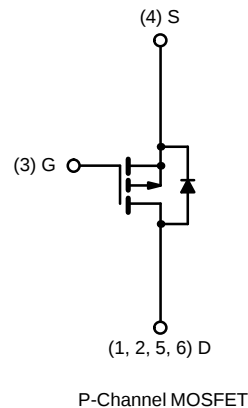
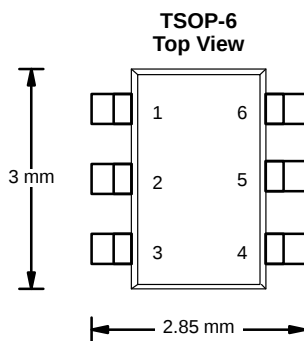




P-Channel 60-V (D-S) MOSFET

PRODUCT SUMMARY

V_{DS} (V)	$r_{DS(on)}$ (Ω)	I_D (A)
-60	0.220 @ $V_{GS} = -10$ V	± 2.2
	0.310 @ $V_{GS} = -4.5$ V	± 1.9

TrenchFET®
Power MOSFETsABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	-60	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current ($T_J = 150^\circ\text{C}$) ^{a, b}	$T_A = 25^\circ\text{C}$	I_D	± 2.2	A
	$T_A = 70^\circ\text{C}$		± 1.7	
Pulsed Drain Current		I_{DM}	± 10	
Single Avalanche Current ($L = 0.1$ mH)		I_{AS}	-7	
Maximum Power Dissipation ^{a, b}	$T_A = 25^\circ\text{C}$	P_D	2	W
	$T_A = 70^\circ\text{C}$		1.3	
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	$t \leq 5$ sec	R_{thJA}		62.5	$^\circ\text{C/W}$
	Steady State		106		
Maximum Junction-to-Lead	Steady State	R_{thJL}	35		

