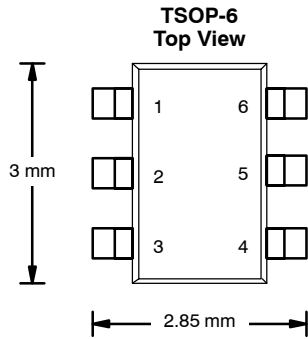


N-Channel 20-V (D-S) MOSFET

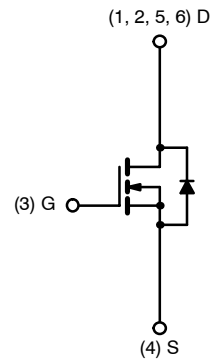
PRODUCT SUMMARY		
V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
20	0.027 @ V _{GS} = 4.5 V	6.8
	0.032 @ V _{GS} = 2.5 V	6.3
	0.038 @ V _{GS} = 1.8 V	5.7

FEATURES

- TrenchFET® Power MOSFET
- 100% R_g Tested



Ordering Information: Si3460DV-T1



N-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS (T _A = 25 °C UNLESS OTHERWISE NOTED)				
Parameter	Symbol	5 secs	Steady State	Unit
Drain-Source Voltage	V _{DS}	20		V
Gate-Source Voltage	V _{GS}	±8		
Continuous Drain Current (T _J = 150 °C) ^a	T _A = 25 °C	6.8	5.1	A
	T _A = 70 °C	5.4	4.1	
Pulsed Drain Current	I _{DM}	20		
Continuous Source Current (Diode Conduction) ^a	I _S	1.7	0.9	
Maximum Power Dissipation ^a	T _A = 25 °C	2.0	1.1	W
	T _A = 70 °C	1.3	0.73	
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 ≤ 5 sec	45	62.5	°C/W
	Steady State	90	110	
Maximum Junction-to-Foot (Drain)	Steady State	25	30	

Notes

a. Surface Mounted on 1" x 1" FR4 Board.

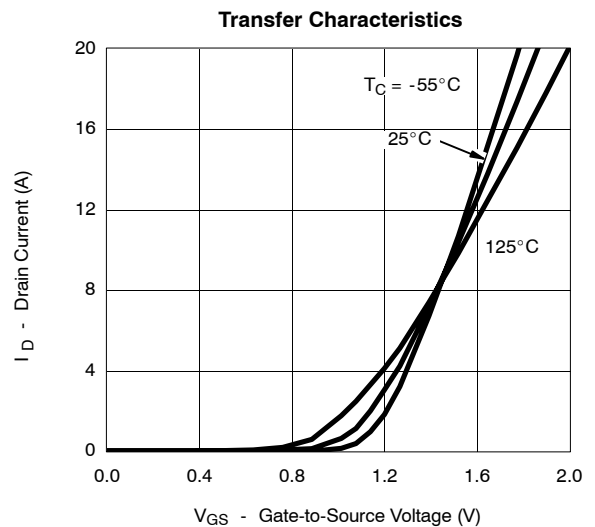
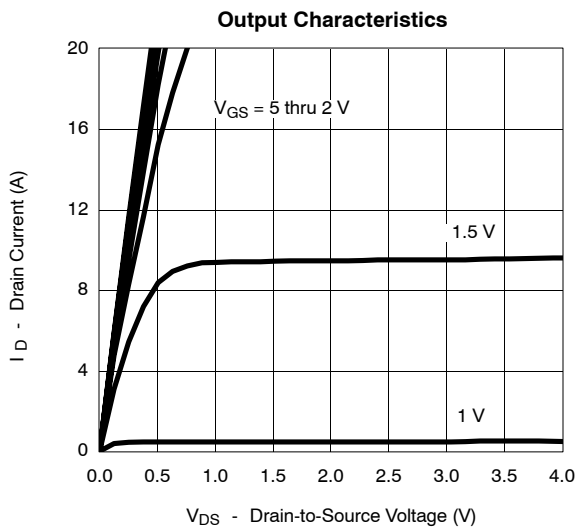


SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 1 mA	0.45			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 8 V			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 16 V, V _{GS} = 0 V			1	μA
		V _{DS} = 16 V, V _{GS} = 0 V, T _J = 70 °C			5	
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} = 4.5 V, I _D = 5.1 A		0.023	0.027	Ω
		V _{GS} = 2.5 V, I _D = 4.7 A		0.027	0.032	
		V _{GS} = 1.8 V, I _D = 2 A		0.032	0.038	
Forward Transconductance ^a	g _{fs}	V _{DS} = 10 V, I _D = 5.1 A		25		S
Diode Forward Voltage ^a	V _{SD}	I _S = 1.7 A, V _{GS} = 0 V		0.8	1.2	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = 10 V, V _{GS} = 4.5 V, I _D = 5.1 A		13.5	20	nC
Gate-Source Charge	Q _{gs}			2.3		
Gate-Drain Charge	Q _{gd}			2.2		
Gate Resistance	R _g		0.5		2.9	Ω
Turn-On Delay Time	t _{d(on)}	V _{DD} = 10 V, R _L = 10 Ω I _D ≅ 1 A, V _{GEN} = 4.5 V, R _G = 6 Ω		15	30	ns
Rise Time	t _r			30	60	
Turn-Off Delay Time	t _{d(off)}			70	140	
Fall Time	t _f			30	60	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1.7 A, di/dt = 100 A/μs		40	80	

Notes

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

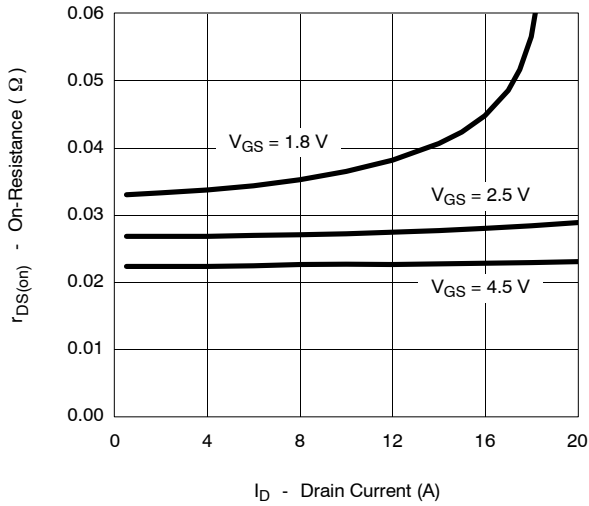
TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)



