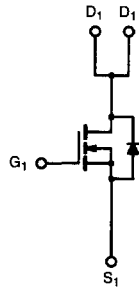
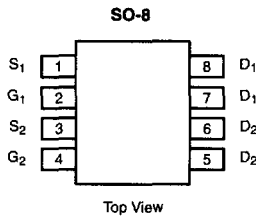




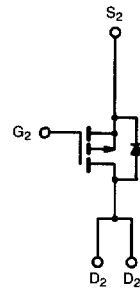
N-Channel 60-V (D-S), 175°C MOSFET

175°C Rated
Maximum Junction Temperature
TrenchFET®
Power MOSFETs

PRODUCT SUMMARY			
	V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
N-Channel	60	0.055 @ V _{GS} = 10 V	± 4.5
		0.075 @ V _{GS} = 4.5 V	± 3.9
P-Channel	-60	0.120 @ V _{GS} = -10 V	± 3.1
		0.150 @ V _{GS} = -4.5 V	± 2.8



N-Channel MOSFET



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS (T _A = 25°C UNLESS OTHERWISE NOTED)				
Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage	V _{DS}	60	-60	V
Gate-Source Voltage	V _{GS}	± 20	± 20	V
Continuous Drain Current (T _J = 175°C) ^a	I _D	T _A = 25°C	± 4.5	± 3.1
		T _A = 70°C	± 3.8	± 2.6
Pulsed Drain Current	I _{DM}	± 30	± 30	A
Continuous Source Current (Diode Conduction) ^a	I _S	2.0	-2.0	A
Maximum Power Dissipation ^a	P _D	T _A = 25°C		2.4
		T _A = 70°C		1.7
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 175		°C

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	N- or P- Channel	Unit
Maximum Junction-to-Ambient ^a	R _{thJA}	62.5	°C/W

Notes

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

**SPECIFICATIONS (T_J = 25°C UNLESS OTHERWISE NOTED)**

Parameter	Symbol	Test Condition	Min	Typ ^a	Max	Unit		
Static								
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	N-Ch	1			V	
		V _{DS} = V _{GS} , I _D = -250 μA	P-Ch	-1				
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V	N-Ch			±100	nA	
			P-Ch			±100		
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 60 V, V _{GS} = 0 V	N-Ch			2	μA	
		V _{DS} = -60 V, V _{GS} = 0 V	P-Ch			-2		
		V _{DS} = 60 V, V _{GS} = 0 V, T _J = 55°C	N-Ch			25		
		V _{DS} = -60 V, V _{GS} = 0 V, T _J = 55°C	P-Ch			-25		
On-State Drain Current ^b	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 10 V	N-Ch	20			A	
		V _{DS} ≤ -5 V, V _{GS} = -10 V	P-Ch	-20				
Drain-Source On-State Resistance ^b	r _{DS(on)}	V _{GS} = 10 V, I _D = 4.5 A	N-Ch		0.045	0.055	Ω	
		V _{GS} = -10 V, I _D = -3.1 A	P-Ch		0.100	0.120		
		V _{GS} = 4.5 V, I _D = 3.9 A	N-Ch		0.055	0.075		
		V _{GS} = -4.5 V, I _D = -2.8 A	P-Ch		0.125	0.150		
Forward Transconductance ^b	g _{fs}	V _{DS} = 15 V, I _D = 4.5 A	N-Ch		13		S	
		V _{DS} = -15 V, I _D = -3.1 A	P-Ch		7.5			
Diode Forward Voltage ^b	V _{SD}	I _S = 2.0 A, V _{GS} = 0 V	N-Ch		0.9	1.2	V	
		I _S = -2.0 A, V _{GS} = 0 V	P-Ch		-0.8	-1.2		
Dynamic^a								
Total Gate Charge	Q _g	N-Channel V _{DS} = 30 V, V _{GS} = 10 V, I _D = 4.5 A P-Channel V _{DS} = -30 V, V _{GS} = -10 V I _D = -3.1 A	N-Ch		19	30	nC	
Gate-Source Charge	Q _{gs}		N-Ch		4			
			P-Ch		4			
Gate-Drain Charge	Q _{gd}	N-Ch		3		nC		
		P-Ch		1.6				
Turn-On Delay Time	t _{d(on)}	N-Channel V _{DD} = 30 V, R _L = 30 Ω I _D = 1 A, V _{GEN} = 10 V, R _G = 6 Ω P-Channel V _{DD} = -30 V, R _L = 30 Ω I _D = -1 A, V _{GEN} = -10 V, R _G = 6 Ω	N-Ch		13	20	ns	
			P-Ch		8	15		
Rise Time	t _r		N-Ch		11	20		
			P-Ch		10	20		
Turn-Off Delay Time	t _{d(off)}		N-Ch		36	60		
			P-Ch		12	25		
Fall Time	t _f		N-Ch		11	20		
			P-Ch		35	50		
Source-Drain Reverse Recovery Time	t _{rr}		I _F = 2 A, di/dt = 100 A/μs	N-Ch		35		60
			I _F = -2 A, di/dt = 100 A/μs	P-Ch		60		90

