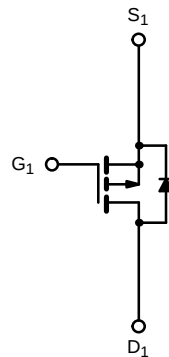
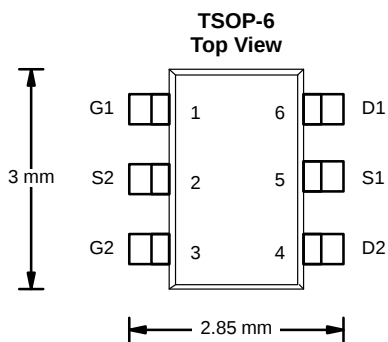




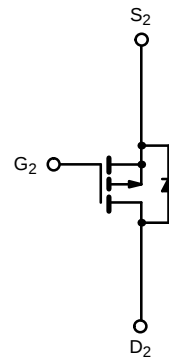
Dual P-Channel 12-V (D-S) MOSFET

PRODUCT SUMMARY

V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-12	0.120 @ $V_{GS} = -4.5$ V	-2.5
	0.175 @ $V_{GS} = -2.5$ V	-2.0
	0.240 @ $V_{GS} = -1.8$ V	-1.7

TrenchFET[®]
Power MOSFETs
1.8-V Rated

P-Channel MOSFET



P-Channel MOSFET

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

Parameter		Symbol	5 secs	Steady State	Unit
Drain-Source Voltage		V _{DS}	−12		V
Gate-Source Voltage		V _{GS}	±8		
Continuous Drain Current (T _J = 150°C) ^a	T _A = 25°C	I _D	−2.5	−2.0	A
	T _A = 70°C		−2.0	−1.7	
Pulsed Drain Current		I _{DM}	−7		
Continuous Source Current (Diode Conduction) ^a		I _S	−1.05	−0.75	
Maximum Power Dissipation ^a	T _A = 25°C	P _D	1.15	0.83	W
	T _A = 70°C		0.73	0.53	
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	$t \leq 5$ sec	R_{thJA}	93	110	$^\circ\text{C/W}$
	Steady State		130	150	
Maximum Junction-to-Foot (Drain)	Steady State	R_{thJF}	75	90	

Notes

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

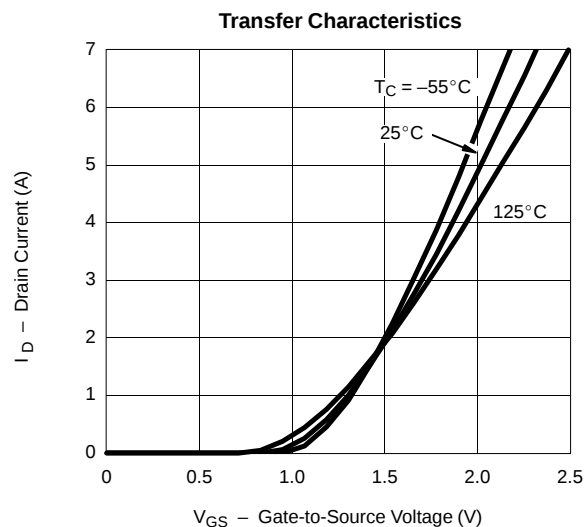
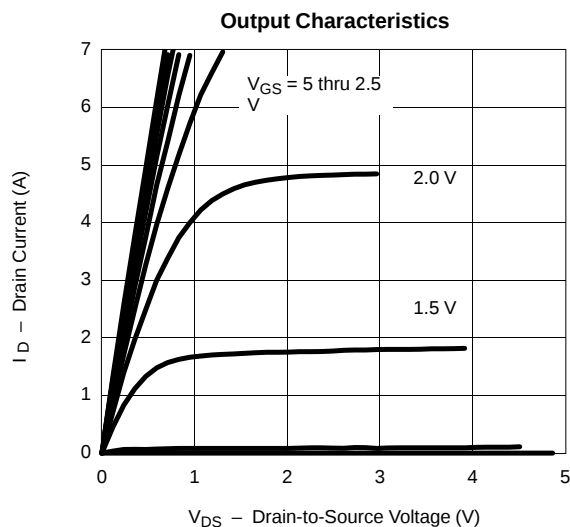
SPECIFICATIONS ($T_J = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

