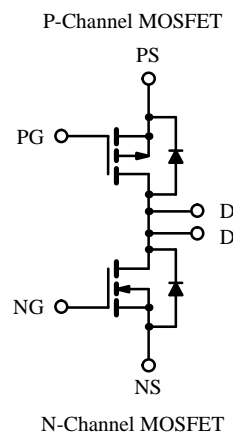
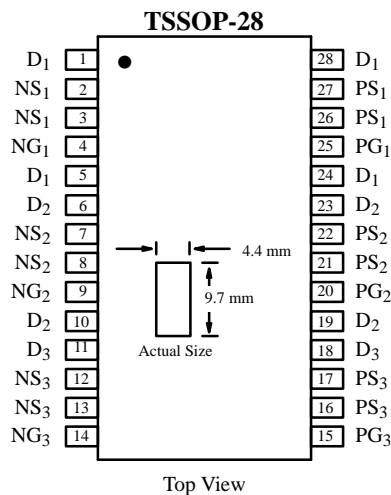


Triple Complementary Half-Bridge

Product Summary

	V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
N-Channel	30	0.065 @ V _{GS} = 10 V	± 3.6
		0.095 @ V _{GS} = 4.5 V	± 3.0
P-Channel	-30	0.085 @ V _{GS} = -10 V	± 3.1
		0.19 @ V _{GS} = -4.5 V	± 2.1



Absolute Maximum Ratings (T_A = 25° C Unless Otherwise Noted)

Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage	V _{DS}	30	-30	V
Gate-Source Voltage	V _{GS}	± 20	± 20	V
Continuous Drain Current (T _J = 150°C) ^a	I _D	T _A = 25°C	± 3.6	A
		T _A = 70°C	± 2.9	
Pulsed Drain Current	I _{DM}	± 20	± 20	A
Continuous Source Current (Diode Conduction) ^a	I _S	1.25	-1.25	A
Maximum Power Dissipation ^a	P _D	T _A = 25°C	1.5	W
		T _A = 70°C	1.0	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150		°C

Thermal Resistance Ratings

Parameter	Symbol	N- or P-Channel	Unit
Maximum Junction-to-Ambient ^a	R _{thJA}	83	°C/W

Notes

a. Surface Mounted on FR4 Board, t ≤ 10 sec.

Subsequent updates to this data sheet may be obtained via facsimile by calling Siliconix FaxBack, 1-408-970-5600. Please request FaxBack document #1818.

Specifications (T_J = 25°C Unless Otherwise Noted)