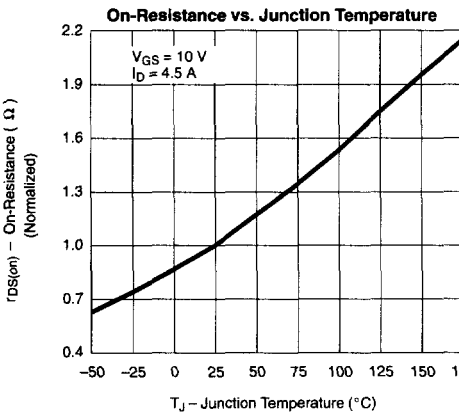
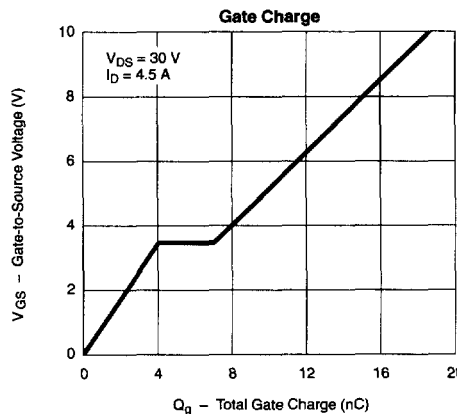
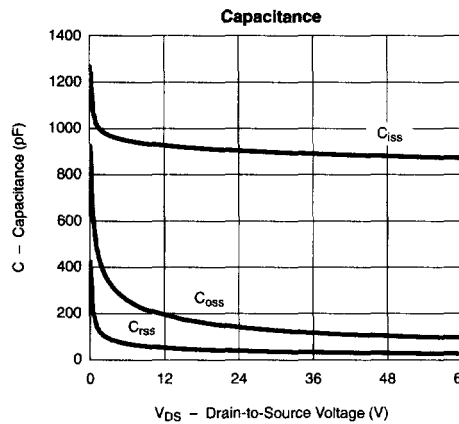
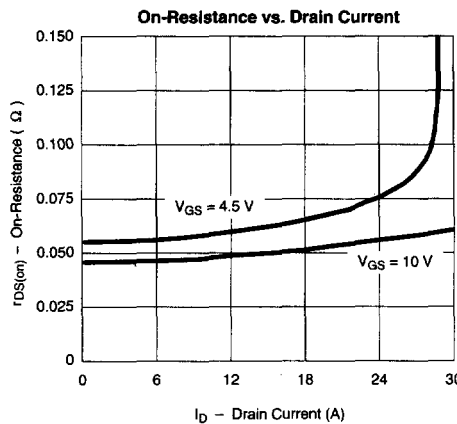
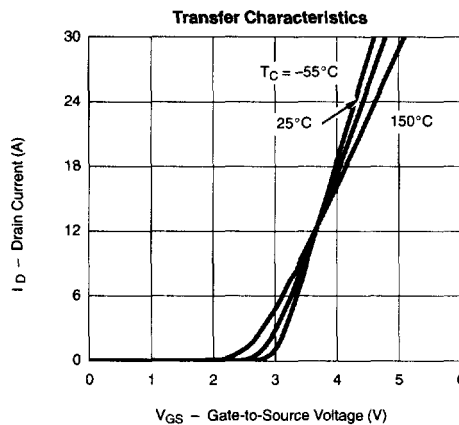
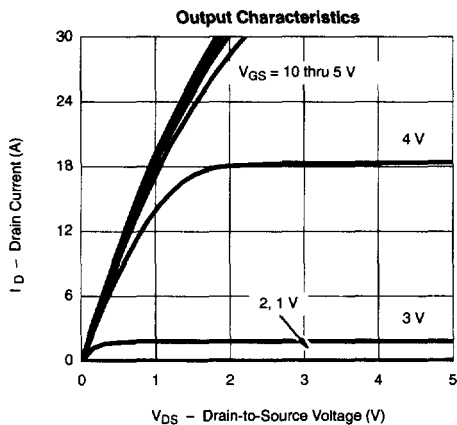
Notes

