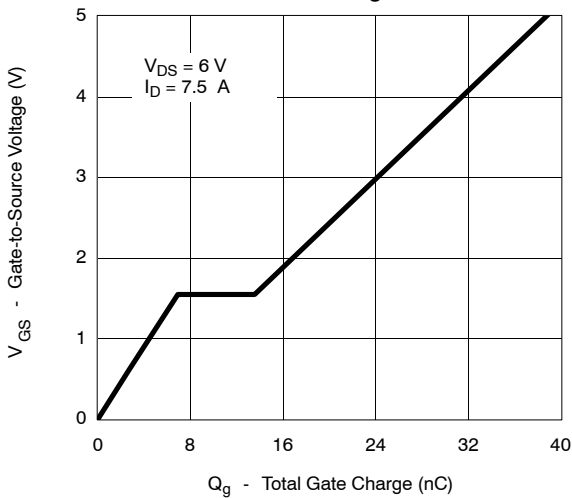
On-Resistance vs. Drain Current



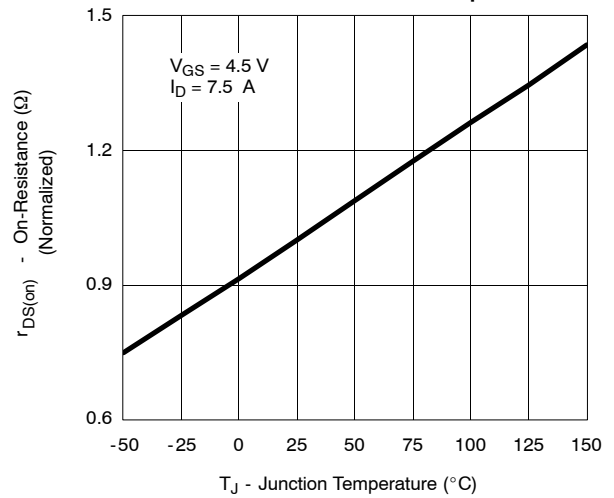
Capacitance



Gate Charge



On-Resistance vs. Junction Temperature



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)