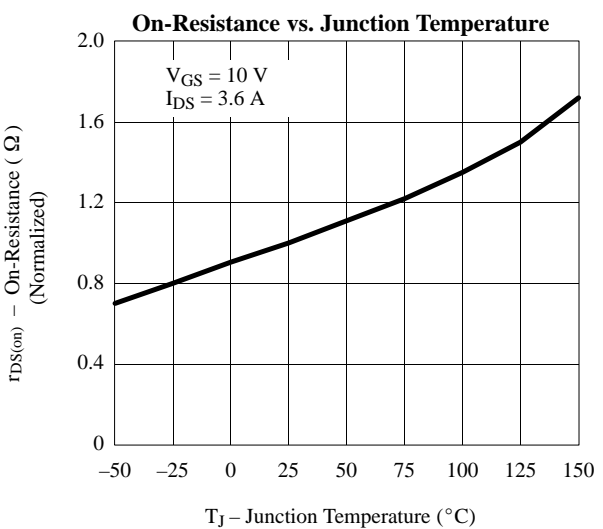
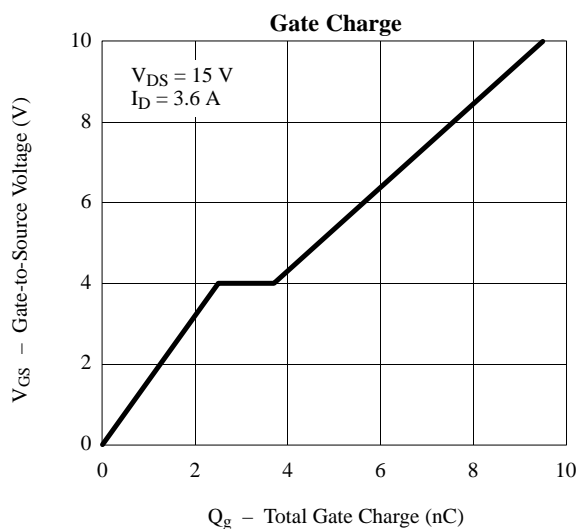
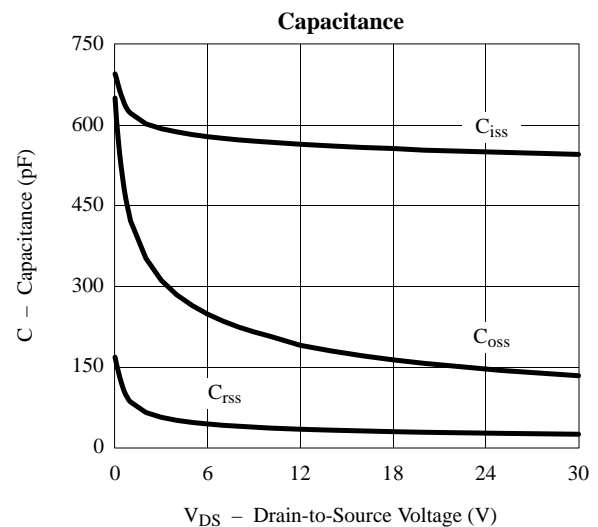
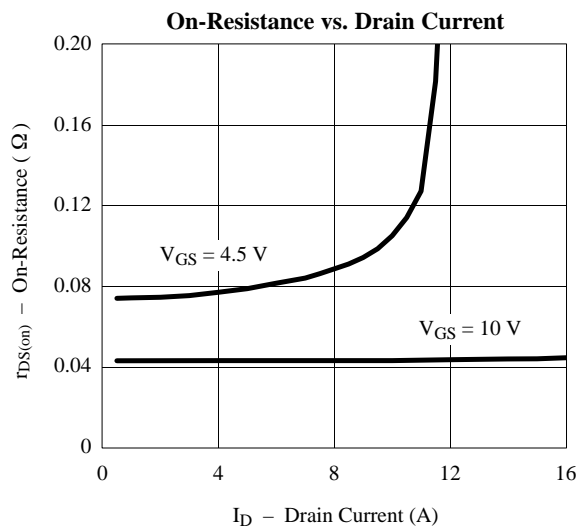
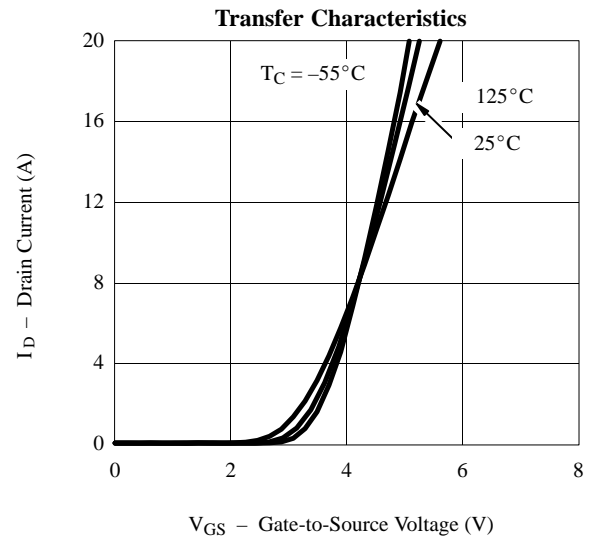
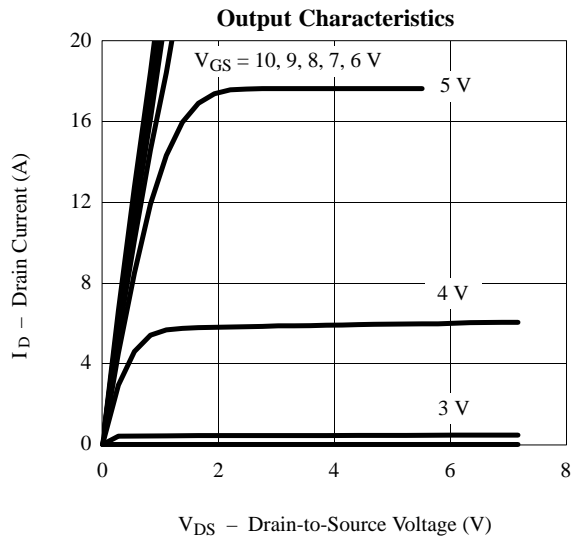
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
Static							
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	N-Ch	1.0		V	
		V _{DS} = V _{GS} , I _D = -250 μA	P-Ch	-1.0			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30 V, V _{GS} = 0 V	N-Ch		1	μA	
		V _{DS} = -30 V, V _{GS} = 0 V	P-Ch		-1		
		V _{DS} = 30 V, V _{GS} = 0 V, T _J = 55°C	N-Ch		25		
		V _{DS} = -30 V, V _{GS} = 0 V, T _J = 55°C	P-Ch		-25		
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 10 V	N-Ch	15		A	
		V _{DS} ≥ -5 V, V _{GS} = -10 V	P-Ch	-15			
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = 10 V, I _D = 3.6 A	N-Ch		0.041	0.09	Ω
		V _{GS} = -10 V, I _D = 3.1 A	P-Ch		0.063	0.085	
		V _{GS} = 4.5 V, I _D = 3.0 A	N-Ch		0.071	0.095	
		V _{GS} = -4.5 V, I _D = 2.1 A	P-Ch		0.12	0.19	