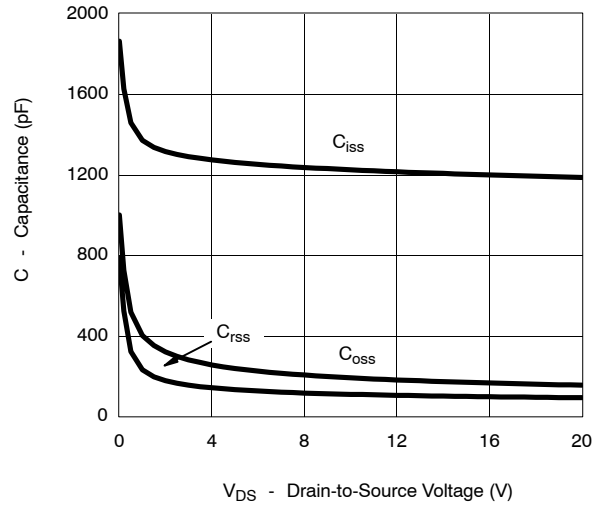


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

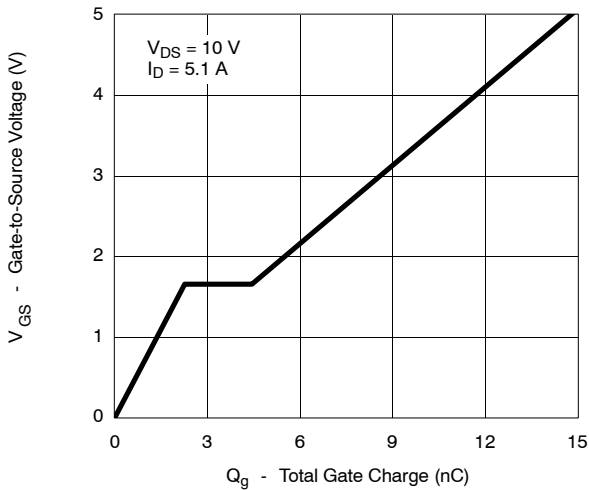
On-Resistance vs. Drain Current



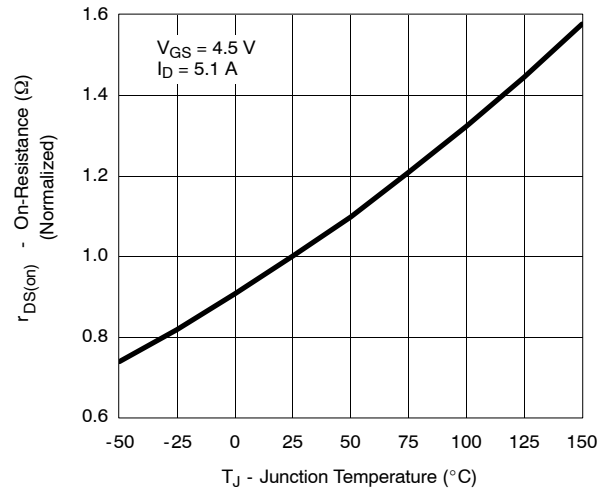
Capacitance



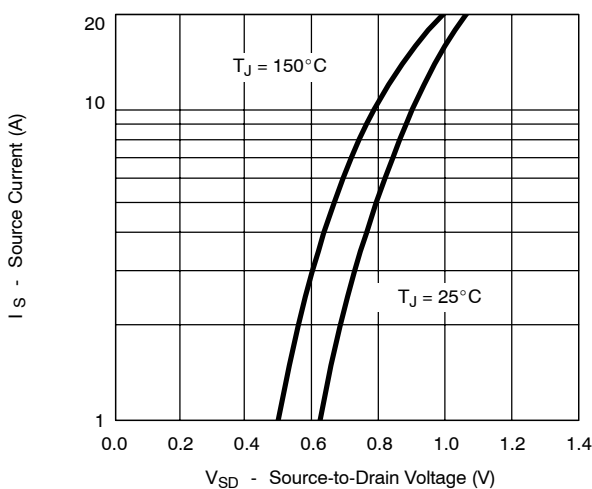
Gate Charge



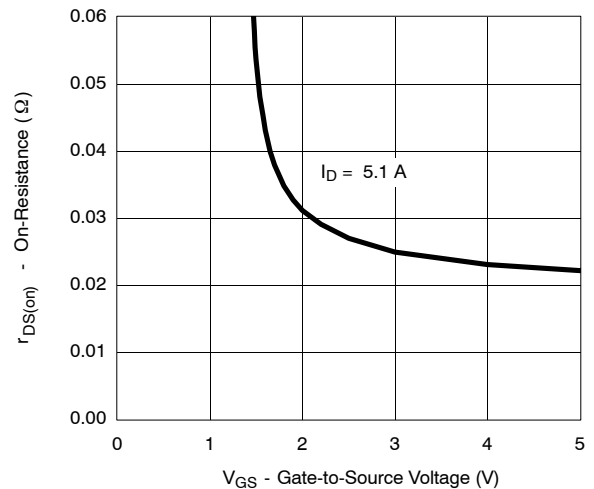
On-Resistance vs. Junction Temperature



Source-Drain Diode Forward Voltage



On-Resistance vs. Gate-to-Source Voltage



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

