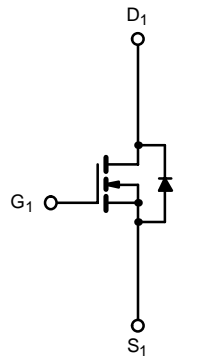
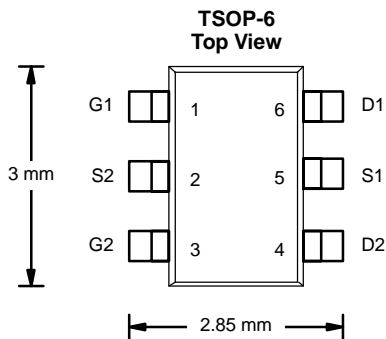


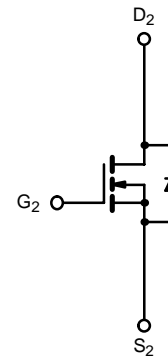
Dual N-Channel 20-V (D-S) MOSFET

TrenchFET[®]
Power MOSFETs

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
20	0.125 @ $V_{GS} = 4.5$ V	2.4
	0.200 @ $V_{GS} = 2.5$ V	1.8



N-Channel MOSFET



N-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)					
Parameter	Symbol	5 sec	Steady State	Unit	
Drain-Source Voltage	V_{DS}	20		V	
Gate-Source Voltage	V_{GS}	± 12			
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^a	I_D	$T_A = 25^\circ\text{C}$	2.4	2.0	A
		$T_A = 85^\circ\text{C}$	1.7	1.4	
Pulsed Drain Current (10 μs Pulse Width)	I_{DM}	8			
Continuous Source Current (Diode Conduction) ^a	I_S	1.05	0.75	W	
Maximum Power Dissipation ^a	P_D	$T_A = 25^\circ\text{C}$	1.15		0.83
		$T_A = 85^\circ\text{C}$	0.59	0.53	
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}	$t \leq 5$ sec	93	110	$^\circ\text{C/W}$
		Steady State	130	150	
Maximum Junction-to-Foot (Drain)	R_{thJF}	75	90		

Notes

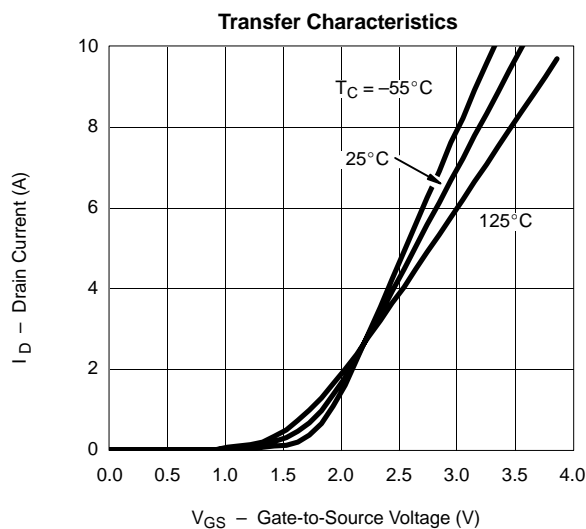
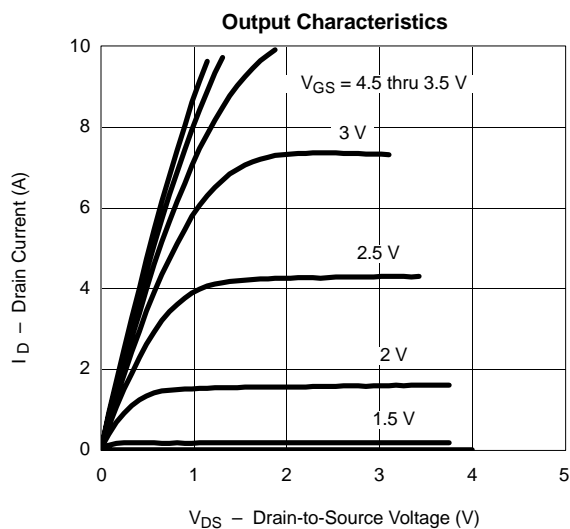
a. Surface Mounted on 1" x 1" FR4 Board.

SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)

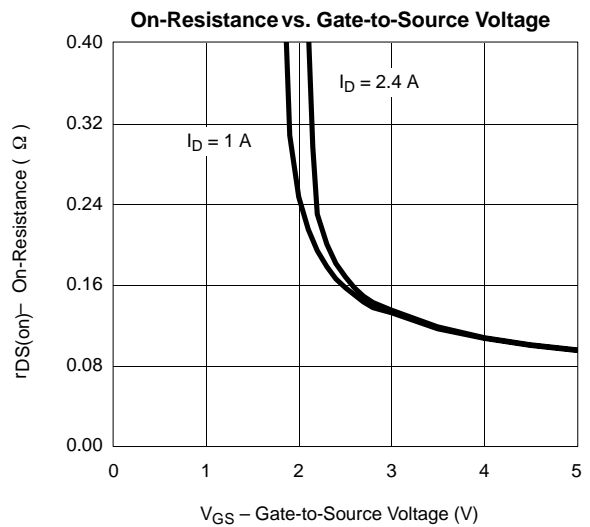
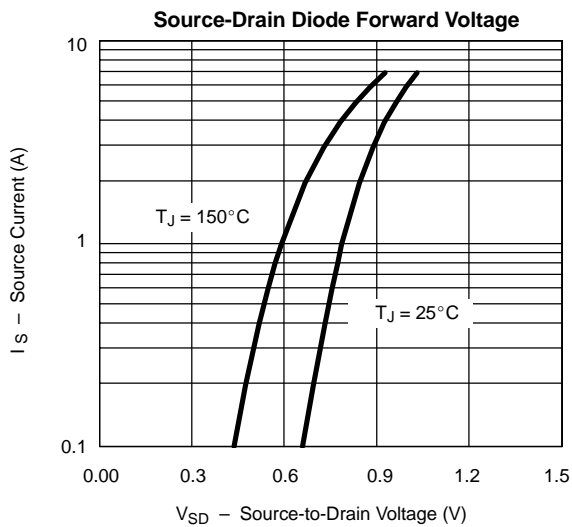
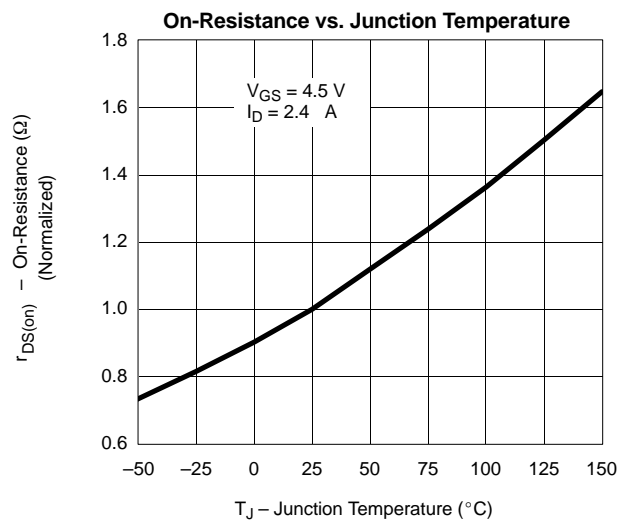
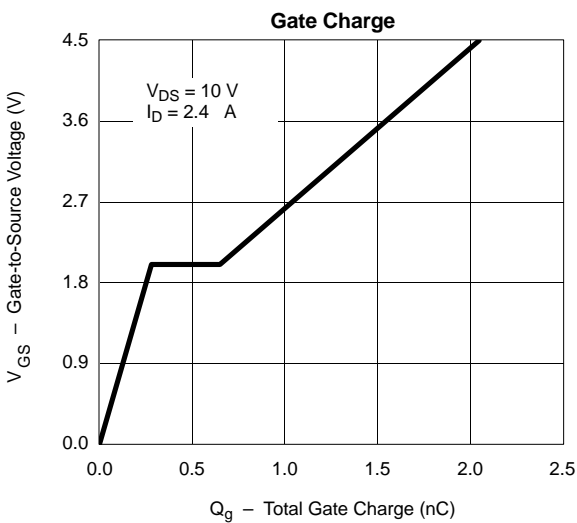
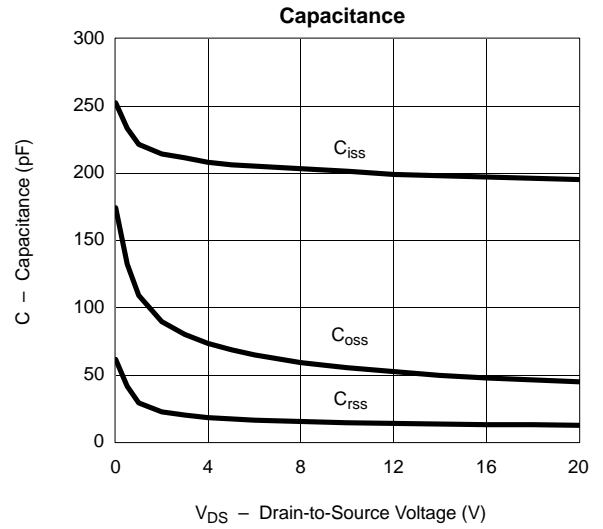
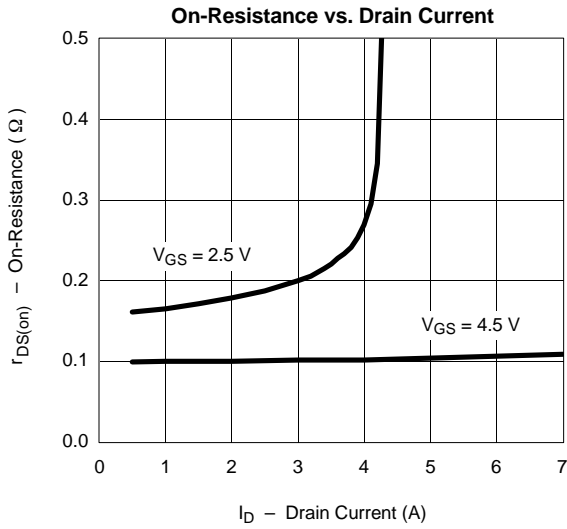
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	0.6			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 12 V			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 16 V, V _{GS} = 0 V			1	μA
		V _{DS} = 16 V, V _{GS} = 0 V, T _J = 85 °C			10	
On-State Drain Current ^a	I _{D(on)}	V _{DS} ≥ 5 V, V _{GS} = 4.5 V	5			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = 4.5 V, I _D = 2.4 A		0.100	0.125	Ω
		V _{GS} = 2.5 V, I _D = 1.0 A		0.160	0.200	
Forward Transconductance ^a	g _{fs}	V _{DS} = 5 V, I _D = 2.4 A		5		S
Diode Forward Voltage ^a	V _{SD}	I _S = 1.05 A, V _{GS} = 0 V		0.79	1.10	V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = 10 V, V _{GS} = 4.5 V, I _D = 2.4 A		2.1	4.0	nC
Gate-Source Charge	Q _{gs}			0.3		
Gate-Drain Charge	Q _{gd}			0.4		
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		10	17	ns
Rise Time	t _r			30	50	
Turn-Off Delay Time	t _{d(off)}			14	25	
Fall Time	t _f			6	12	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 3.0 A, di/dt = 100 A/μs		30	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)

TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)