Forward Transconductance ^a	g _{fs}	V _{DS} = 15 V, I _D = 3.6 A	N-Ch		7	S	
		V _{DS} = -15 V, I _D = -3.1 A	P-Ch		5		
Diode Forward Voltage ^a	V _{SD}	I _S = 1.25 A, V _{GS} = 0 V	N-Ch		0.78	1.2	V
		I _S = -1.25 A, V _{GS} = 0 V	P-Ch		-0.78	-1.2	
Dynamic^b							
Total Gate Charge	Q _g	N-Channel V _{DS} = 15 V, V _{GS} = 10 V, I _D = 3.6 A P-Channel V _{DS} = -15 V, V _{GS} = -10 V, I _D = -3.1 A	N-Ch		9.5	15	nC
Gate-Source Charge	Q _{gs}		N-Ch		2.5		
			P-Ch		2.3		
Gate-Drain Charge	Q _{gd}	N-Ch		1.2			
		P-Ch		1.2			
Turn-On Delay Time	t _{d(on)}	N-Channel V _{DD} = 10 V, R _L = 10 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω P-Channel V _{DD} = -10 V, R _L = 10 Ω I _D ≅ -1 A, V _{GEN} = -10 V, R _G = 6 Ω	N-Ch		11	20	ns
Rise Time	t _r		N-Ch		10	20	
			P-Ch		12	25	
Turn-Off Delay Time	t _{d(off)}		N-Ch		20	35	
			P-Ch		21	35	
Fall Time	t _f		N-Ch		8	15	
			P-Ch		10	20	
Source-Drain Reverse Recovery Time	t _{rr}		I _F = 1.25 A, di/dt = 100 A/μs	N-Ch		45	
		I _F = -1.25 A, di/dt = 100 A/μs	P-Ch		40	70	