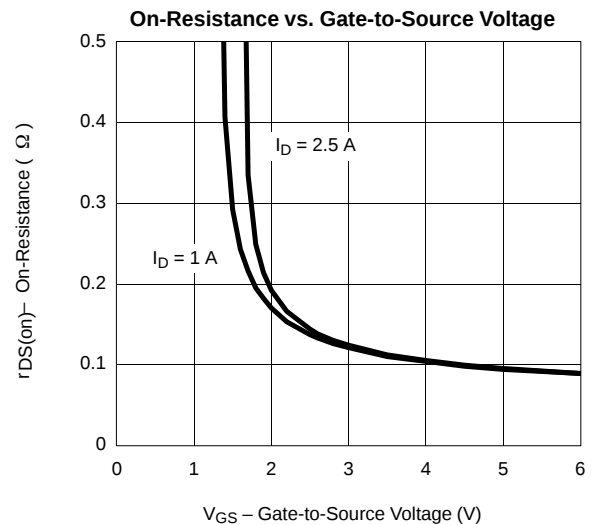
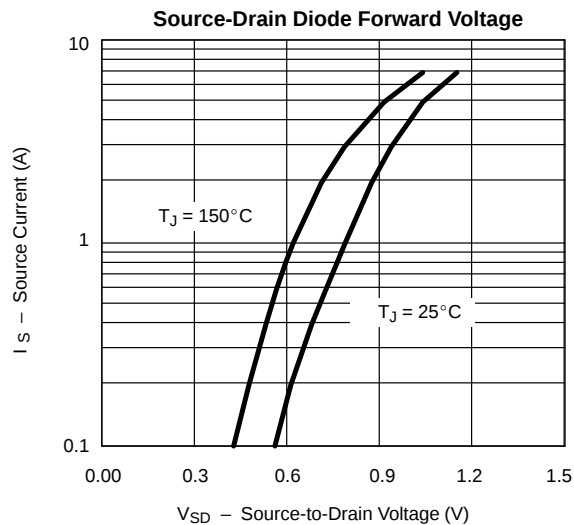
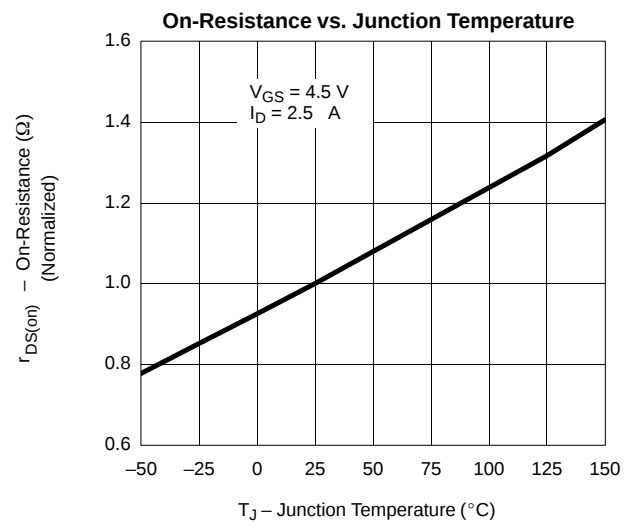
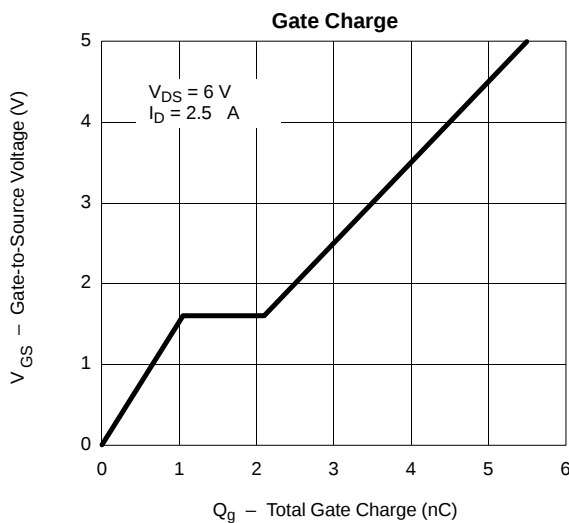
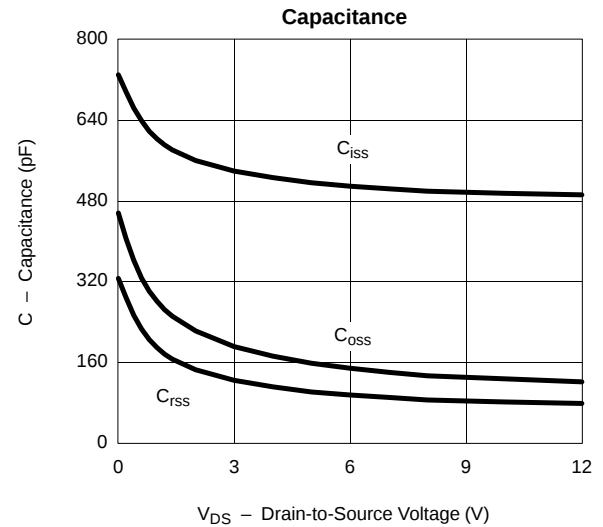
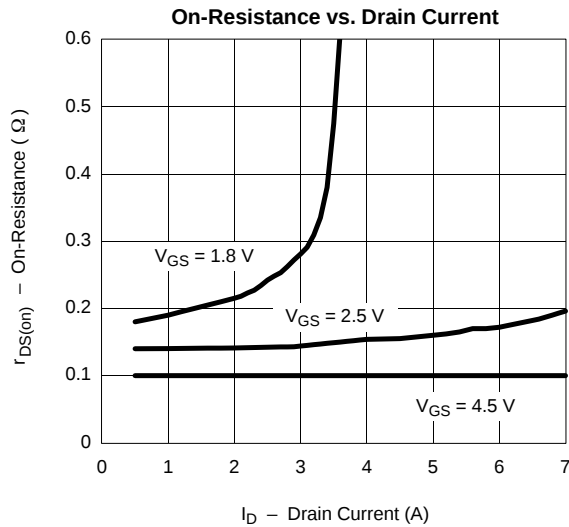
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = -250\ \mu\text{A}$	-0.45			V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0\ \text{V}$, $V_{GS} = \pm 8\ \text{V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -9.6\ \text{V}$, $V_{GS} = 0\ \text{V}$			-1	μA
		$V_{DS} = -9.6\ \text{V}$, $V_{GS} = 0\ \text{V}$, $T_J = 55^\circ\text{C}$			-5	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} \leq -5\ \text{V}$, $V_{GS} = -4.5\ \text{V}$	-5			A
Drain-Source On-State Resistance ^a	$r_{DS(on)}$	$V_{GS} = -4.5\ \text{V}$, $I_D = -2.5\ \text{A}$		0.100	0.120	Ω
		$V_{GS} = -2.5\ \text{V}$, $I_D = -2.0\ \text{A}$		0.142	0.175	
		$V_{GS} = -1.8\ \text{V}$, $I_D = -1\ \text{A}$		0.200	0.240	