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



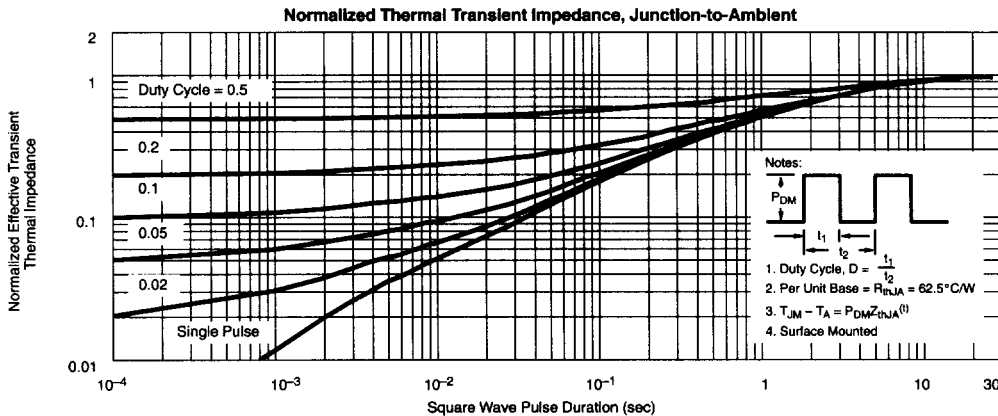
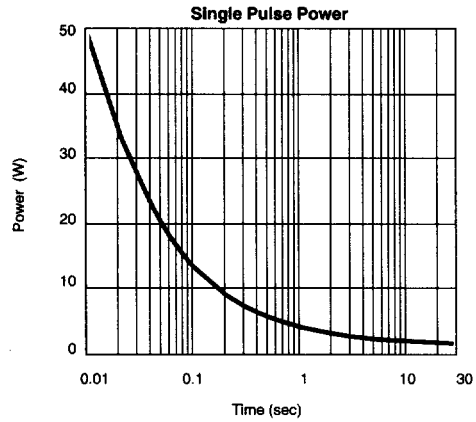
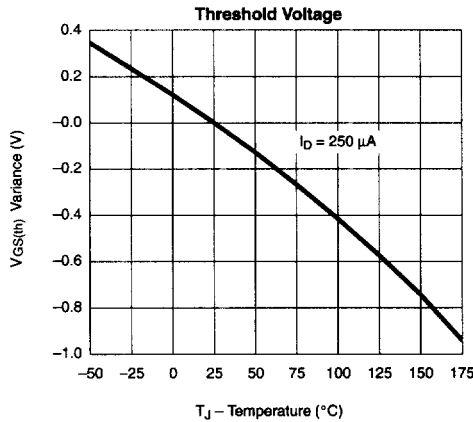
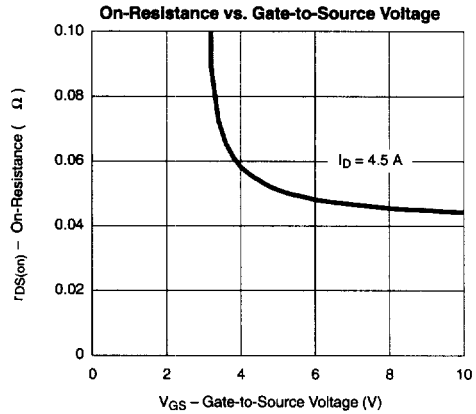
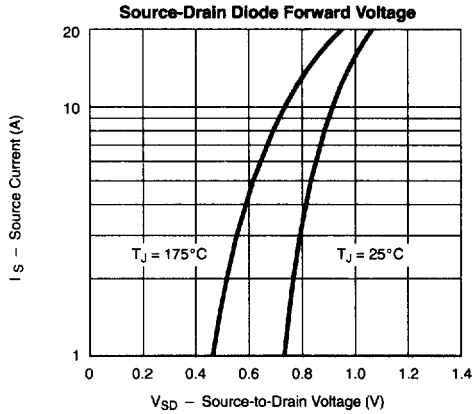
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