Notes

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

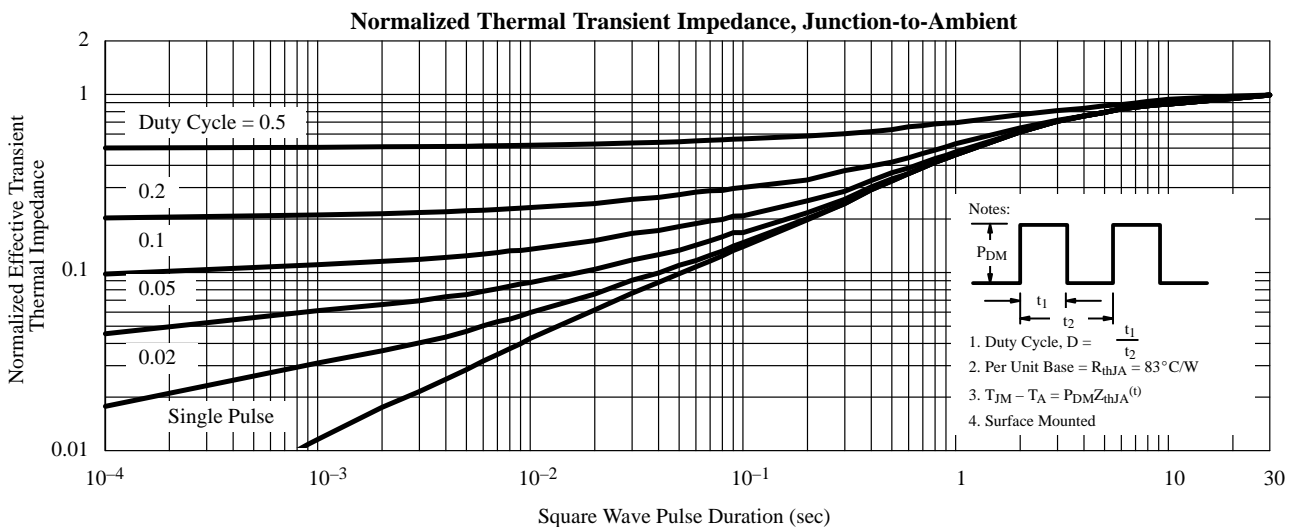
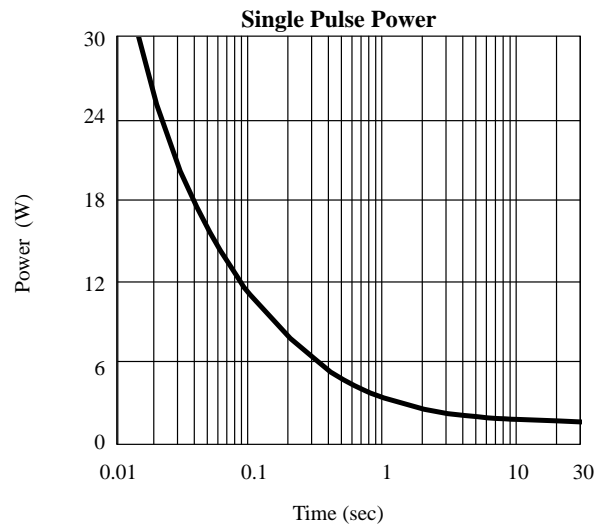
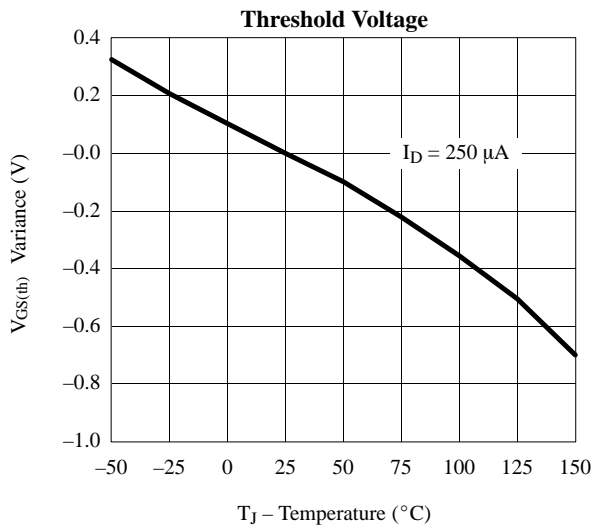
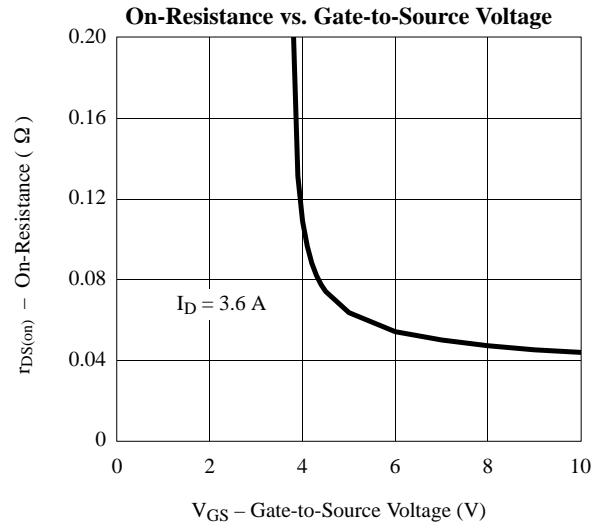
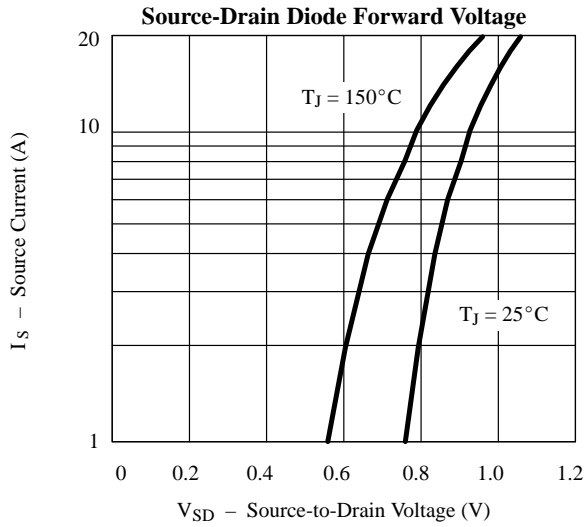
Typical Characteristics (25°C Unless Noted)