Notes

- a. Surface Mounted on FR4 Board.
b. $t \leq 5$ sec

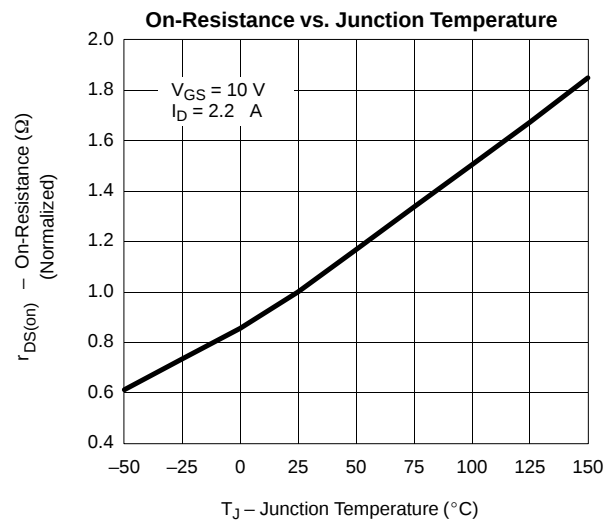
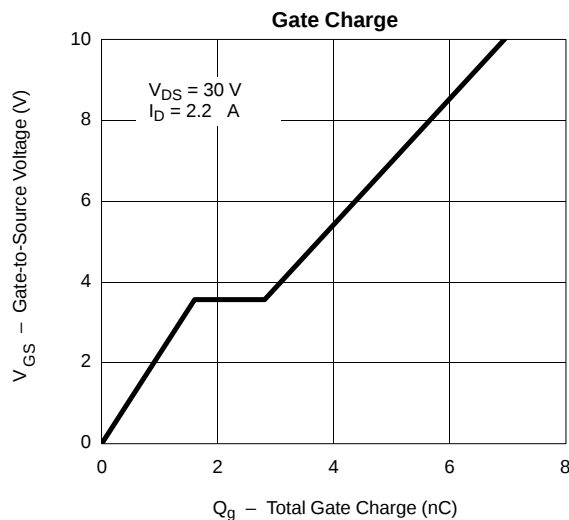
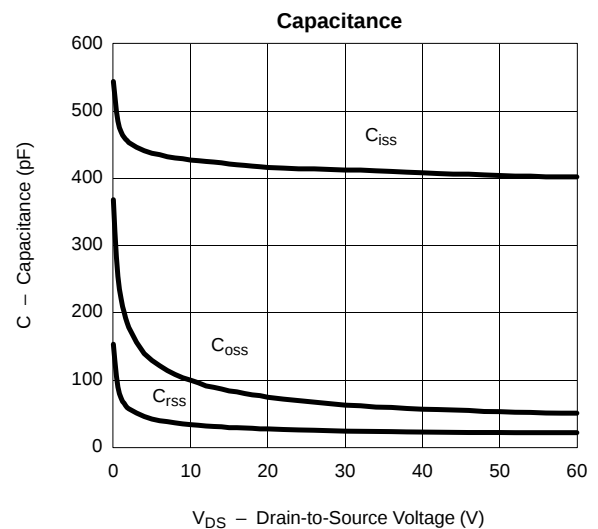
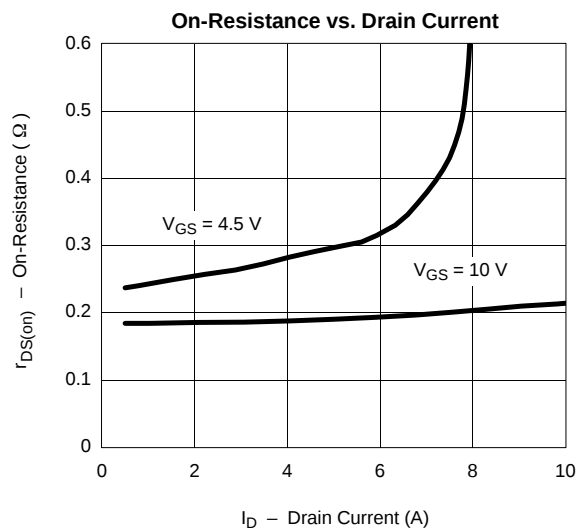
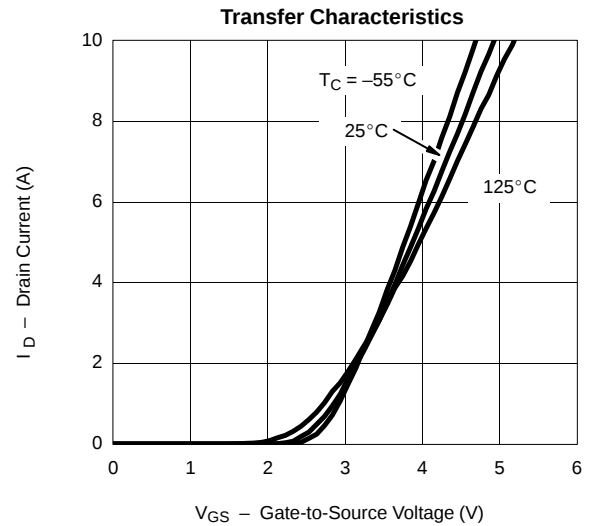
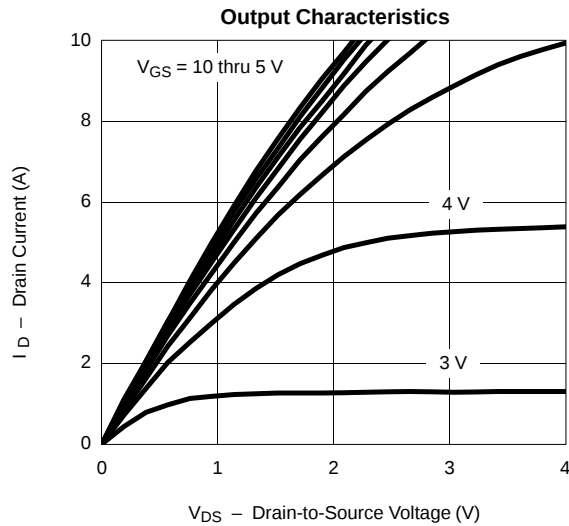
SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{DS} = 0 V, I _D = −250 μA	−60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = −250 μA	−1			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ± 20 V			± 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = −48 V, V _{GS} = 0 V			−1	μA
		V _{DS} = −48 V, V _{GS} = 0 V, T _J = 150°C			−50	
On-State Drain Current ^a	I _{D(on)}	V _{DS} = −5 V, V _{GS} = −10 V	−10			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = −10 V, I _D = −2.2 A		0.190	0.220	Ω
		V _{GS} = −4.5 V, I _D = −1.9 A		0.265	0.310	
Forward Transconductance ^a	g _{fs}	V _{DS} = −4.5 V, I _D = −2.2 A		4		S
Dynamic ^b						
Total Gate Charge	Q _g	V _{DS} = −30 V, V _{GS} = −10 V, I _D = −2.2 A		7	14	nC
Gate-Source Charge	Q _{gs}			1.6		
Gate-Drain Charge	Q _{gd}			1.2		
Turn-On Delay Time	t _{d(on)}	V _{DD} = −30 V, R _L = 30 Ω I _D ≅ −1 A, V _{GEN} = −10 V, R _G = 6 Ω		8	16	ns
Rise Time	t _r			12	24	
Turn-Off Delay Time	t _{d(off)}			23	45	
Fall Time	t _f			12	25	
Source-Drain Rating Characteristics ^b						
Continuous Current	I _S				−1.7	A
Pulsed Current	I _{SM}				−10	
Diode Forward Voltage ^a	V _{SD}	I _S = −1.7 A, V _{GS} = 0 V		−0.8	−1.2	V
Source-Drain Reverse Recovery Time	t _{rr}	I _F = −1.7 A, di/dt = 100 A/μs		50	90	ns

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)