N-CHANNEL





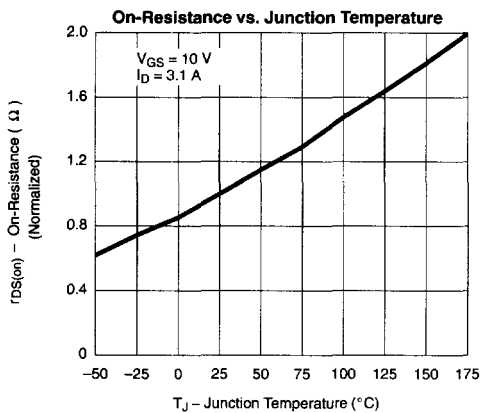
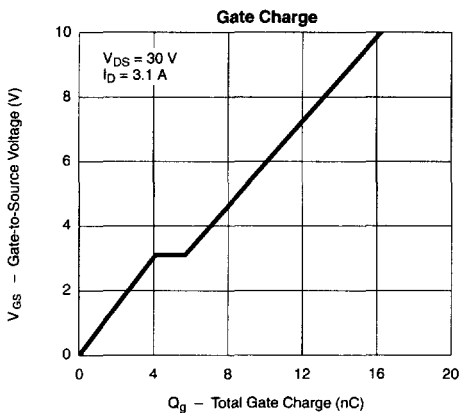
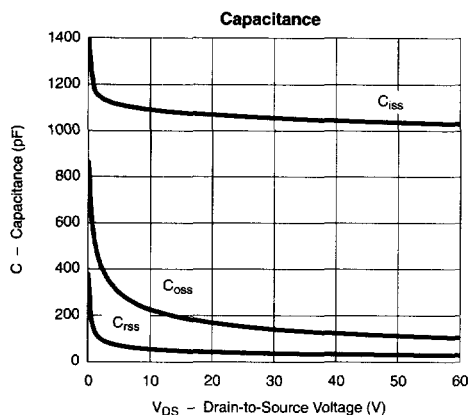
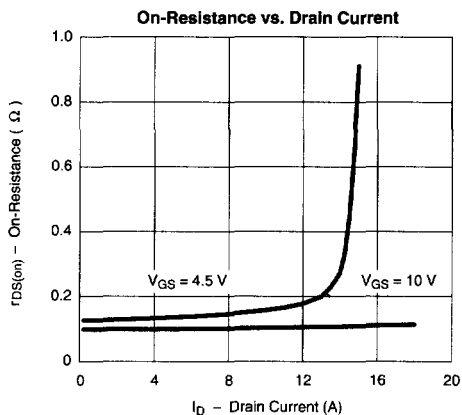
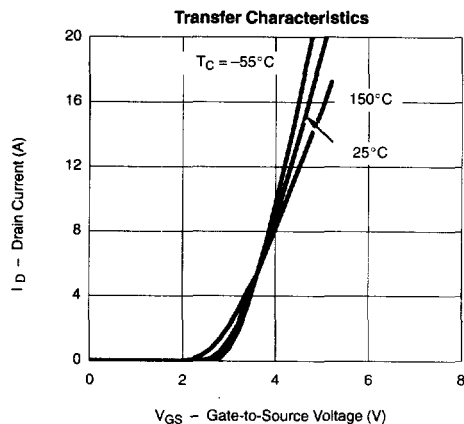
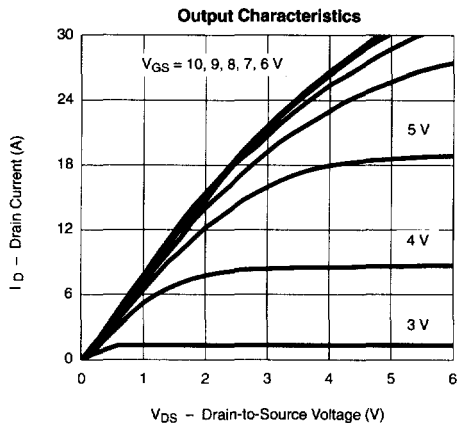
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) N-CHANNEL





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

P-CHANNEL





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) P-CHANNEL