N-Channel



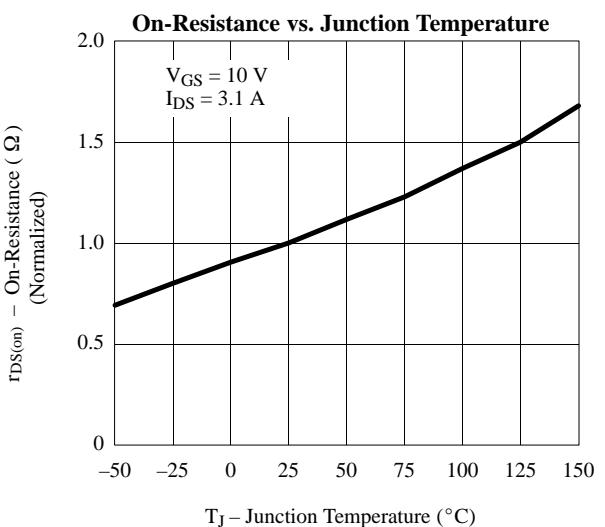
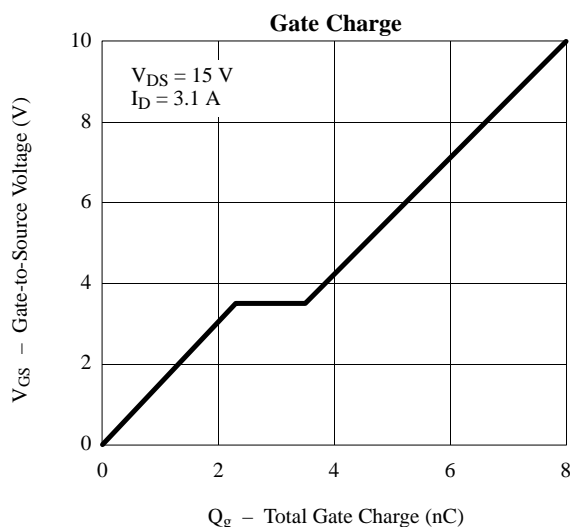
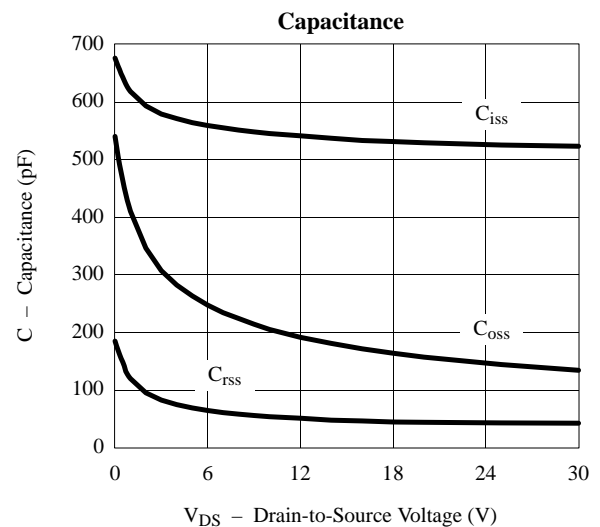
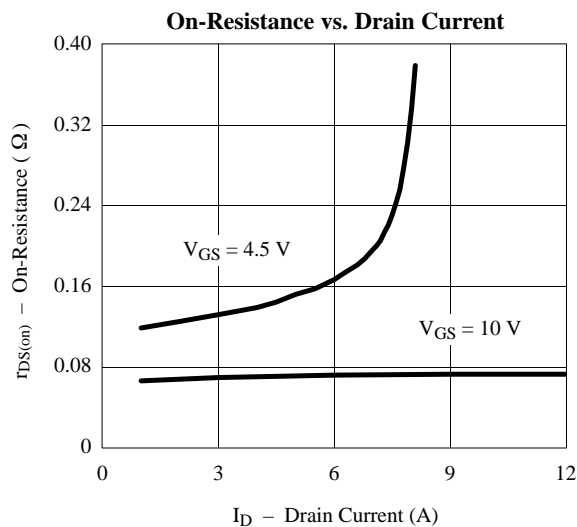
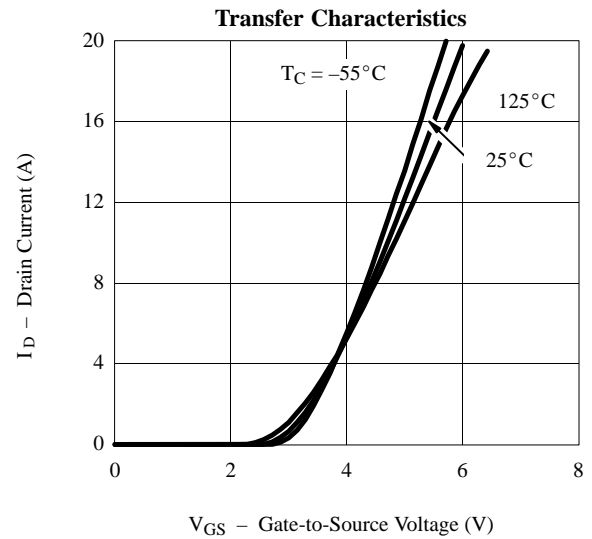
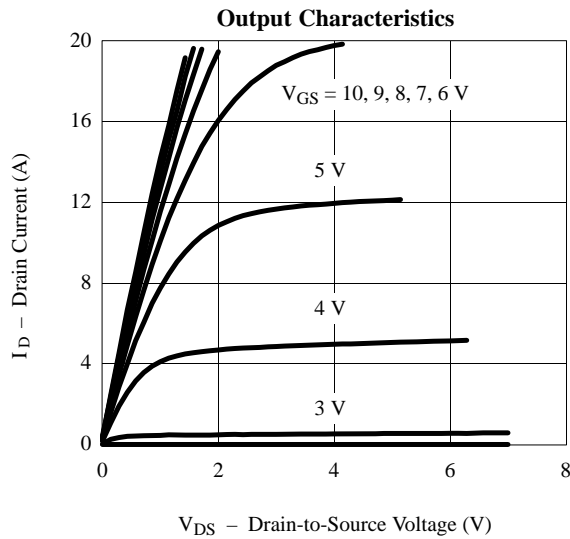
Typical Characteristics (25°C Unless Noted)

N-Channel



Typical Characteristics (25°C Unless Noted)

P-Channel



Typical Characteristics (25°C Unless Noted)

P-Channel