Forward Transconductance ^a	g_{fs}	$V_{DS} = -4.5\ \text{V}$, $I_D = -2.5\ \text{A}$		5.3		S
Diode Forward Voltage ^a	V_{SD}	$I_S = -1.05\ \text{A}$, $V_{GS} = 0\ \text{V}$		-0.79	-1.1	V
Dynamic^b						
Total Gate Charge	Q_g	$V_{DS} = -6\ \text{V}$, $V_{GS} = -4.5\ \text{V}$, $I_D = -2.5\ \text{A}$		5	7.5	nC
Gate-Source Charge	Q_{gs}			1.1		
Gate-Drain Charge	Q_{gd}			1.1		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -6\ \text{V}$, $R_L = 6\ \Omega$ $I_D \cong -1\ \text{A}$, $V_{GEN} = -4.5\ \text{V}$, $R_G = 6\ \Omega$		15	25	ns
Rise Time	t_r			42	65	
Turn-Off Delay Time	$t_{d(off)}$			33	50	
Fall Time	t_f			32	50	
Source-Drain Reverse Recovery Time	t_{rr}	$I_F = -1.05\ \text{A}$, $di/dt = 100\ \text{A}/\mu\text{s}$		20	40	

Notes

a. Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.

b. Guaranteed by design, not subject to production testing.

TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

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